# Using OptionExpert

Using the Position Analysis Window

The Position Analysis window provides access to powerful and easy-to-use tools for the selection, analysis, and evaluation of option positions. You can do as little as specify a stock or index and OptionExpert will select the optimum strategy and best position for you. Or, you can choose your own strategy and/or position by analyzing and evaluating various options using the analytical tools of the system.

To help you decide which stock or index you want to view for option trading possibilities, Position Analysis provides access to both real-time and historical charts and, as with the option pricing information, all data retrieval takes place automatically in the background through your internet data service connection.

Whether you or the system does the selecting, the Position Analysis window is where analysis and evaluation take place.

Beginning the Analysis

To begin the analysis, you first specify a ticker symbol. The current market date is shown in the box to the right of the symbol box. When the Position Analysis window opens, options are retrieved for the ticker currently shown in the symbol box. Other information pertaining to the symbol is also retrieved including Current Price, Volatility, Call and Put MIV, and Put/Call Ratio.

OptionExpert Toolbar
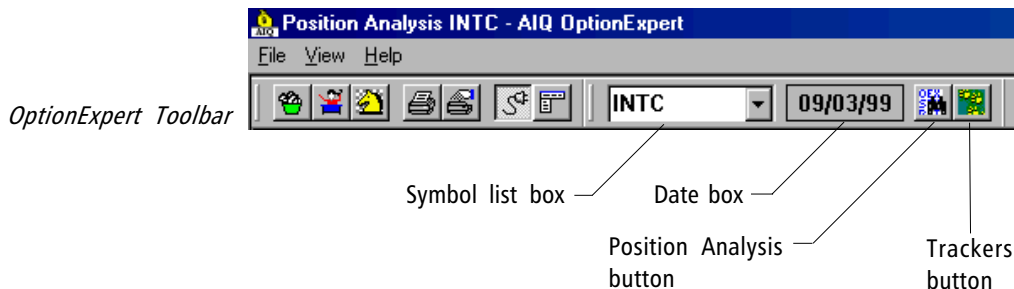
1. **Enter a symbol**

   To enter a symbol, click an insertion point in the toolbar list box and type the symbol. This symbol represents the optionable stock or index that is the underlying instrument for the options that you will be analyzing and evaluating.

   Once entered, symbols are stored in a list that can be used to quickly retrieve frequently analyzed symbols. Simply click the arrow on the list box to display the list and select the symbol you want. You may also use this list to change the symbol with the Position Analysis window open. To change the symbol, select another symbol from the list box on the toolbar and press **Enter**.

2. **Display the Position Analysis window**

   To open the Position Analysis window, simply click the Position Analysis toolbar button. This button is located just to the right of the date box on the toolbar.

   The Position Analysis function requires that data must be downloaded off the internet. Since the downloading can take a few minutes to complete, a Download Progress box is displayed during the process. This box shows five items, each of which is a separate download. To keep you aware of the progress, each item is checked off as its download is completed.

When the Position Analysis window opens, the data that is displayed is determined by the entry in the symbol box on the toolbar. An example of the Position Analysis Window for a specific date is shown. The option data displayed is for the S&P 500 index (ticker symbol SPX) on 09/20/99 (market date).
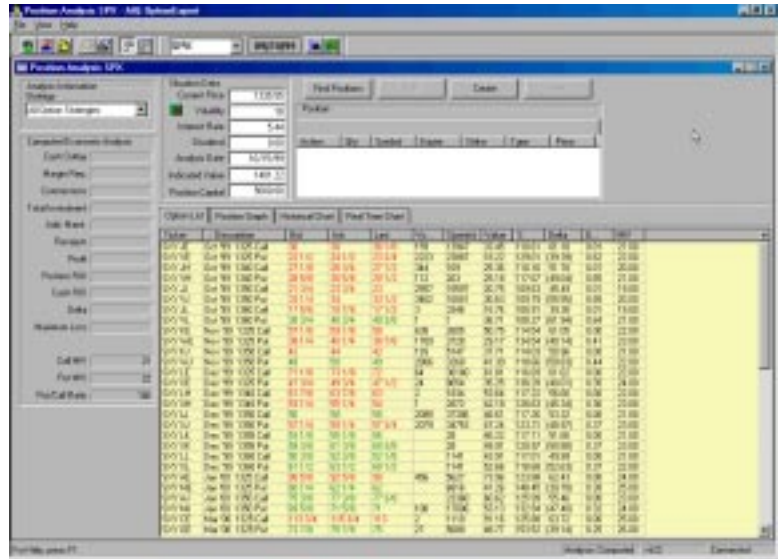
OptionExpert screen with Position Analysis window displayed

Explanation of Position Analysis window

In order to use Position Analysis, you should first understand the purpose of each of the various sections of the window. The five sections, which will be explained in detail on the following pages, include:

1) *Strategy*. The Strategy list box allows you to select a specific option strategy for the analysis. The system will then recommend the best option positions to implement that strategy. Also, you can choose to have the system select both the strategy and position for you.

