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ADVANCED CHARTING

ESIGNAL'S ADVANCED CHARTING offers an extremely flexible user interface and includes a full array of line drawing tools, advanced analytics and a formula engine that lets you create your own studies. You can import and create, save and even encrypt your own formulas, select from an extensive library of formulas and helpers, use advanced scaling features and customize your own Advanced Charting Favorites Toolbar.

You can choose from the following Advanced Chart types:

- 1 **Daily charts.** Daily charts display historical daily data for an issue in graphical format.
- 1 **Interval charts.** Interval charts track an issue's current and previous intraday days' prices in time intervals that you choose such as 15, 30, or 60 minutes.

Note: You can retrieve up to 60 days of interval data in an Advanced Chart window.

eSignal Advanced Chart Styles

eSignal's Advanced Charting supports the following chart styles:

- 1 Bar
- 2 Line

- 3 Candle
- 4 Point and Figure (PNF)
- 5 3 Line Break (3LB)
- 6 Renko
- 7 Kagi

Each of these chart types is described in the following sections.

Bar (OHLC)

Bar (OHLC). An OHLC Bar Chart displays a series of bars for the interval you specify. This bar is comprised of four separate data points:

- **Open:** the opening price of the issue at the beginning of the bar interval
- **High:** the highest price the issue reached during the bar interval
- **Low:** the lowest price the issue reached during the bar interval.
- **Close:** the closing price of the stock at the end of the bar interval.

The Open, High, Low and Close are specific to the time frame covered by each bar. An OHLC Bar's height is derived from its high and low prices during the period it covers. As shown in Figure 8.1, the Open is displayed on each bar as a small horizontal tick to the left side of the bar while the Close is shown on each bar as a small horizontal tick to the right side of the bar.

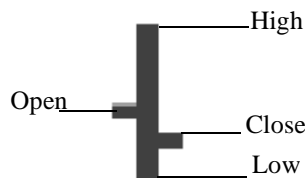


Figure 8-1. A Closer Look at An OHLC Bar

If an OHLC Bar is green, that means that its closing price was higher than its opening price. Conversely, if an OHLC bar is red, its closing price was lower than its opening price.

Figure 8-2 shows a 30 minute intraday OHLC Bar Chart for Intel (INTC).

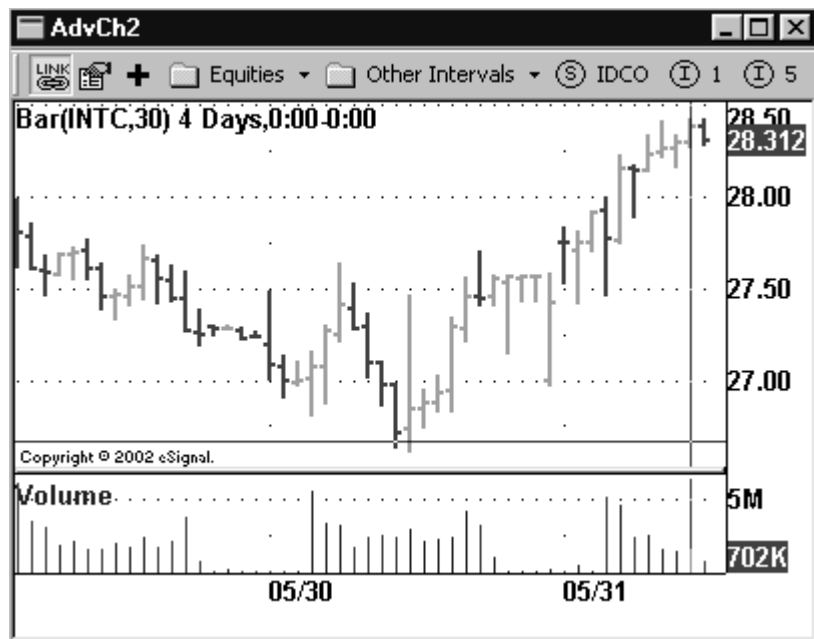


Figure 8-2. OHLC Intraday Bar Chart

Line

A Line chart plots the closing price for the interval you specify (i.e. 5 minute intraday). If you are overlaying multiple symbols on a chart, using a Line chart format makes the chart easier to read.

Figure 8-3 is an example of a Line Chart

Shortcut: Press the Home key to go to the latest bar in the active Advanced Chart window.

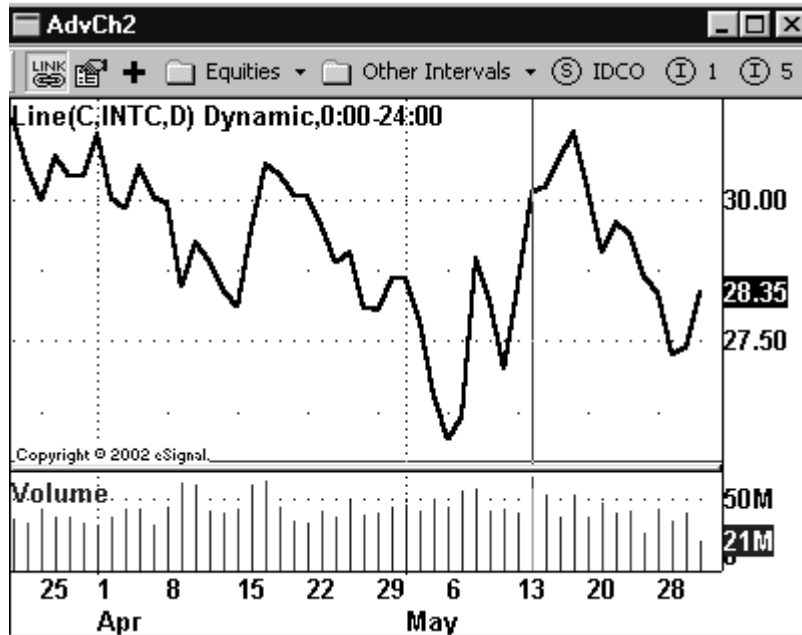


Figure 8-3. Line Chart Example

CandleStick

Like Bar charts, CandleStick charts plot open, high, low, and close data for the chart interval you specify. However, Candlestick charts display OHLC data in a more visual way which many traders find appealing.

The body of a CandleStick is drawn as a rectangle between the opening and the closing prices during the interval (i.e. 15 minutes). You will notice that CandleSticks

are either red or green in an eSignal Advanced Chart window. Candlestick coloration depends on the price activity during the interval the CandleStick represents. The wicks at the top and the bottom of each CandleStick represent the high and low prices traded during the interval. Figure 8-4 shows a CandleStick chart.



Figure 8-4. Sample Candlestick chart

A Closer Look At Candlesticks

If the open is greater than the close, the Candlestick is colored in red. Conversely, if the Open is lower than the close, the CandleStick is green.

Figure 8-5 displays two different types of Candlesticks, a green or Up Candlestick and a red or Down Candlestick.



Figure 8-5. Sample Up and Down Candlesticks

To change the colors or line styles used for a Candlestick chart:

- 1 Right click on the Chart and select Edit Studies.
- 2 The Study Properties dialog box appears as shown in Figure 8-6. Customize your color and line choices (thin wick or fat wick).
- 3 When you are finished making changes, Click “Apply This” and then OK to make the changes to the current study while the Properties window is open. Click “Apply All” and then OK if you made property changes to several studies and want to change them all while the window is still open. Click “Save As Default” if you want to have specific settings apply to all future uses of the study.

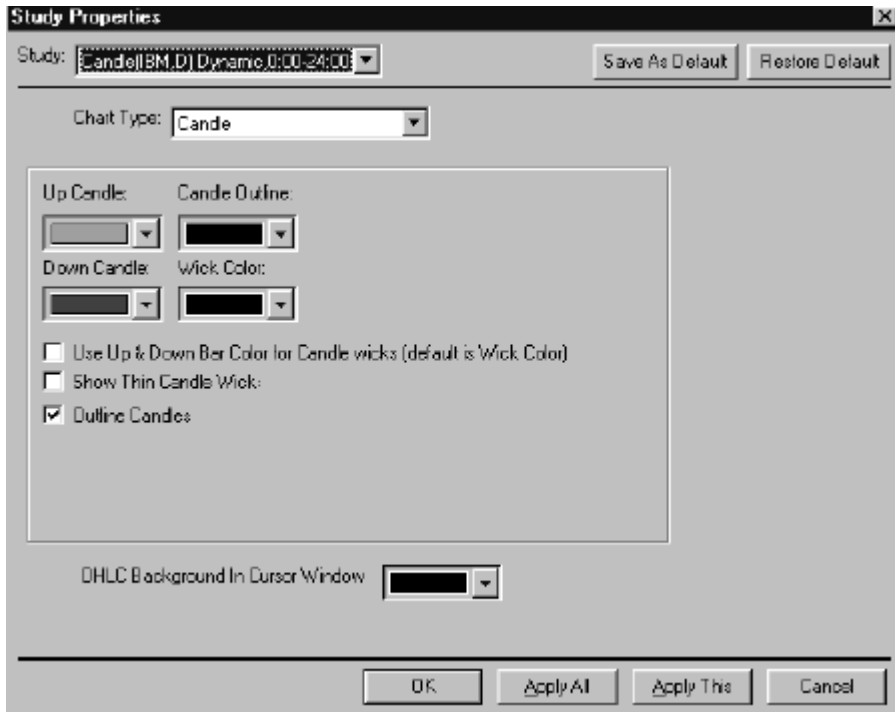


Figure 8-6. Specifying Price Study Properties

Point and Figure

Point and Figure charts disregard the passage of time and chart only price changes. An "x" is drawn when the price rises by a predefined box size. An "o" is drawn if the price falls by a predefined box size. No x's or o's are drawn if the market moves an amount less than the box size.

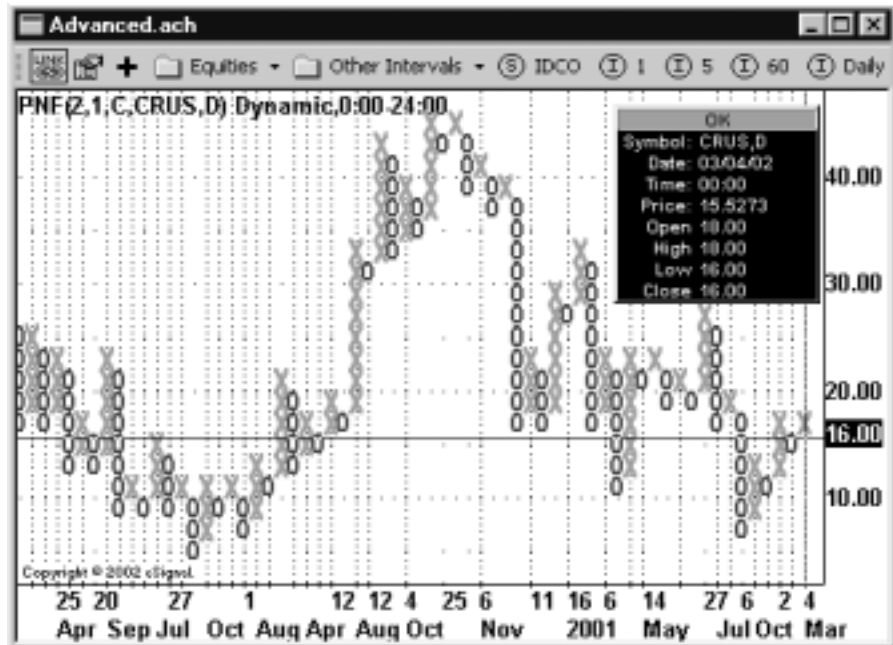


Figure 8-7. Point and Figure Chart

Figure 8-7 displays a Point and Figure chart that has a box size of 2 and a reversal interval of 1 point.