2) *Situation Data*. This section displays the current price for the ticker and other data used in the analysis of available options.

3) *Option List*. The Option List initially displays a list of all of the options available for the selected symbol on the date shown above. For each option, bid and ask prices are listed along with a number of other items of useful information. All real-time information is dynamically updated. If the list exceeds the capacity of the screen, you can use the arrows or cursor bar to view the complete list. This same section is also used for displaying both Historical Charts and Real Time Charts of the underlying symbol. In addition, once positions have been computed or created, the Position Graph function may be used to view graphical displays of how position profitability is impacted by various parameters.

4) *Position.* Once positions have been selected or created, they are displayed one at a time in this section. If the analysis finds more than one profitable position, the most profitable position (Pos 1) is always displayed first. Other positions are displayed by clicking the buttons arrayed along the top of the Position window. If you create your own positions, they will also be displayed in this window and a button will be added for each new position.

5) *Economic Analysis*. This section displays the results of the evaluation of the position that is currently selected in the position window, given the *situation data* as listed in the Situation Data window. The results may also vary somewhat depending upon the Analysis Method selected in the *Option Strategy Properties* dialog box (see *Customizing Properties*, Section 5).

Strategy List   Situation Data   Position section
with position shown
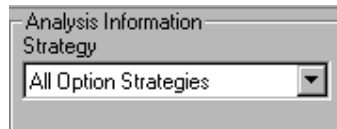in Position window
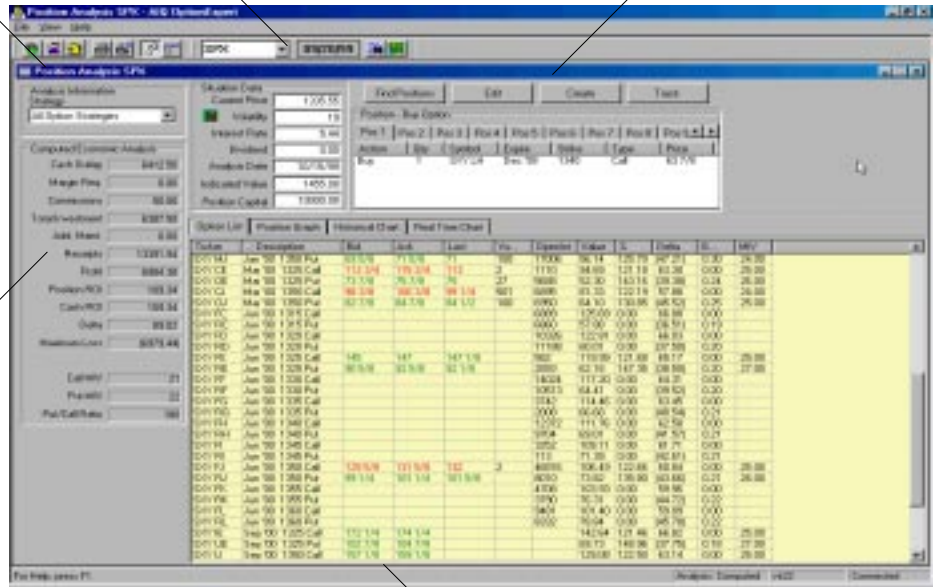
Economic Analysis

Option List

Strategy List

The Strategy list box allows you to limit the selection process to a
single option strategy, and the system will recommend the best option
positions to implement that strategy. Also, you can ask the system to
limit the selection to bullish or bearish strategies only or you can
choose to have the system select both the strategy and position for
you. See Section 2.

All Option Strategies
All Bearish Strategies
All Bullish Strategies
All Covered Strategies
Covered Call Write
Variable Ratio Call Write
Sell Covered Strangle
Sell Covered Straddle
Sell Strangle
Buy Strangle
Sell Straddle
Buy Straddle
Butterfly Spread
Diagonal Bear Spread
Diagonal Bull Spread
Bearish Time Spread
Neutral Time Spread
Bullish Time Spread
Bear Spread
Bull Spread
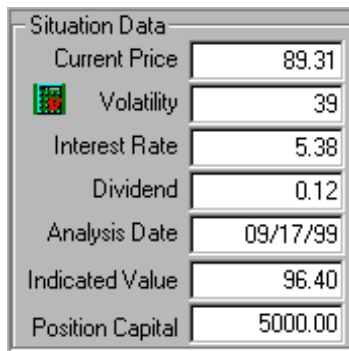Sell Option
Buy Option

Strategies menu

Situation Data

When you open the Position Analysis window, OptionExpert completes the Situation Data for the symbol and the date selected. This data is the basis for the selection of a strategy and/or position, and the corresponding analysis.

Data in the Situation Data window can be modified to permit analysis of alternative positions by clicking an insertion point in the text box of the item you want to modify and typing the change. All of the data fields may be modified.

The key value is the Indicated Value. This value represents the user's projected price performance for the underlying stock or index.

Situation Data	
Current Price	89.31
Volatility	39
Interest Rate	5.38
Dividend	0.12
Analysis Date	09/17/99
Indicated Value	96.40
Position Capital	5000.00

Situation Data section of the Position Analysis window

Situation data includes the following:

Current Price

The latest price of the underlying instrument (stock or index) on the date entered above is displayed here. In real-time, the price reflects the last trade. For after market hours or historical analysis, the price shown is the closing price for the day.

Volatility

The value shown is computed from historical price information downloaded from your data service via the internet.

You may, however, choose to replace this value with one that incorporates market implied volatility (MIV). MIV is computed from an option pricing model by plugging in the current price of the option and calculating volatility. Put and Call MIV values derived for the underlying symbol are listed in the Economic Analysis section of the

Position Analysis window.

OptionExpert allows you to calculate a new volatility by combining MIV values with historical volatility using weighting factors for each type of volatility. The result is a calculated or weighted volatility value.

☐ *To compute volatility from Put and Call MIV:*

Volatility Calculator   ⊠

		Weight
Historical	31	0
MIV Call	34	50
MIV Put	36	50
Calculated Volatility	35.00	[Calculate]

OK	Cancel	Help

Volatility Calculator dialog box

1. In the Situation Data section, click the green and red **Volatility Calculator** button located to the left of *Volatility*. The *Volatility Calculator* dialog box will pop on to your screen.

2. The dialog box lists three volatility values (*Historical, MIV Call*, and *MIV Put*) and the current *Weight* assigned to each. The *Weight* text boxes may be used to change the "weights" for each of the three types of volatility. For example, to calculate volatility that is equally balanced between Call MIV and Put MIV, you can assign weights of 0 to *Historical*, 50 to *MIV Call*, and 50 to *MIV Put*.

   • Click an insertion point in the text box labeled *Historical* and type a new weight. Then press the Tab key to move to the *MIV Call* text box.

   • Enter a weight for *MIV Call* and press the Tab key to move to the *MIV Put* box.

   • Enter a weight for *MIV Put* and then click the **Calculate** button.

3. The Calculated Volatility shown is computed from the three volatilities and the weights assigned to each.

4. Press **OK** to transfer this value to the Situation Data.

Note

The weights entered for the three volatilities in the Volatility Calculator function do not need to total 100.

Interest Rate

The interest rate shown is dependent on the option selected in *Option Strategy Properties*, *Interest Rate* tab. If the *Symbol* option is selected in the *Interest Rate* page, a symbol must be entered and the rate shown is the current rate for this symbol. This is typically a risk-free interest rate such as the yield on 90-day Treasury Bills. Properties also gives you the option of entering a fixed interest rate value. To modify the default interest rate, see *Customizing Properties*, Section 5.

Dividend

Dividend is the current annual dividend for the stock. This value is also obtained through your internet data service.

Analysis Date

The analysis date is the date in the future when the options being considered will be evaluated. This date automatically is set to next option expiration day and it is assumed that the position will be cleared at this time.