3 Line Break

A Three-Line Break chart displays new lines if the close of the period moves outside of the period of the previous block of trading. If not, then no lines are drawn.

The first line is drawn when the prices are greater, lower, or the same as the opening price. If prices exceed the prior high (low) price a new line is drawn. If current prices are within the prior high or low, no new line is drawn.

When using a 3 Line Break chart, prices must exceed the prior three high or low lines to indicate a reversal.

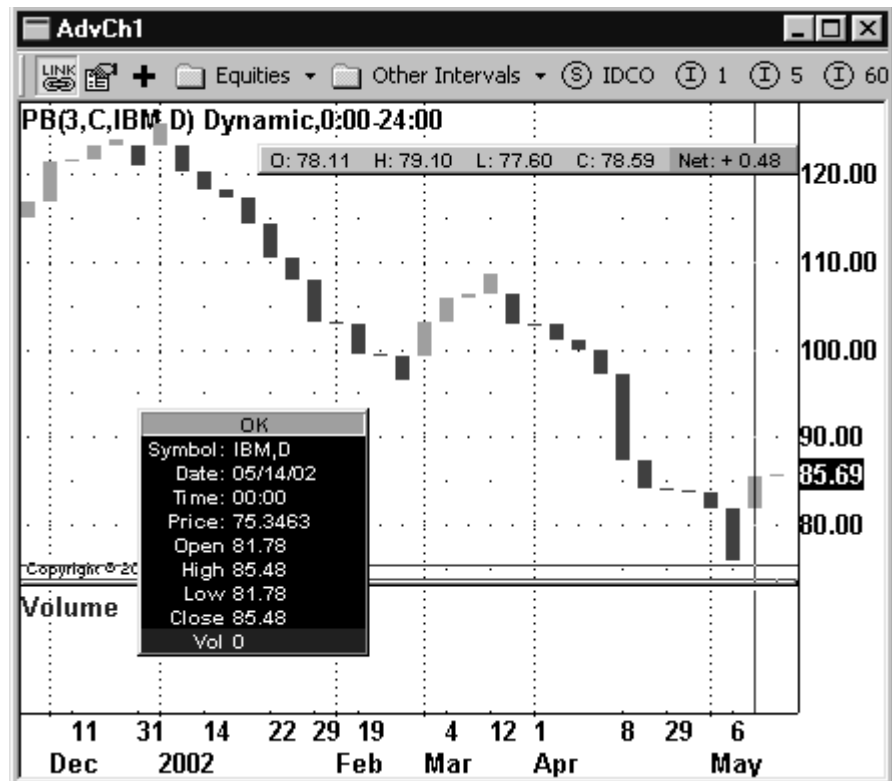


Figure 8-8. 3 Line Break Chart Type

Renko

Renko charts display price movements if they are bigger than a fixed amount. For example, the following daily Renko chart for CRUS (Cirrus Logic) displays boxes representing days where the range from high to low that day was greater than or equal to 2 points.

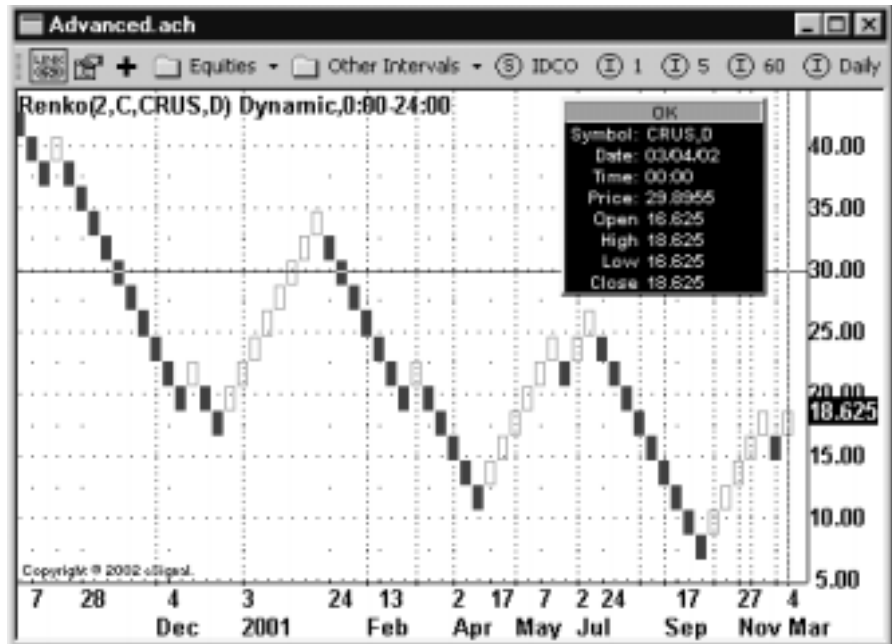


Figure 8-9. Renko Style Chart

Kagi

Kagi charts plot a single line until price reverses by a predetermined amount where another line is then begun. It is an attempt to smooth out the noise of daily trading activity so that trend can be more clearly represented. The thickness of Kagi lines are significant when prior highs and prior lows are exceeded.

The following is an example of a daily Kagi chart that is set up to plot a new line when price reverses by more than 1 point.

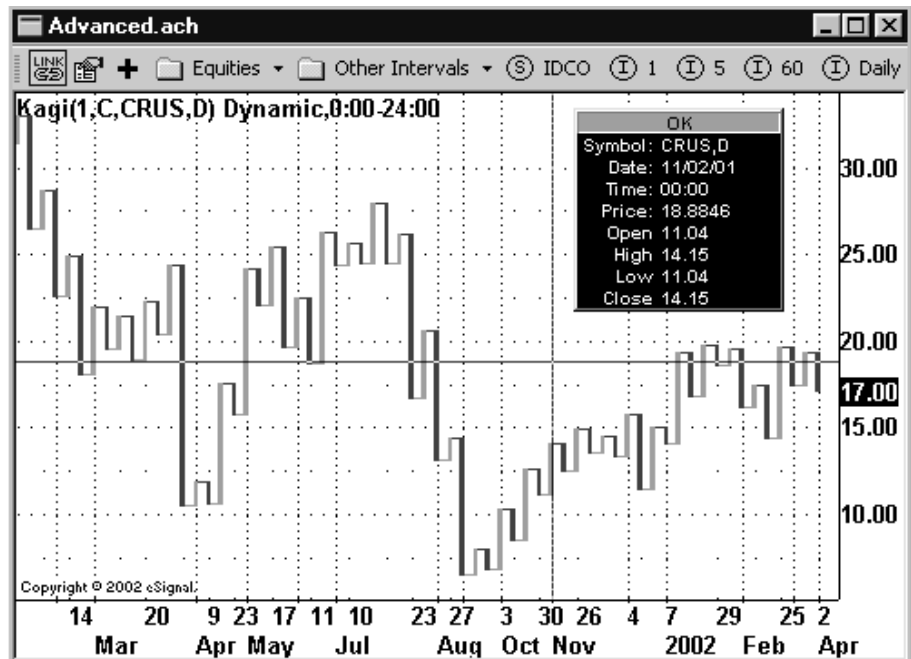


Figure 8-10. Kagi Chart Style

Anatomy of an Advanced Chart Window

An Advanced Chart window displays historical data for issues in graphical form. The data displayed is determined by the symbol you enter, the chart type and the time interval you select

Figure 8-11 identifies the most basic elements of an Advanced Chart window.



Figure 8-11. Advanced Chart Window Elements

Favorites Toolbar

What could be simpler than clicking a toolbar button to pull up an Advanced Chart window that you access often? eSignal's Advanced Chart window contains a Favorites Toolbar that lets you access your favorite charts instantly. The Favorites toolbar lets you pull up preset charts that you can further customize to meet your needs.

When you initially open an Advanced Chart, the Favorites toolbar contains certain preset folders (Equities and Other Intervals) and shortcuts (1 minute interval chart, Daily etc.). You can experiment with the Favorites toolbar shortcuts and pull-down menu choices and then customize them to reflect your own needs.

You can customize the Favorites toolbar by adding new shortcut folder names and favorites names within the folders, by removing existing favorites shortcuts, changing the content of existing folders, and even adding new direct toolbar shortcuts.

When you open an Advanced Chart window, the Favorites Toolbar appears at the top of the window as shown in Figure 8-12.

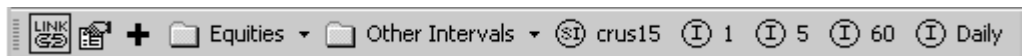


Figure 8-12. Advanced Chart Window Favorites Toolbar

The Favorites toolbar contains several chart shortcut icons.



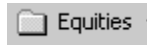
Click the Link toolbar to link the active Advanced Chart window symbol to your Quote window cursor. When the link feature is enabled, the Advanced Chart window symbol changes whenever you move your cursor to a new symbol.



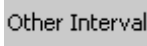
Opens the Properties dialog box, where you can customize your favorite charts and set other chart options.



Click the Add toolbar to add a new custom chart to your Favorites toolbar



Enables you to select a favorite equity chart from those you have already saved to the Equities folder.



Select Other Intervals from the pull-down list to apply them to the active Advanced Chart window.



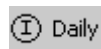
Select to change to a 1 minute intraday chart for the active Advanced Chart window symbol



Select to change to a 5 minute intraday chart for the active Advanced Chart window symbol



Select to change to a 60 minute intraday chart for the active Advanced Chart window symbol



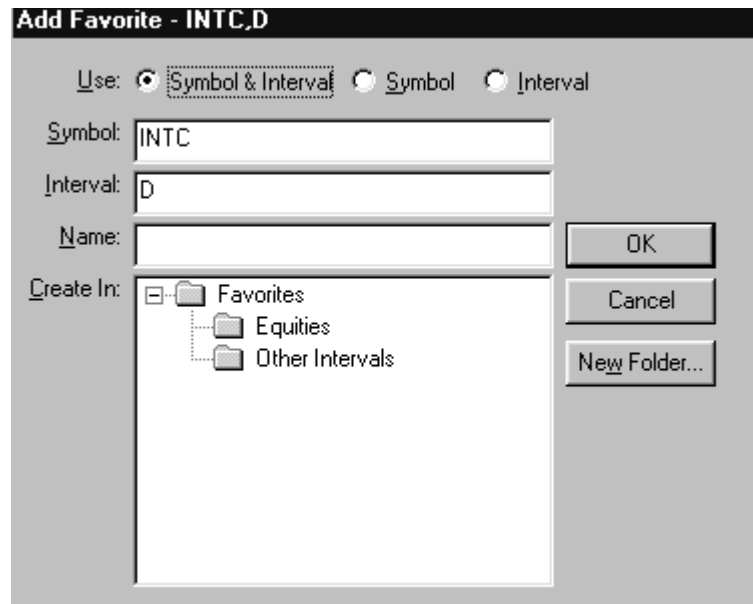
Select to change to a daily chart for the active Advanced Chart window symbol

Building a Favorites List

You can use the Favorites toolbar to create your own favorite list of “symbols and intervals” (e.g. INTC, 5), symbols (INTC) and intervals (e.g. 5) used to quickly retrieve the exact charts you need.

To add to your favorites list:

- 1 Press the + in the toolbar. The Add Favorite dialog box appears.