Please Note — 10-Day Limit: Only those options that expire more than 10 trading days from the current date are included in the option selection process. If you wish to override this 10-day limit, select **Time** on the *Open Interest, Time, Volume Screening* page of *Option Screening Properties* and enter a value in the **Minimum (days)** text box. (See *Customizing Properties*, Section 5.)

Indicated Value

Note
If you enter an Indicated Value that is more than 30% above or below the current price, a warning box will appear.

The Indicated Value is the projected price for the underlying instrument on the analysis date. In option analysis, it is commonly assumed that stock market returns are distributed by lognormal distribution. This assumption is the basis for the Black-Scholes model and, therefore, the Indicated Value is assumed to be the mean of a lognormal distribution.

The Indicated Value that appears when the Position Analysis window initially opens is computed by OptionExpert based on several factors. These factors include the current short-term direction of price and the current Situation Data values for *Current Price*, *Volatility*, and *Analysis Date*. The formula for the computation of Indicated Value is detailed in the Appendix. This formula is based on Lawrence McMillan's formula for upward and downward stock potential as described in the 3rd edition of his book *Options as a Strategic Investment*.

Those users who prefer to use their own forecast of Indicated Value can simply type a new value in the Indicated Value data box.

Position Capital

Capital is maximum amount of money that the user wishes to make available for any one position. Capital is entered in *Option Strategy Properties* (*Capital/Breakeven* tab). You can modify the default figure for Capital ($5,000) in the Properties function. (See *Customizing Properties*, Section 5.)

Option List

When the Position Analysis window is opened, the Option List appears in the large window located in the lower right area of the main window. This same window is also used for the display of Position Graphs, Historical Charts, and Real Time Charts. The tabs located at the top of this window are used to switch between the different functions.

The Option List displays a list of all of the available options for the ticker you are analyzing. When the window is opened, the list is automatically downloaded from your internet data service. After a few seconds, the data columns are filled with data as the information is retrieved through the internet.

List of Options for IBM on 8/10/99

Option List data columns

The first data column for each option is the ticker symbol. In addition to the underlying symbol, this code represents the *month, strike price*, and *type* (put or call). The next item, *Description*, provides an explanation of the code, concisely listing the expiration month and year, strike price, and option type.

During market trading hours, the next three items, *bid, ask,* and *volume*, are updated dynamically through your internet data service.

Values for *open interest* are not available until 24 hours after the market is closed. Therefore, if you are going to follow open interest as an indicator of possible price changes in the value of the options, you must realize that the data represents the prior day's activity.

The final five items are computed by OptionExpert based on the Black-Scholes model, and are explained below.

Theoretical Value (Value)

This value, sometimes called fair value and sometimes normal value, is the reasonable price one expects an option to trade at under a given set of conditions. OptionExpert uses the Black-Scholes mathematical formulas for computing this theoretical value. Factors taken into consideration in computing the value are time to expiration, volatility, interest rates, dividends, and stock price, all of which influence option prices to differing degrees.

Percentage (%)

This element is the percentage of market price to the theoretical value. You should look for values here that are less than 100, which means that the current market price for the option is less than the theoretical value. A value less than 100 would indicate a possible bargain.

Delta

Delta is the amount that you can expect the value of the option to change with one unit change in the stock price. A unit, in the case of stock options, is one dollar. The value for delta will decrease for calls as the strike prices increase above the current market value. For puts, the reverse is true.

Gamma (G...)

Gamma is the expected change in the value for Delta, given a one unit change in the stock price.

Market Implied Volatility (MIV)

It should be noted here that Market Implied Volatility (MIV) applies to the underlying ticker, and not the options. Nevertheless, the Market Implied Volatility is computed for puts and calls because the experienced option trader will use the difference between MIV's for puts and calls, and the difference between the Market Implied Volatility and the published stock volatility as additional indicators for direction and extent of price movement for an option.

Customizing the Option List grid

A special right-mouse click menu provides the ability to easily modify the Option List grid by inserting, renaming, or removing data columns. You can also specify columns used for both primary and secondary sorting of the list. To display the menu, click on one of the column headings with the right mouse button.