- 2 In the Use area, select either a Symbol & Interval, Symbol, or Interval
- 3 Enter the symbol, interval (D=Daily, 15= 15 minutes, T=Tick etc.), enter a name for the favorite, select a folder where you want to save the favorite, and click OK.
- 4 If you want to create a new folder, click on the Favorites folder and then click the New Folder button. Then enter the name of the new folder in the dialog box that

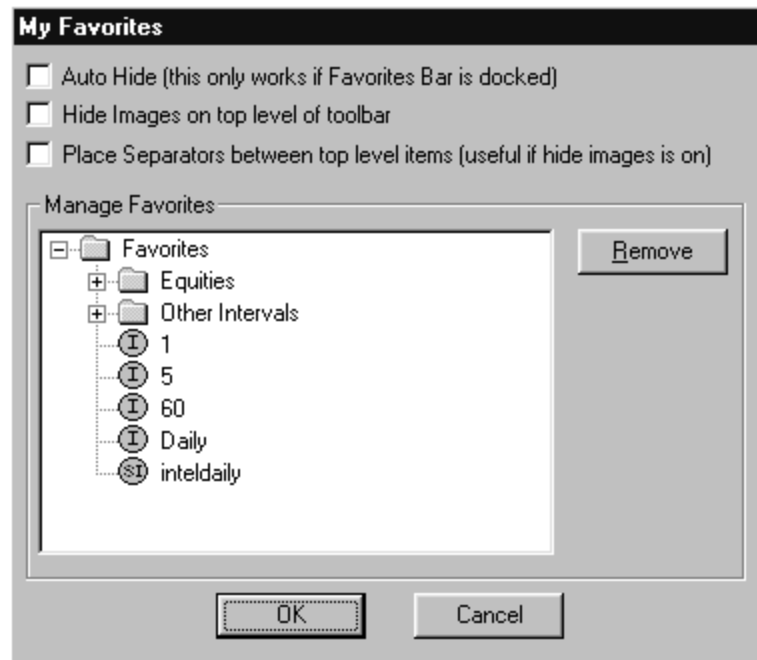
appears and click OK to save it. You can also create folders within folders (by clicking on the + sign).

- 5 If you want to add a Favorite shortcut button directly to the Favorites toolbar, close the Favorites folder if it is open by clicking the - to its left. Then add a new favorite name, symbol and interval and click OK to add it.

Thereafter, you can access new favorite charts from the Equities, Other Intervals, or other pull-down menus you have defined or, directly from a Favorites toolbar icon.

Managing Your Favorites List

To manage your favorites list, click the Properties button on the toolbar to view saved favorite charts in the Equities, Other Interval, Favorites and other user-defined folders. The My Favorites dialog box appears.



- 1 Expand the Favorites, Equities, or Other Intervals folders to list currently saved favorites in these folders. To remove a favorite, click on it and then click the Remove button.
- 1 To add a new favorite chart to the list, click on the + on the Favorites toolbar, select the folder you want to save it in, then enter the symbol, interval, and favorite name in the dialog box that appears, and click OK to add the new favorite.

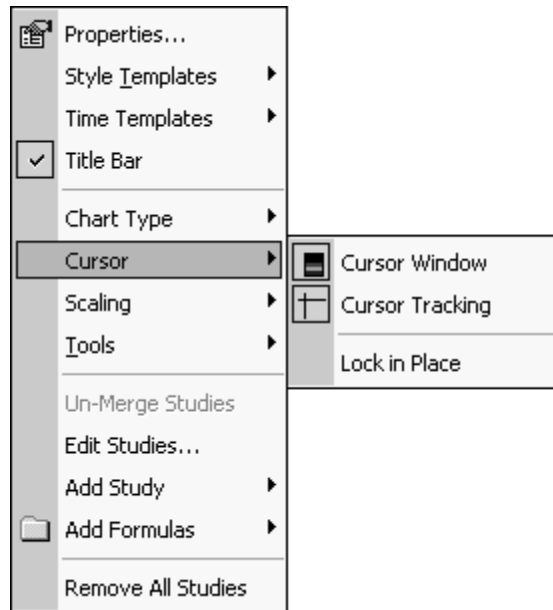
You can also create new favorites folders. To create a new folder, click the + on the Favorites toolbar, click on the Favorites folder in the My Favorites dialog box, enter a folder name, then click the Add Folder button. Once you have created a new folder, select it from the My Favorites dialog box, then enter a new symbol, interval and name for each favorite chart that you want to put in the new folder.

- 1 The Favorites Toolbar supports auto hide. You enable auto hiding by clicking on the Properties toolbar button, checking the Auto Hide box, and clicking OK. When the auto hide feature is active, the Favorites Toolbar appears when you move your mouse cursor where it was resizing, and disappears when the mouse is moved off the toolbar.
- 1 The Favorites Toolbar is dockable to other edges of the window (top, bottom, left, right). All other eSignal toolbars are dockable too. If a toolbar is docked, you can turn on the autohide feature.
- 1 You can conserve screen space on the toolbar by selecting some options under properties (separators between top level items, hide images).

Cursor Window

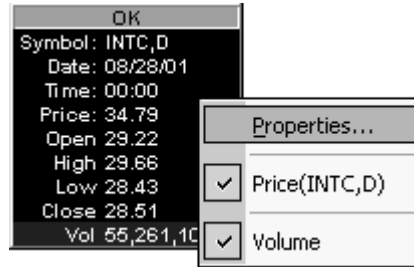
The Cursor window displays the data for the bar or point you currently have highlighted. It is displayed by default when you open an Advanced Chart window. You remove the cursor window by de-selecting it from the Advanced Chart Right-click or Chart Options menus, or, or clicking on the Cursor Tracking icon on the Advanced Charts toolbar.

When you right-click in the main chart area or select the Chart Options menu, the following Cursor options appear.



- 1 Select Cursor Window to toggle the Cursor window on and off.
- 2 Select Cursor Tracking to toggle cursor tracking on and off.
- 3 Select Lock in Place to lock the information in the Cursor window so that it does not change when you move the Advanced Chart window cross hairs.

Just right-click on a Cursor Window to access the following menu and customize its look and feel.



See the Using the Right-Click Menus section later in this chapter for further detail.

Charting Area

The charting area contains the actual chart. Depending on the chart type and properties you've set, the chart area may include a cursor window, cursor tracking, a volume histogram, and various technical studies.

Advanced Chart, Line, & Advanced Line Toolbars

In addition to the Favorites toolbar that is embedded inside an Advanced Chart window, there are several other charting-related toolbars that you can use to customize your charts: the Advanced Chart Toolbar, the Line Toolbar and the Advanced Line Toolbar (See Appendix A for a description of the Advanced Line Toolbar).

You can toggle these three toolbars on and off by selecting/deselecting them from the eSignal View menu. In addition, all eSignal Advanced Charting toolbars are dockable which means that they can be moved anywhere on your screen.

Using the Advanced Chart Toolbar

The Advanced Chart Toolbar is pictured in Figure 8-13 and defined below.

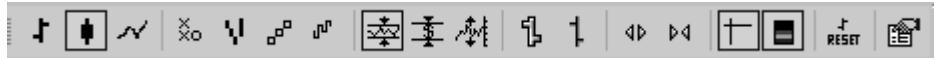


Figure 8-13. Advanced Chart Toolbar



Select to pull up an open, high, low, close bar chart



Select to pull up a Candlestick chart



Select to pull up an OHLC line chart



Select to pull up a Point and Figure chart



Select to pull up a 3 Line Break/3 Point Break chart



Select to pull up a Renko chart



Select to pull up a Kagi chart



Select to Auto Scale chart data



Select to Scale Price data only



Select to switch to a logarithmic scale



Select to increase bar width



Select to decrease bar width



Select to increase bar spacing



Select to decrease bar spacing



Select to have your Advanced Chart symbol track your cursor



Select so that the Advanced Chart window displays a Cursor window that shows data for the bar or point your Advanced Chart cursor is on.



Select to reset your chart



Select to specify Advanced Chart window properties

Using the eSignal Line Toolbar

You can use the eSignal Line Toolbar buttons to access tools to draw lines, boxes, squares, text and a variety of other studies on an Advanced Bar Chart. Like other eSignal Toolbars, the Line Toolbar is dockable and appears by default. You can toggle the Line Toolbar on and off by selecting Line Toolbar in the View menu.

When you open a new Bar chart, the Line Toolbar appears above the Advanced Chart window. Although this is the default location, you can move the Line Toolbar just as you can any of the other dockable eSignal toolbars. The Line Toolbar is shown in Figure 8-14.

In addition to using the LineToolbar, you can also access the same line tools in two other ways:

- 1 You can also access line settings from the Tools menu choice that appears in the Chart Options menu when an Advanced Chart window is active.
- 2 By right-clicking on an Advanced Chart window and then selecting Tools



Figure 8-14. eSignal Line Toolbar for Advanced Charts

The following section summarizes the function of each of the Line Toolbar buttons.

Pointer



The Pointer tool is turned on by default when you open a new bar chart. To turn off any other tool from the Drawing Tool Box, just press the pointer button with your left mouse button. You can click your right mouse button anywhere inside of the bar chart and this will also turn the pointer back on.



You use the Lines tool to draw trend lines on a bar chart. To configure the Lines tool, put your cursor on top of the Lines button and click your right mouse button.

Trend Lines



The Style selection list lets you choose between Segmented, Ray, Extended, Horizontal, Vertical or Arrow lines. Segmented lines are those that have clear starting and ending points. A Ray has a starting point, but extends either into the future or into the past to infinity. An Extended line is like a Ray except that it has no visible beginning

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or ending points. It extends into both the future and the past to infinity. An Arrow is like a Segmented line but has an arrow on the end of the line. Horizontal and Vertical lines are segmented lines that are drawn horizontally or vertically.

To draw a line on a chart:

- 1 Click on the Trend Lines tool with your left mouse button.
- 2 Move your cursor into the chart (it should now look like a pencil).
- 3 Move the cursor to the starting point of your trend line and press your left mouse button once.
- 4 Move your cursor to the point where you want the trend line to end and press your left mouse button again. This anchors your trend line to the bar chart.

To adjust the Style, Color, or Width of a trend line, put your mouse cursor on top of the trend line and click your right mouse button. This opens the Trend Lines dialog box. When you are finished making your changes, click either OK or Apply to save your changes.

To remove a line, right-click on it and click the Remove button.



Click to draw a Line Segment.



Click to draw a Ray



Click to draw an Extended line



Click to draw a Horizontal line



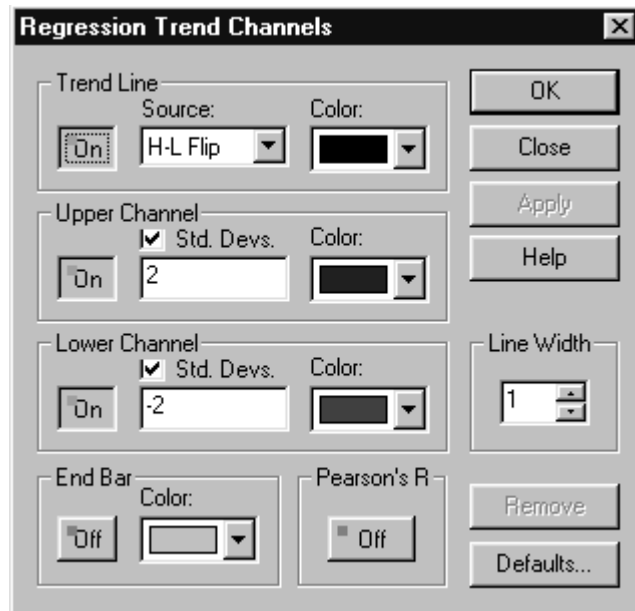
Click to draw a Vertical line

Regression Trend Channel



Click to draw a Regression Trend Channel that is calculated using the actual prices of the bars in the trend. A linear regression line is calculated and then the upper and lower channels are drawn using a standard deviation of the regression line or by using the highest high or the lowest low of the trend. The break of a Regression Trend Channel is usually used as an entry or exit signal.

To set Regression Trend Channel properties, click on the Regression Channels toolbar button, then click your right mouse button. This opens the Regression Trend Channels dialog box.



The Trend Line On/Off button indicates whether the Trend Line (regression line) will be displayed. The Trend Line does not have to be displayed for the Regression Channels to work correctly. Press this button to turn the display of the Trend Line On or Off.

The Trend Line Source selection list allows you to choose what prices are used to calculate the Regression line:

- | | |
|----------------|---|
| Open | Calculates the regression line using the open prices of the bars |
| High | Calculates the regression line using the highs of the bars |
| Low | Calculates the regression line using the lows of the bars |
| Close | Calculates the regression line using the closing prices of the bars. |
| (H+L)/2 | Calculates the regression line using the value derived from the sum of the highs and the lows divided by 2. |

- (H+L+C)/3** Calculates the regression line using the value derived by adding the highs, lows, and closing prices and dividing by 3.
- (O+H+L+C)/4** Calculates the regression line using the value derived from adding the opens, highs, lows and closing prices and dividing by 4.
- H-L Flip** The H-L flip indicates that the Automatic Trend Channels should be calculated using the Low of the bars when the trend is up, and the High of the bars when the trend is down.

The Upper Channel On/Off button indicates if the Upper Channel of the regression line will be displayed. Click your left mouse button on this button to turn the display of the Upper Channel On or Off.

The Std. Devs. check box indicates if the standard deviation of the regression line should or should not be used for the Upper Channel. When this box is checked, the Upper Channel will use the standard deviation indicated in the number box directly below it. If the Std. Devs. check box is not checked, the Upper Channel will be drawn using the highest and lowest bars in the trend encompassed by the channels.

The Lower Channel On/Off button indicates whether the Lower Channel of the regression line will be displayed. Press your left mouse button on this button to turn the display of the Lower Channel On or Off.

The Std. Devs. check box indicates if the standard deviation of the regression line should or should not be used for the Lower Channel. When this box is checked, the Lower Channel will use the standard deviation indicated in the number box directly below it. If the Std. Devs. check box is not checked, the Lower Channel will be drawn using the highest and lowest bars in the trend encompassed by the channels.

The End Bar On/Off button indicates that a bar will be drawn below the last bar used in the Regression calculation. This is helpful if you are saving the Regression Trend Channels and cannot remember which bar you used for the calculation.

The Pearson's R On/Off button indicates if the Pearson's R value will be shown at the bottom of the Regression Trend Channels. As the Pearson's R value is closer to the value of 1, this means the calculated regression line is matching the actual value of the data. This means that the regression line is "fitting" the trend very well. As the Pearson's R value gets closer to the value of 0, the regression line does not match the value of the data. This means that the regression line does not "fit" the trend very

well. Think of this value as a percentage--A 90 percent match is very good, while a 6 percent match is very bad.

To draw the Regression Trend Channels on a chart, turn on the Regression Trend Channels tool by putting your cursor over the Regression Trend Channels button and click your left mouse button. When you move your cursor into the chart, you will now notice that the cursor looks like three trend lines.

Move the cursor to the starting point where you want the Regression Trend Channels to begin and click your left mouse button once. Move your cursor to the last bar you want to include in the Regression Trend Channels calculation and click your left mouse button again. This anchors the Regression Trend Channels to the bar chart.

If you would like to adjust the Standard Deviation, Color, End Bar, etc., of a Regression Trend Channel that has already been drawn on the chart, put your mouse cursor on top of the Regression Trend Channel and click your right mouse button. This will open the Regression Trend Channels dialog box. When you are finished, press either the OK or Apply button and the Regression Trend Channels will change to reflect any new settings.

To remove the Regression Trend Channels, put your mouse on top of the Regression Trend Channels that you want to erase and click your right mouse button. When the Regression Trend Channels dialog box appears, press the Remove button. You can also erase a Regression Trend Channel using the Eraser tool, which, is covered later in this section.

Fibonacci Retracements



Use the Fibonacci Retracements tool to measure the amount the market has retraced compared to the overall market movement. This tool uses ratios which are mathematical in nature, derived from the Fibonacci sequence which was developed by Leonardo Fibonacci around 1180 ACE. Fibonacci Retracements give you support and resistance areas along with general target price areas.

Fibonacci Retracements are commonly drawn from the beginning of Wave 1 (the Zero point) to the top of Wave 3 to find a target for the Wave 4 retracement.

To configure the Fibonacci Retracements, put your cursor on top of the Fibonacci Retracements button and click your right mouse button. This opens the Fibonacci Retracements dialog box.

The On/Off toggle button indicates whether or not the corresponding Fibonacci Retracement value will be included when you draw the Fibonacci Retracements.

The Value number boxes indicate what Fibonacci ratios are used. If the corresponding On/Off button is toggled On, then that retracement level will be included when you draw the Fibonacci Retracements.

The Color selection list allows you to change the color for each Fibonacci ratio.

To remove the Fibonacci Retracements, put your mouse cursor right on top of the Fibonacci Retracements that you want to erase and click your right mouse button. When the Fibonacci Retracements dialog box appears, press the Remove button.

Fibonacci Extensions



The Fibonacci Extensions tool is used to measure the amount a market has extended compared to the overall movement. Fibonacci Extensions give you general target price areas.

Fibonacci Extensions are most commonly used to find the general area of a Wave 5, you would click on the start of Wave 1 (the Zero point), then click on the top of Wave 3, and click one more time at the end of Wave 4.

To configure the Fibonacci Extensions, put your cursor on top of the Fibonacci Extensions button and click your right mouse button. This opens the Fibonacci Extensions dialog box.

The On/Off toggle buttons indicate whether or not the corresponding Fibonacci Extensions value will be included when you draw the Fibonacci Extensions.

The Value number boxes indicate what Fibonacci ratios are to be used. If the corresponding On/Off button is toggled On, then that extension level will be included when you draw the Fibonacci Extensions.

To remove the Fibonacci Extensions, put your mouse cursor on top of the Fibonacci Extensions that you want to erase and click your right mouse button. When the Fibonacci Extensions dialog box appears, press the Remove button.

The Color selection list allows you to change the color for each Fibonacci ratio.

Fibonacci Circles



Click to use the Fibonacci Circles tool to project Fibonacci ratios in a circular pattern from an origin point that reaches out into time and price providing support and resistance areas.

To configure the Fibonacci Circles, put your cursor on top of the Fibonacci Circles button and click your right mouse button. This will open the Fibonacci Circles properties sheet.

The On/Off toggle buttons indicate whether or not the corresponding Fibonacci Circles value will be included when you draw Fibonacci Circles.

The Value number boxes indicate what Fibonacci ratios are used. If the corresponding On/Off button is toggled On, that retracement level will be included when you draw the Fibonacci Circles.

The Fixed Scale check box and corresponding number box indicate if the Fibonacci Circles should be drawn based upon a fixed scale and if so, what scale to use.

To remove the Fibonacci Circles, put your mouse cursor on top of the Fibonacci Circles that you want to erase and hit your right mouse button. When the Fibonacci Circles properties sheet appears, press the Remove button.

The Color selection list allows you to change the color for each Fibonacci ratio.

Fibonacci Time



The Fibonacci Time tool is used to project Fibonacci ratios out into time based upon Pivot Points affecting future Pivot Points.

Fibonacci Time is commonly drawn from Pivot Point to Pivot Point from the same side of the market. For example, you would choose a Primary Pivot Point as your start for Fibonacci Time, and then pick a second Primary Pivot Point as your ending point for Fibonacci Time, with both Pivot Points being on the top of the market.

To configure the Fibonacci Time, put your cursor on top of the Fibonacci Time button and click your right mouse button. This opens the Fibonacci Time dialog box.

The On/Off toggle buttons indicate whether or not the corresponding Fibonacci Time value will be included when you draw the Fibonacci Time

The Value number boxes indicate what Fibonacci ratios are used. If the corresponding On/Off button is toggled ON, that retracement level will be included when you draw the Fibonacci Time.

To remove the Fibonacci Time, put your mouse cursor on top of the Fibonacci Time you want to erase and hit your right mouse button. When the Fibonacci Time properties sheet appears, press the Remove button.

The Color selection list allows you to change the color for each Fibonacci ratio.

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ADVANCED CHARTING

Text



Click the Thumb Tack tool to add a small icon that looks like a piece of paper with a Thumb Tack to an Advanced Chart window. When you have typed your note and pressed the OK button, the text is attached to your mouse cursor.

You can move the note to the area where you want it and press the left mouse button to anchor it. Make sure you save the chart before closing it or you will lose your message.

To remove the Text of the Thumb Tack, put your mouse cursor on top of the Text or Thumb Tack that you want to erase and click your right mouse button. When the Text Properties sheet appears, press the Remove button.

Zoom



The Zoom tool is used to focus on a specific area of a Bar Chart. Move the Zoom cursor to the start of the area you want to focus on and press your left mouse button. Move the cursor to the right and you will notice a light box being drawn on the chart. This is the area that will be “Zoomed”. Move your mouse to the end of the area you want to focus on and press your left mouse button a second time. The chart will reflect the area that you marked. To “Un-Zoom” the chart, press the Reset button on the toolbar

Eraser



You use the Eraser to erase any item that has been drawn on the chart by any of the Drawing Tools. To erase a line, move the Eraser cursor on top of the line you want to erase and press your left mouse button. Please note that once something has been erased off of the bar chart, there is no way to "undo" the deletion.

Move



You use the Move Tool to move almost any item that has been drawn on the chart by any of the Drawing Tools. To move a line, place the Move cursor on top of the line you want to move and press your left mouse button. The line will attach to the cursor, and can be placed on the chart by pressing your left mouse button.

Please note that you cannot move the Regression Trend Channels, Fibonacci Retracement, Fibonacci Extensions, Fibonacci Time, PTI, Ellipse, or MOB.

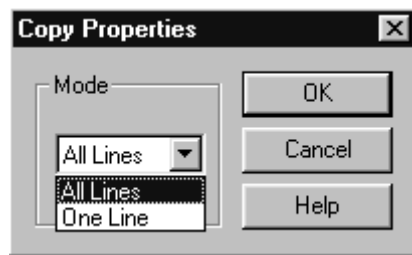
Copy



You use the Copy Tool to copy a line or many lines on the chart. This is very useful when you are drawing parallel lines or channels.

To copy a line, place the Copy cursor on top of the line(s) that you want to copy and press your left mouse button. The copy of the line you selected will attach to the mouse cursor and can be placed on the chart by pressing your left mouse button.

To configure the Copy Tool, put your cursor on top of the Copy button and click your right mouse button to open the Copy Properties dialog box.



The Mode selection list allows you to choose between copying just One Line or All Lines on the chart.

Magnet



You click this tool to add a Price Magnet. A Magnet controls how much force is used to pull your cursor to the high or low of a bar when drawing any kind of line from the Line Toolbar.

The Magnet makes it easier to accurately draw lines that touch bar highs or lows. You can experiment with different Snap Length values to see what setting works best for you. To configure the Magnet, place your cursor on the Magnet toolbar button, then click your right mouse button. This opens the Magnet properties sheet

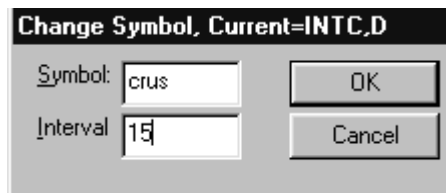
The Snap Length number box indicates the number of pixels used to determine if the Magnet should pull the mouse cursor to the high or the low of the chart. If you set this number to 1, then you have to be right next to (1 pixel away from) the high or low of the bar before the cursor will be pulled to the high or the low. If you set this number to 24, then you only have to be in the general area of the bar for the cursor to be pulled to the high or low of the bar.