Right Mouse Click Menu

Insert Column...
Rename Column...
Remove Column

Primary Ascending
Primary Descending
Secondary Ascending
Secondary Descending
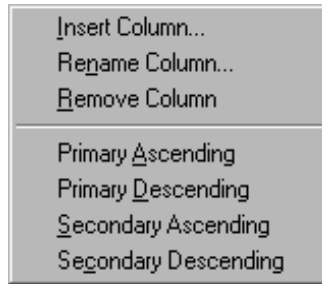
☐ *To add a new data column:*

1. With your right mouse button, click on the heading of the column where you want the new column to be inserted.

2. Select **Insert Column** from the menu. The *Show Columns* dialog box will appear.

Show Columns dialog box

Show Columns

Select the columns to display:

% Change
Change
Expiration
High
Last
Last Trade Volume
Low
Month
Series
Strike
Time
Type
Yesterdays Close
Yesterdays Volume

OK
Cancel
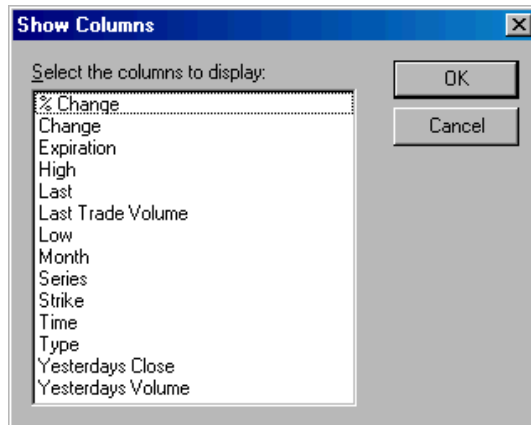
3. From the list of data items, select the data item that you want shown in the new column and click **OK**.

4. A new column containing the selected data item will appear immediately to the right of the column you originally clicked with the right mouse button.

To change the data displayed in a column:

1. With your right mouse button, click on the heading of the column you want to change.

2. Select **Rename Column** from the menu. The *Replace Columns* dialog box will appear.
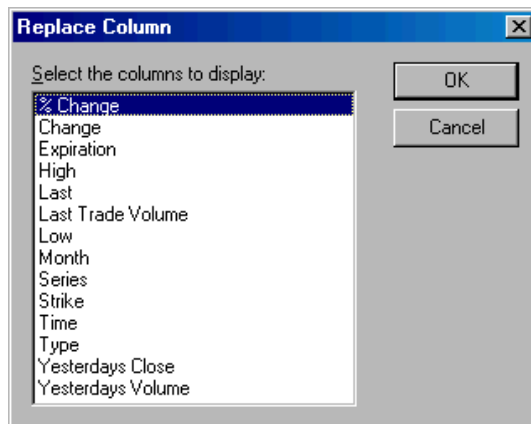

3. From the list of data items, select the item that you want in the column and click **OK**.

4. Your selection will now appear in this column.

To remove a data column:

1. With your right mouse button, click on the heading of the column you want to remove.

2. Select **Remove Column** from the menu.

3. The selected column will be removed. Use **Insert Column** to restore any data items that have been removed.

To change the sorting order of the Option List:

Initially, the Option List is sorted by option expiration date. You can change the sorting order by designating specific data columns for sorting. The list will be automatically resorted on the basis of the column you specify. You can specify that a column be used for either primary or secondary sorting and you can specify that the order be either ascending or descending.

To change the primary sorting column:

1. With your right mouse button, click on the heading of the column you want to use for primary sorting.

2. Select either **Primary Ascending** or **Primary Descending** from the menu depending on how you want the list to be sorted.

3. The Option List will be resorted on the basis of the column you designated and the order specified.

◻ *To change the secondary sorting column:*

1. With your right mouse button, click on the heading of the column you want to use for secondary sorting.

2. Select either **Secondary Ascending** or **Secondary Descending** from the menu depending on how you want the list to be sorted.

3. The Option List will be resorted on the basis of the column you designated and the order specified.

Displaying charts and graphs

You can view charts of the underlying ticker in the Option List section of the Position Analysis window. Both historical and real-time charts can be displayed. The tabs located at the top of the Option List window are used to switch the display.

Historical Chart

To view an historical chart of the underlying symbol, click the **Historical Chart** tab at the top of the Option List window. A chart displaying historical prices and volume will appear.

Both daily and weekly information may be viewed. Use the **Daily/Weekly** command buttons to change the type of data displayed.

The data and price values at the top of the chart correspond to the current position of the movable cursor line. To view close, high, low, and open prices on a specific date, move the cursor line to the date using the left and right arrows or the slider button at the base of the window.

Real Time Chart

To display a real-time chart of the underlying symbol, click the **Real Time Chart** tab at the top of the Option List window. A chart displaying real time prices and volume will appear.