Viewing Data in an Advanced Chart Window

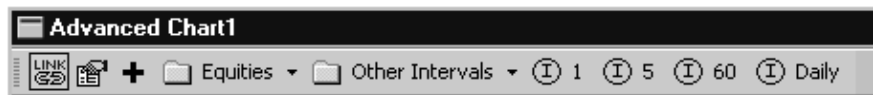
You can create a new Advanced Chart window by right-clicking a symbol in a Quote, Portfolio, Summary or Leaders window and selecting Advanced Chart, or by choosing New from the File menu. If you already have a Chart window open and don't want to open another one, you can display a new chart in the open Advanced Chart window.

To display a new chart in an open Advanced Chart window

- 1 Make sure the Advanced Chart window is active, then just type a new symbol. A Change Symbol dialog box appears as shown below. Type in a new symbol and interval, then click OK. The Advanced Chart window you had open changes to reflect the new symbol and interval you entered. Available intervals that you can enter are D (for Daily), W (for Weekly) and M (for Monthly) and intervals in minutes (i.e. 60, 30, 15, etc.)



- 2 When you initially open an Advanced Chart window, there are preset chart intervals and Favorites lists (lists of preset charts) for Equities and Other Intervals that you can choose from the Favorites Toolbar as shown below.



- 3 You can quickly change the interval for data in the Advanced Chart window by selecting from the preset intervals of 1, 5, and 60 minutes and Daily from the Favorites Toolbar.

To redisplay a Favorite chart in an Advanced Chart window

- 1 Click the down arrow on the Equities list or the Other Intervals list or any other user-defined folder list and select the name of a previously saved favorite chart from the pull-down list.

Specifying Advanced Chart Window Settings

Right-Click and Chart Options Menus

You have complete access to Advanced Chart Window settings by using either the Advanced Chart Window right-click menu and/or the Chart Options menu. The Advanced Chart Window right-click menus vary, depending upon where you click on the chart.

If you right-click in the data area of the Advanced Chart window, you will see the Main Advanced Chart window right-click menu that is discussed in the following section.

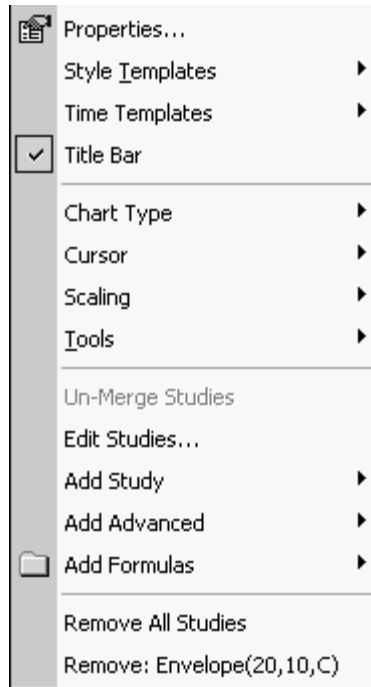


Figure 8-15. Advanced Chart Window Main Right-click Menu

Main Advanced Chart Right-Click Menu

Once you have created an Advanced Chart window, you are just a few right-clicks away from customizing window properties, changing chart styles, selecting scaling methods and cursor options, adding and editing studies, formulas and advanced line tools, and un-merging and removing existing studies.

The eSignal Advanced Chart window right-click menu appears in Figure 8-15. Please note that you can access the same Advanced Chart window settings menu by clicking on the Chart Options menu when an Advanced Chart window is active. The only difference between the Advanced Chart window right-click and Chart Options

menu is that the right-click menu enables you to select individual studies (See Remove Envelope choice above) while the Chart Options menu does not.

Properties

Select Properties to specify chart colors, fonts, margins, and ticker filtering settings.

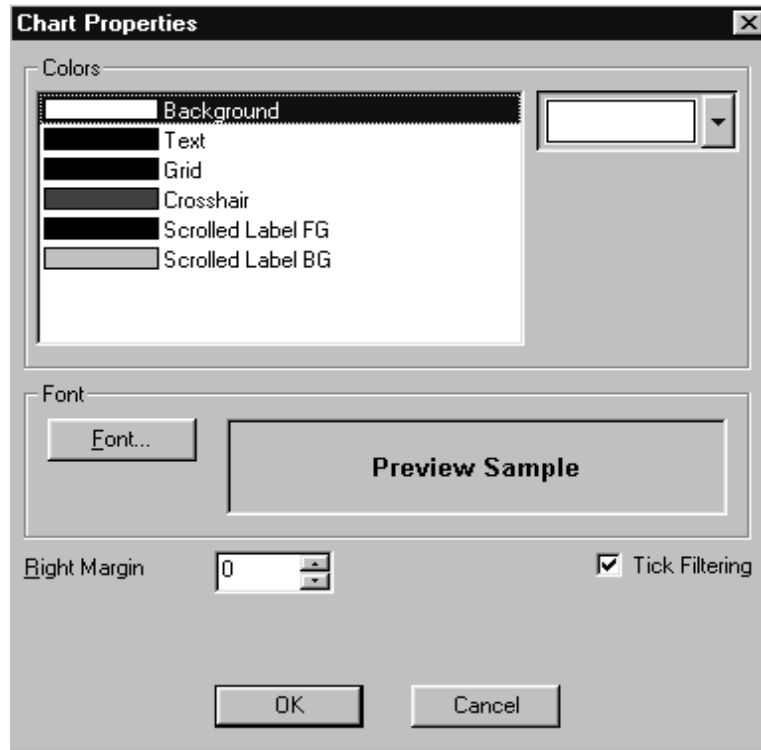


Figure 8-16. The Chart Properties Dialog Box

Style Templates

You may want to set up different Style Templates for various types of issues. You can do this by saving each of these Advanced Charts as a separate Style Template so that you can load it whenever you want.

Select Style Templates to load a particular style template, to save a chart as a style template, or to set a particular chart as your style template, or to load the default chart style template. The default eSignal style template is called Default.ach. However, you can make any existing advanced chart a style template and once you save it as the Default, it will then be available.

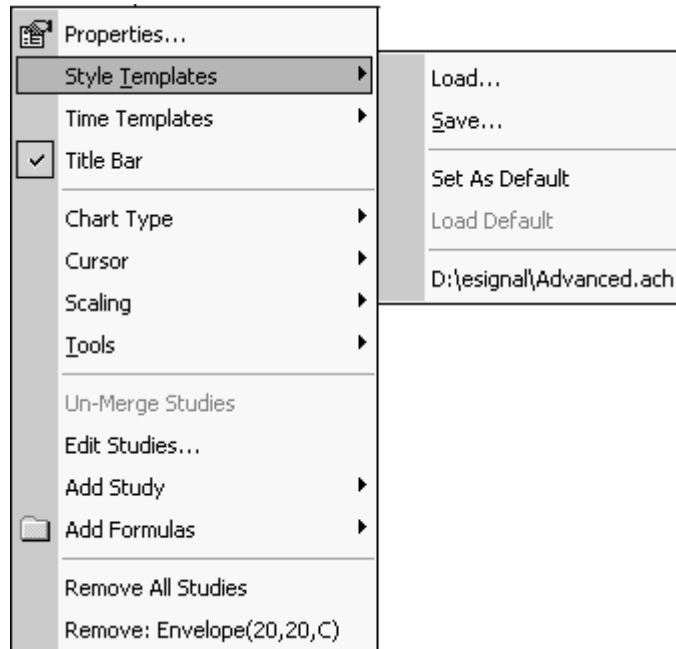


Figure 8-17. Style Template Submenu

Time Templates

Select Time Templates to load a particular time template or to load one of the default chart time templates that comes with eSignal (sample default Time Templates are shown in the right-click menu in Figure 8-18).

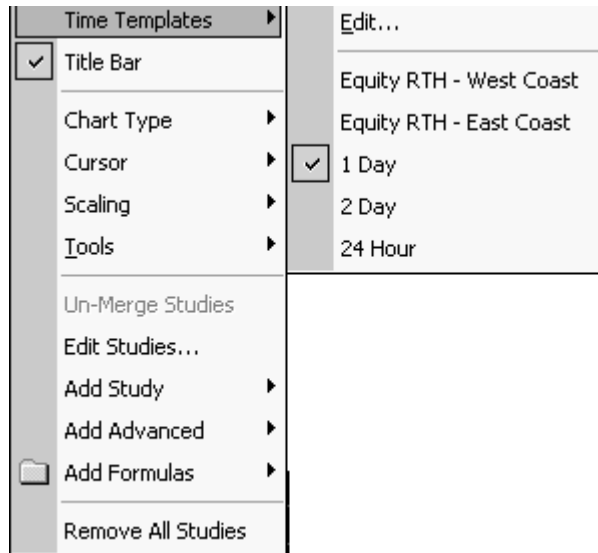


Figure 8-18. Time Templates Right-Click Menu

Template files all have the suffix of .ach (i.e. Advancedchart.ach) and are stored under the eSignal program directory. The Style and Time Templates submenus can also display up to 4 of the most recently saved or loaded templates for easy access.

To Edit A Time Template:

- 1 Right-click on the main data area of an Advanced Chart window.
- 2 Select Time Templates, then Edit from the right-click menu.

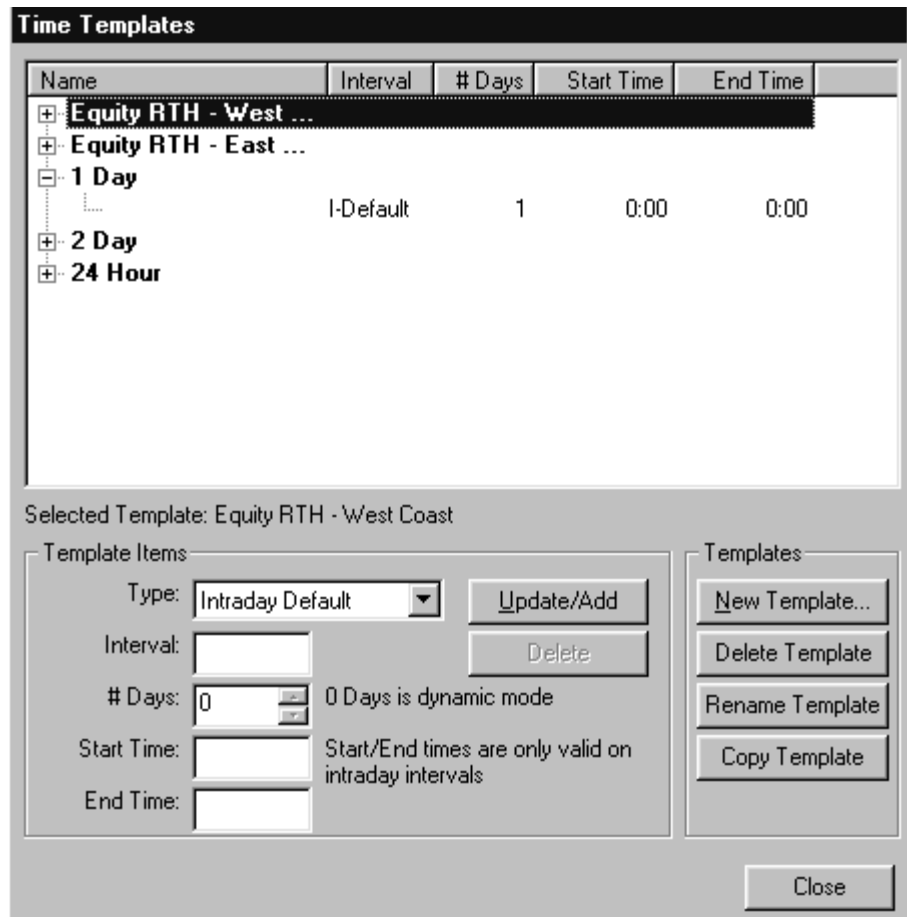


Figure 8-19. Time Templates Dialog Box

- 3 The Time Templates dialog box appears. It lists all default templates and any others that you have saved. The Time Template that is currently being used by the active chart is highlighted and its Template items are listed in the Template Items section of the dialog box

- 4 You may change the Default Type, Interval, number of days or start and end times.
- 5 When you are finished updating the selected Time Template, click the Update/Add button.
- 6 You can also use the Time Templates dialog box to create a new template (click the New Template button), delete an existing template (click the Delete Template button), rename a template (click the Rename Template button), or copy an existing template (click the Copy Template button).
- 7 When you are finished managing your Time Templates, click the Close button to close the Time Templates dialog box.

Title Bar

Select Title Bar from the Advanced Chart right-click menu to toggle the Advanced Chart window title bar on and off.

Chart Types-Description & Interpretation

Bar

Select Bar from the Chart Type right-click submenu to change the active Advanced Chart window to an OHLC (Open, High, Low, Close) Bar chart.

Candle

Select Candle from the Chart Type submenu to change the active Advanced Chart window to an Candlestick chart.

Line

Select Line from the Chart Types submenu to change the active Advanced Chart window to a Line chart that connects the closing prices (by default) for each chart interval. You can also base the Line chart on a variety of price sources such as open, high,

low, close, or combinations of these sources. When a line chart is active, right click and select Edit Studies to select from several Sources on which you can base the line.

Point and Figure

Select Point and Figure from the Chart Types submenu to change the active Advanced Chart window to a Point and Figure chart. Point and Figure charts disregard the passage of time and chart only price changes. An "x" is drawn when the price rises by a predefined box size. An "o" is drawn if the price falls by a predefined box size. No x's or o's are drawn if the market moves an amount less than the box size.

3 Line Break (a.k.a 3 Point Break)

Three Point Break charts originate from Japan and were introduced to the western world by Steve Nison (author of *Beyond Candlesticks*). They are called Three Line Break charts because they usually use three line blocks to calculate reversals.

A green block is drawn in a new column on the chart if the closing price exceeds the previous high price. Conversely, a new red block is drawn if the close makes a new low. If there is neither a new high or low, nothing is drawn.

With a default Three Line Break, if a rally is powerful enough to form three consecutive green blocks, then the low of the last three green blocks must be exceeded before a red block is drawn. If a sell-off is powerful enough to form three consecutive red blocks, then the high of the last three red blocks must be exceeded before a green block is drawn.

To draw line break blocks, today's close is compared to the high and low of the previous block. A block is drawn only when today's close exceeds the high or low of the previous block. If today's close is higher than the top of the previous block, a new green block is drawn in the next column from the prior high to the new high price. If today's close is lower than the bottom of the previous block, a new red block is drawn in the next column from the prior low to the new low price. If the close fails to move outside the range of the previous block's high or low, then nothing is drawn.

With the default Three Line Break chart, a downside reversal (i.e., green blocks change to red blocks) occurs when the price moves under the lowest price of the last

three consecutive green blocks. A red reversal block is drawn from the bottom of the highest green block to the new price. An upside reversal (i.e., red blocks change to green blocks) occurs when the price moves above the highest price of the last three consecutive red blocks. A green reversal block is drawn from the top of the lowest red block to the new high price.

Indicators calculated on Three Line Break charts use all the data in each column and then display the average value of the indicator for that column.

Interpretation/Trading Signals

- 1 Buy when a green block emerges after three prior red blocks and sell when a red block appears after three green blocks.

Renko

The Renko charting method is thought to have acquired its name from "renga" which is the Japanese word for bricks. Renko charts were introduced by Steve Nison (for more information on Renko charts, you may want to read his book [Beyond Candlesticks](#)).

Renko charts are similar to Three Line Break charts except that in a Renko chart, a line (or brick as they are sometimes called) is drawn in the direction of the prior move only if a fixed amount (i.e. the box size) has been exceeded. The bricks are always equal in size. For example, in a five unit Renko chart, a 20 point rally is displayed as four equally sized, five unit high Renko bricks.

To draw Renko bricks, today's close is compared with the high and low of the previous brick (green or red). When the closing price is greater than the previous brick by the box size or more, one or more equal height, green bricks are drawn in the next column. If the closing price falls below the bottom of the previous brick by the box size or more, one or more equal height, red bricks are drawn in the next column.

If the market moves up more than the amount required to draw one brick, but less than the amount required to draw two bricks, only one brick is drawn. For example, in a two unit Renko chart, if the base price is 100 and the market moves to 103, then one green brick is drawn from the base price of 100 to 102. The rest of the move --

from 102 to 103 -- is not shown on the Renko chart. The same rule applies whenever the price does not fall on a box size divisor.

Indicators calculated on Renko charts use all the data in each column and then display the average value of the indicator for that column.

Interpretation

Basic trend reversals are signaled with the emergence of a green or red brick. A new green brick indicates the beginning of a new uptrend. A new red brick indicates the beginning of a new downtrend. Since the Renko chart is a trend following technique, there will be times when the market induces whipsaws. However, a trend following technique is intended to allow traders to ride on the major portion of the trend.

Since a Renko chart isolates the underlying trends by filtering out minor ups and downs, they are excellent for helping determine support and resistance levels.

Kagi

Kagi charts plot a single line until price reverses by a predetermined amount where another line is then begun. It is an attempt to smooth out the noise of daily trading activity so that trends can be more clearly represented. The thickness of Kagi lines are significant when prior highs and prior lows are exceeded.

Cursor

The Cursor menu enables you to specify the following Advanced Chart Cursor window settings:

Cursor Window

Select Cursor Window to display information about various data points in a summary window. When the Cursor Window is active, the data it displays for bars and studies updates as you move the cross hairs along the chart. If you hold down the CTRL key while moving the cross hairs, only the X cross hair value updates in the Cursor Window. Hold down shift and only the Y hair updates.



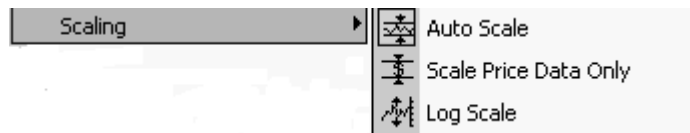
Cursor Tracking

Select Cursor Tracking to toggle the Advanced Chart window cross hairs on and off.

Lock in Place

Select Lock in Place if you want the information currently displayed in the cursor to remain or be locked in place even when you move the chart cross hairs.

Scaling



Auto Scale

Select AutoScale from the Advanced Chart right-click menu to automatically scale the active Advanced Chart window. Autoscaling adjusts the Y-Axis to fit the chart's high and low prices. If this feature is disabled, you would have to scroll up and down vertically while scrolling backwards to adjust the scaling.

Scale Price Data Only

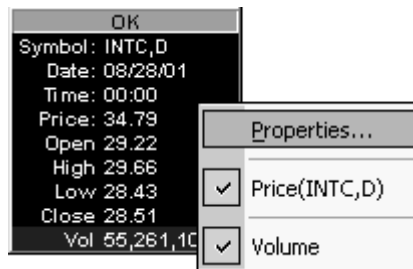
Select Scale Price Data Only from the Advanced Chart right-click menu to scale only the price data in the active Advanced Chart window. This eliminates applying any price studies to the scaling and makes it easier to read the price chart.

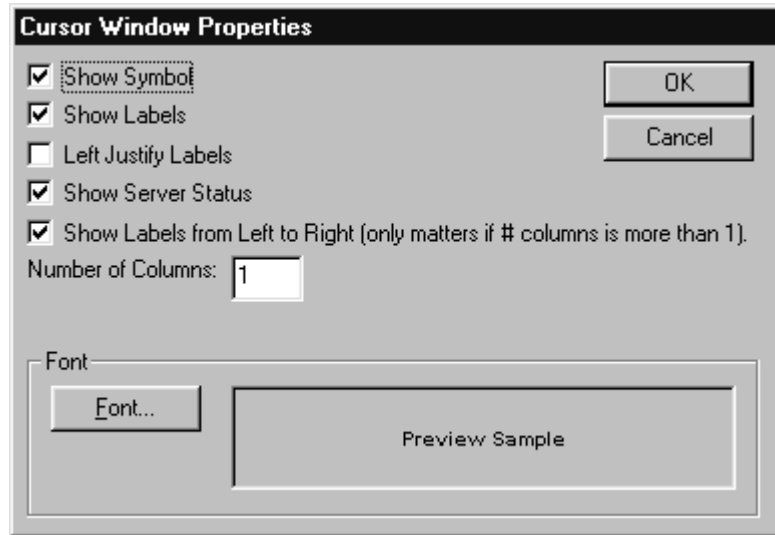
Log Scale

Select Log Scale from the Advanced Chart right-click menu to apply a logarithmic scale to the active Chart window. A log scale is often used to pinpoint small price changes in a high priced stock.

Cursor Window Right-Click Menu

When you right-click the Cursor window, you will see a menu similar to the one shown below:





- 1 Select Properties to pull up the Cursor Window Properties dialog box.
- 2 Specify your Cursor Window property preferences by selecting/de-selecting from the various options shown. You may also change the Cursor Window font.
- 3 Select OK to apply your changes to the Cursor Window.
- 4 The Cursor Window right-click menu also displays other data relating to the Price (Symbol, Interval), Volume and lists any other studies that have been added to the Advanced Chart. If you wish to remove any of this additional data from the Cursor Window to conserve space, simply click on the check mark next to each item in the right-click menu.

Tools

The Tools Submenu shown in Figure 8-20 provides access to all tools that are available in the Line and the Advanced Line Toolbars. Since these Toolbars have already been discussed, we won't talk any more about them here. Instead, just go to the reference pages next to each study name to get further detail on that particular tool.

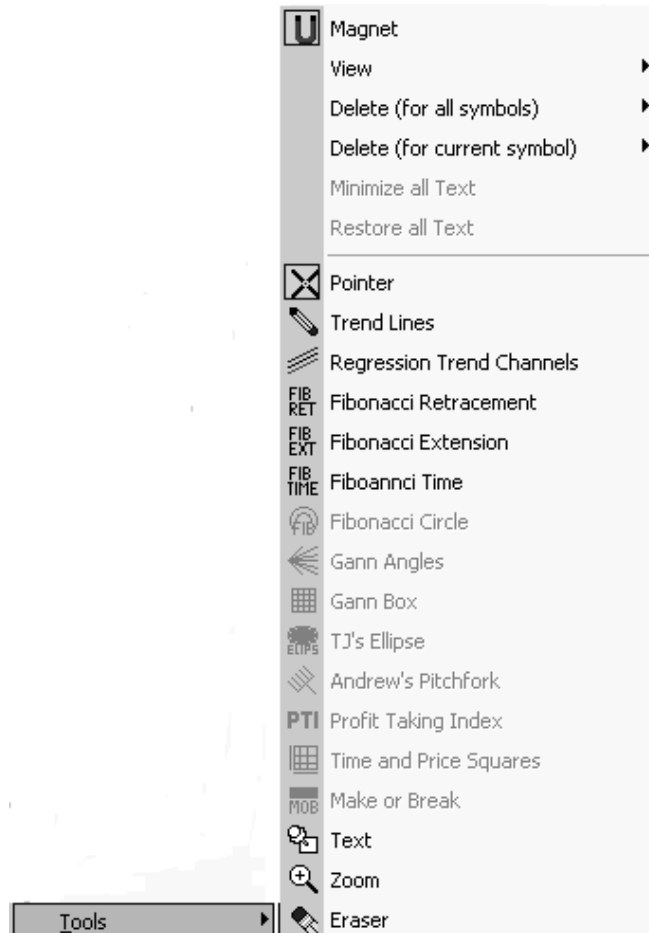


Figure 8-20. The Tools Submenu

In addition to providing access to all Line and Advanced Line tools, the Tools right-click menu also displays a few additional choices that we'll discuss below.

Magnet	see page 8-34
View	Use to toggle off/on Lines, Gann Lines, or Fibonacci Lines
Delete for All Symbols	Enables you to delete Lines, Gann Lines, Fibonacci Lines, Trend Lines, Text, and All for all symbols
Delete for Current Symbol	Use to delete Lines, Gann Lines, Fibonacci Lines, Trend Lines, Text and All for the current symbol
Delete All Text	Select to delete all text associated with the active chart
Restore All Text	Select to restore all deleted text to the active chart
Pointer	see page 8-23
Trend Lines	see page 8-24
Regression Trend Channels	see page 8-25
Fibonacci Retracement	see page 8-28
Fibonacci Extensions	see page 8-29
Fibonacci Time	see page 8-31
Fibonacci Circles	see page 8-30
Gann Angles	see page 21-90
Gann Box	see page 21-91
TJ's Ellipse	see page 21-92
Andrew's Pitchfork	see page 21-93
Profit Taking Index	see page 21-94
Time & Price Squares	see page 21-94

Make or Break	see page 21-97
Text	see page 8-32
Zoom	see page 8-33
Eraser	see page 8-33

Un-Merge Studies

Select Un-Merge Studies to un-merge any studies you have previously merged on the active Advanced Chart window.

Edit Studies

Select Edit Studies to edit a study that is currently applied to the active Advanced Chart window. Select a study that you want to edit from the pull-down study box, to edit settings, colors and other display options. When you have finished editing a study, click OK to apply your changes for that study to the Active Advanced Chart window. Since you have a pull-down of all studies, you can make changes to more than one study. “Apply This” applies the changes for the study and chart you are currently editing. “Apply All” applies the changes for all of the edits if you made changes to more than one study.

Add Study

eSignal’s Advanced Charting supports many basic studies that you can apply to your charts. Select Add Study to choose from a selection of over 20 technical studies that you can add to an Advanced Chart window.

Price only studies such as Bollinger Bands appear above the line in the right-click menu. You can apply multiple studies to Advanced Charts and even merge studies. Please refer to Appendix A for a complete description of over 20 eSignal Advanced Charting studies and details on how they are used.

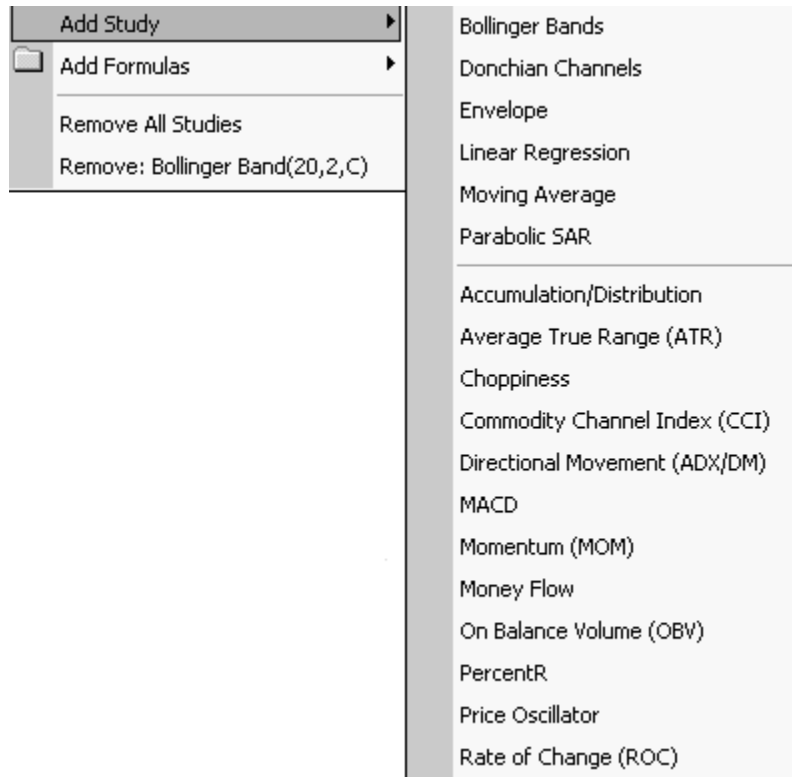


Figure 8-21. Advanced Charting Add Study Sub-Menu

Add Advanced

eSignal now offers Advanced Technical Studies from Advanced GET, a leading technical analysis software package as an add-on service. You can add Advanced GET studies to a Chart window by right-clicking on an Advanced Chart window and selecting Add Advanced, then the specific tool you want to add from the sub-menu. Each of the Advanced GET technical studies is defined in detail in Appendix A.

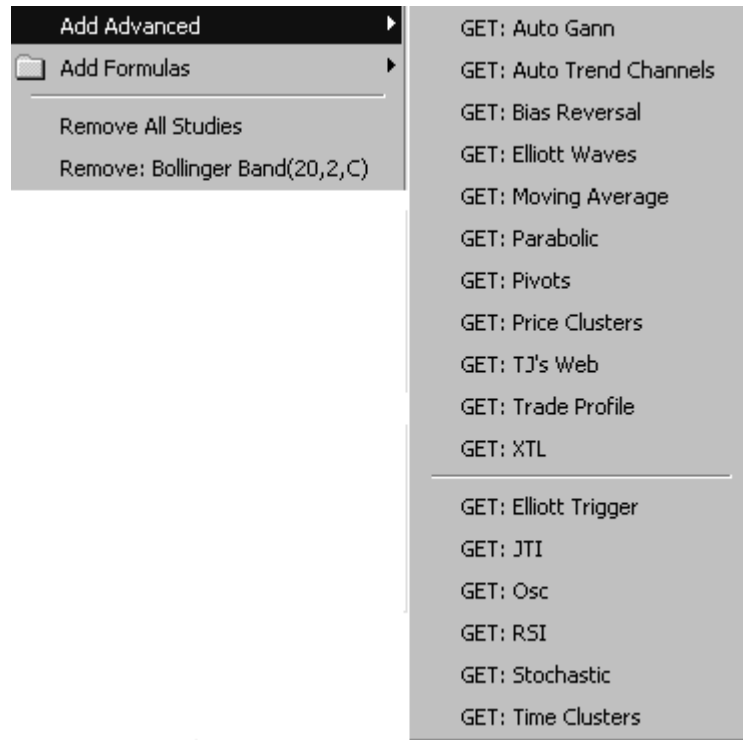


Figure 8-22. Advanced GET Study Menu/Sub-Menu

Add Formulas

Select Add Formulas to add an eSignal Advanced Charting formula to the active Advanced Chart window.

Remove All Studies

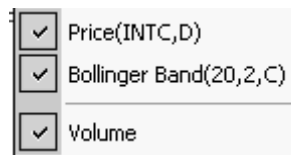
Select Remove All Studies from the right-click menu to remove all studies that have previously been applied to the Active Chart window.

Remove Specific Study

In addition to being able to remove all studies from the right click menu, you can also remove individual studies. Just right-click on the study you want to remove. Remove (name of study you selected) appears at the bottom of the Advanced Chart right-click menu. Select Remove (name of study) to remove the study from the chart.

Y-Axis Right-click Menu

By default, the Advanced Chart Y-Axis displays the current issue price (color-coded green for up from the last bar or data point price or red if below the previous bar or data point's close), the value of any studies calculated up to the present time, and the volume for the latest bar or data point displayed on the Advanced Chart.



If you do not want to see the above information on the Y-Axis, just click on the check mark to its left to remove the data.

Advanced Chart - Click and Drag Features

Scrolling

You can place your mouse on the X-Axis of an Advanced Chart and move pull or move it to the right to scroll back in time. Conversely, move your mouse to the left to scroll ahead in time.

Rescaling

To reset scaling, click the Reset Toolbar button on the Advanced Chart Toolbar.

Resizing

To resize the Y-Axis, click on it and drag it up or down.

Repositioning Studies

You can reposition studies by holding down the Control key, grabbing a study and dragging it to your desired location.

Merging Studies (non-price)

You can merge non-price studies in an Advanced Chart window. To merge studies, click on the first study, hold down the Shift button, and drag the study over the study you want to merge it with. Please note that you cannot merge price studies. To unmerge a study, right click on the section of the chart where the studies are merged, then select Un-Merge studies from the right-click menu.

Adding Formulas

eSignal's Advanced Charting supports an extensive library of analytical formulas. Select Add Formulas from the eSignal Advanced Chart right-click menu to access a listing of available formulas.

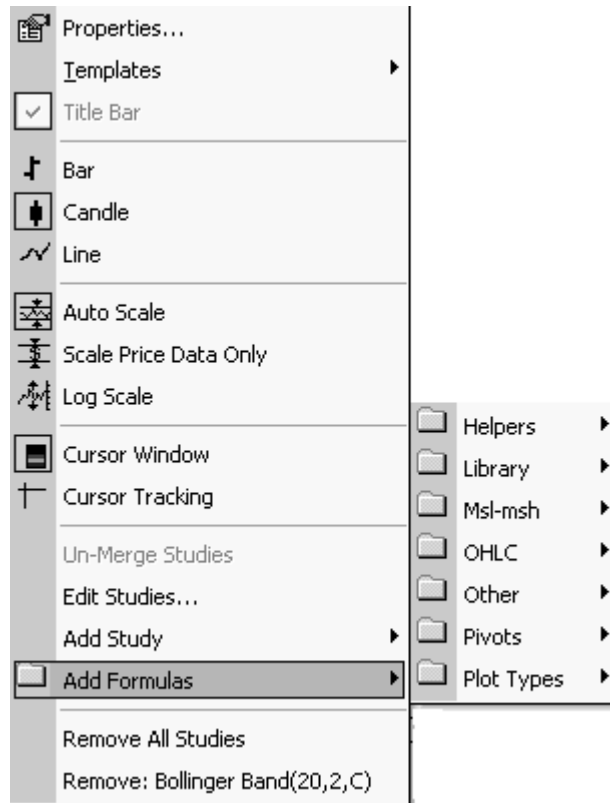


Figure 8-23. Adding Formulas to Advanced Charts

Accessing Formula Folders

When you right click in an Advanced Chart Window and select Add Formula from the menu, you will see six or more different formula folders. The following is an example of a formula folder and an image of the folder expanded so you can view the list of formulas it contains. All formula files have a .efs extension and are stored in the eSignal directory. You will want to go to Appendix A - Advanced Charting Formulas and Studies for further detail on these formulas.

Helper Folder

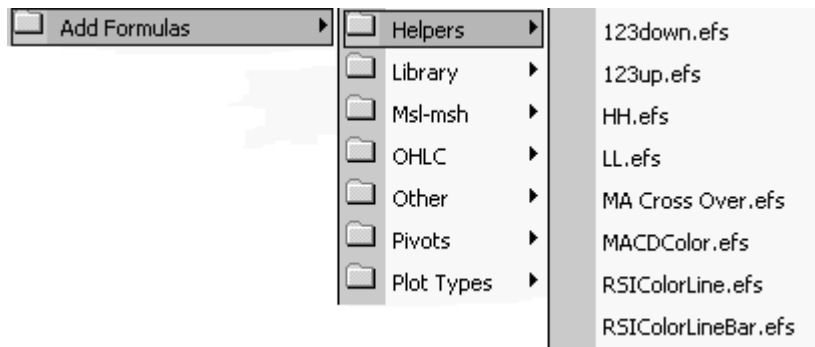


Figure 8-24. The eSignal Helper Formula Folder and Formula Files

The Formulas Menu

You can use eSignal's Formulas menu to set global properties for the formula engine, to turn the Formula Output window on or off, to access the formula editor, and to encrypt and decrypt formulas.

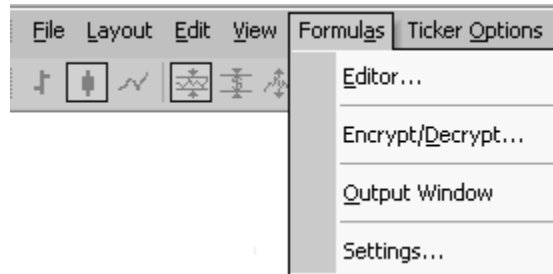


Figure 8-25. The eSignal Formula Menu

Editor

eSignal includes a Formula Editor that you can use to modify any of the over 50 pre-set formulas that come with eSignal. Since all eSignal formulas are written in Java script, they are simple to modify once you have a basic knowledge of the language. To learn more about the formulas eSignal includes, and the basics of using and modifying formulas, make sure you read Appendix A - eSignal Formulas and Studies.

The Formula Editor Toolbar

When you open a formula, it is displayed in a Formula Editor window. All of the formula components are color coded so that you can identify them more easily.

You can view the formula in this window, make your changes, check a formula's syntax to make sure there are not any errors, change Formula Editor properties and

use the Formula Editor toolbar to help you work with a formula. The Formula Editor toolbar appears below along with a description of each toolbar button's function.



Figure 8-26. eSignal Formula Editor Toolbar



Clears the Formula Editor window so that you can write a new formula



Opens the formula folder from which you choose a formula to open



Saves a formula under its existing name



Saves a formula as a different name



Cuts selected text from the Formula Editor window



Copies selected text to the clipboard from the Formula Editor window



Pastes clipboard text into the Formula Editor window

.....
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ADVANCED CHARTING



Undoes the last change



Redoes the last change



Finds a character, word or phrase



Finds the next occurrence of a character, word, or phrase



Find and replace



Print



Properties



Syntax Check



Protected formula

Formula Editor Properties

The various components of the formula (i.e. variables, reserved words, etc.) displayed in the Formula Editor window are color coded so that you can identify what they are more easily. If you want to see what default color is displayed for various formula components in the Formula Editor window, click on the Properties toolbar button in the Formula Editor Window. The formula Editor Properties dialog box appears.

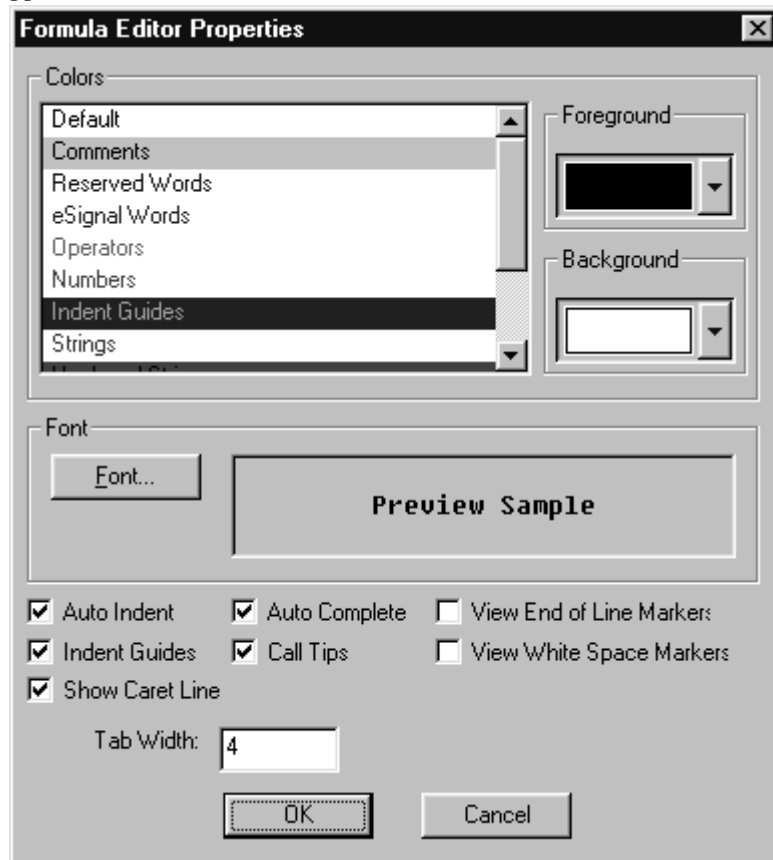


Figure 8-27. Formula Editor Properties Dialog Box

To specify Formula Editor Properties:

- 1 Select various formula components in the Colors section to change the color in which they are displayed in the Formula Editor window
- 2 Click the Font button to modify the font used to display a formula in the Formula Editor window.
- 3 Select Auto Indent to automatically indent new lines in the Formula Editor window.
- 4 Select Show Caret line to highlight the line your cursor is on in yellow (the default color).
- 5 Select Auto Complete and the formula editor will pop up a window as you are typing keywords in the editor. For instance, if you type "get", auto complete will open a window showing all of the possible functions that start with "get". You can then choose from among these functions to help you write your formula.
- 6 Select Call Tips to get function tips as you type them into the Formula Editor window. For example, if you type "Math." when you type the "." you will get a popup menu that lists all of the functions that are part of the math class.
- 7 Select View End of Line Marker to mark the end of a line to make it easier to see.
- 8 Select View White Space Markers to display markers that identify white spaces in your formula.

Syntax Checking and Error Reporting

If there is a syntax error in a formula, it is displayed in the eSignal formula output window and is also saved to a file called formulaoutput.log that resides in the eSignal folder. The Formula Output window can be turned on or off via the View menu.

A helpful feature of the formula output window is a little arrow that appears in the title bar of the window. When the arrow is pointing up, the window is always visible. When the arrow is pointing to the left, the window will auto contract/expand. When the mouse is on top of the window, it expands and stays expanded. When the mouse is not over the window, after a small delay, the window will auto contract.

Encrypting/Decrypting Formulas

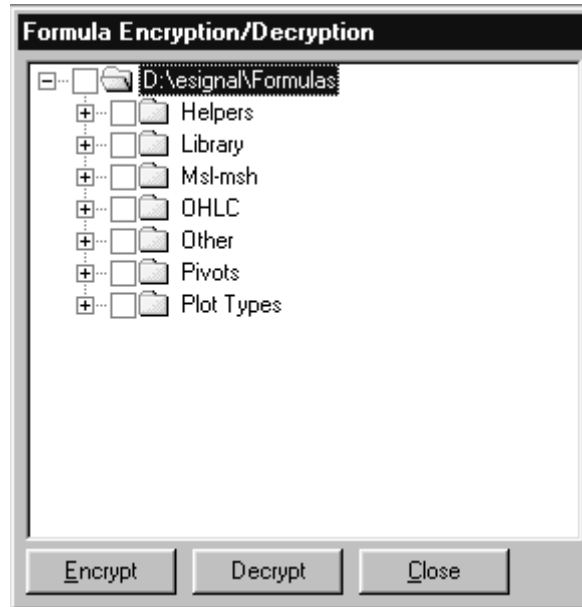
You can use eSignal to encrypt and decrypt proprietary formulas. This feature is available as an add-on service. You can create your own formulas and then encrypt them and/or import other encrypted formulas into eSignal.

When you encrypt a formula, you provide eSignal with a password and an e-mail address. Then, if you forget your formula, just send your user name and e-mail address to eSignal and eSignal will e-mail you your password. Since eSignal e-mails your forgotten password to the e-mail address that you provided when you encrypted your formula, it is important that you provide a valid e-mail address and keep eSignal updated on it if you wish to receive your password.

When you encrypt a file (e.g. newformula.efs) a backup file is made and named newformula.sav. If newformula.sav already exists, newformula1.sav (and so on) will be created. Once a formula is encrypted, eSignal also offers you the ability to decrypt it.

To encrypt a formula:

- 1 Select Encrypt/Decrypt from the Formulas menu.
- 2 Select the formula that you want to encrypt from one of the formulas folders that appears in the Formula Encryption/Decryption dialog box.



3 The Formula Encryption Password dialog box appears as shown below.



- 4 Enter your password, reenter it to verify it, enter your e-mail address, then click OK.

After you have encrypted a formula, a “lock” icon appears next to the formula name when you display it on an Advanced Chart.

To Decrypt an Encrypted File:

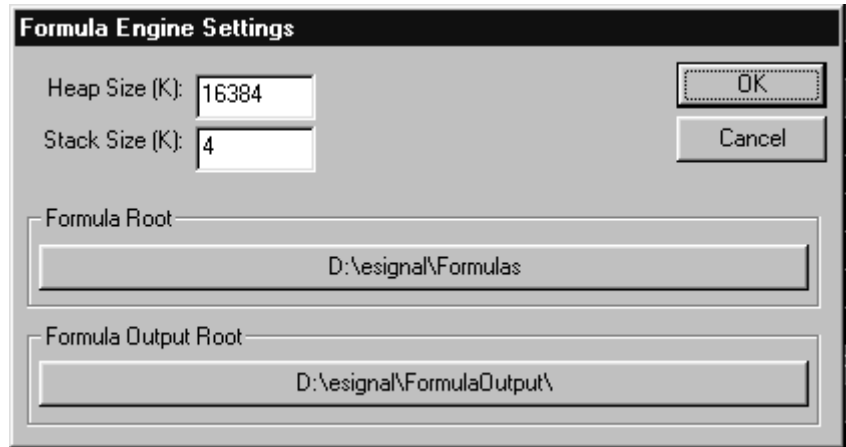
- 1 Select Encrypt/Decrypt from the Formulas menu.
- 2 Select the formula that you want to decrypt from one of the formulas folders that appears in the Formula Encryption/Decryption dialog box.
- 3 Click the Decrypt button, then close the dialog box when the decryption is complete.

The Formula Output Menu

You can use the Formula Output Window to view formula output to see if there are any syntax errors in a new formula you have written or modified. The Formula Output window is on by default. You can toggle the Formula Output menu on and off from the View menu by selecting/deselecting Formula Output Menu.

To turn the Formula Output window on, select Formula Output from the Formulas menu. Then, to perform a syntax check on a formula you have open in the Formula Editor Window, click the check mark on the Formula Editor Window toolbar. eSignal performs the syntax check and displays “No Syntax Errors” in the Formula output Window if the formula checks out. Or, eSignal will display the syntax error(s) in the Formula Editor Window if there are any. So, you can quickly review any syntax errors, fix them, and then retest your formula in a couple of quick steps.

Specifying Formula Settings



Select Settings from the Formulas menu to open the Formula Engine Settings dialog box where you can specify heap and stack size, the Formula Root Directory and the Formula Output Root directory. Click OK to save your changes and close the dialog box.