You can select the interval of time that the price bars represent. Use the command buttons to change the price data between 1 min., 5 min., 15 min., 30 min., and 1 hour intervals.

The data, time and price values at the top of the chart correspond to the current position of the movable cursor line. To view close, high, low, and open prices for a specific time, move the cursor line to the time using the left and right arrows or the slider button at the base of the window.

Displaying Position Graphs

When an option position is displayed in the Position window, clicking the Position Graph tab displays a graph of that position. This graph initially shows a plot of profit vs. stock price computed on the basis of the current Situation Data. This function is designed to provide all the flexibility you might require. The graph can be easily modified to show any combination of parameters and the Situation Data can be easily changed to allow you to quickly observe the impact of variations in the individual data values.
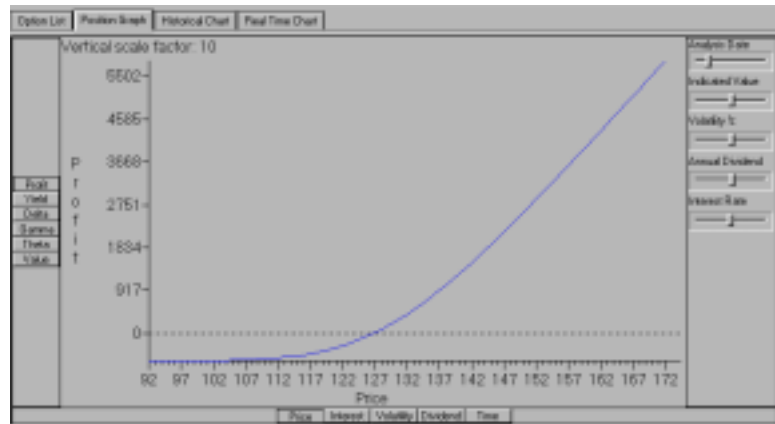
For more information on using the Position Graph function, see Section 3.

Position section

The Position section of the Position Analysis window consists of the Position window and a set of position commands.

Position window

Whether you create your own positions or the system selects them for you, your positions are displayed individually in the Position window. For each position the system selects or you create, a tab is added to the row of tabs at the top of the window. When the system finds more than one profitable option position (expected ROI is positive) for the conditions imposed, the most profitable position is assigned the tab labeled Pos 1, the next most profitable position is Pos 2, and any additional positions are numbered in order based on expected ROI.

To display a position, you simply click the assigned tab.

The strategy type for the displayed position is shown at the top of the window following the word *Position*. Simple strategies (Buy or Sell Option) consist of a single option position while complex strategies (Spreads, Strangles, Straddles) consist of as many as three different option positions. If the overall position is comprised of more than one option position, each position is listed as a separate line.
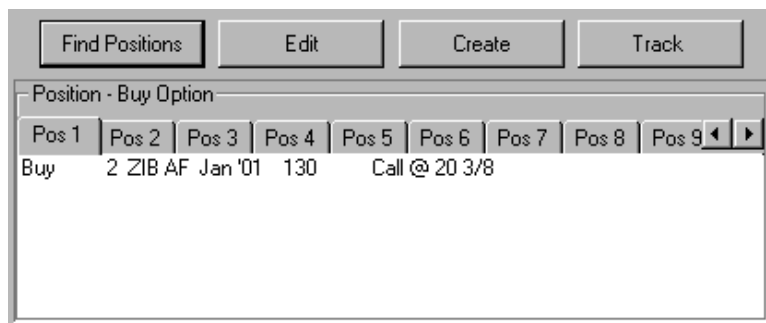
Position section with Position window and commands

The Position window lists the following information for each individual option position:

Type
Buy or Sell.

Quantity
Number of option contracts.

Symbol

Option symbol representing underlying issue, option type, expiration date, and strike price.

Description

Explanation of option code.

Price

The option premium or price per contract.

Position commands

The command buttons located in the row above the Position window are used for finding, editing, creating, and tracking positions. Until an option position is shown in the Position window, the only commands available for you to use are those for finding and creating positions. Each command is explained below.

Find Positions

When this command is selected, the system takes a snapshot of current option prices and analyzes all possible option positions for the strategy shown in the Strategy Selection box. All currently available options are included in the analysis except those excluded by conditions imposed in Properties. When the analysis is complete, the number one position (highest expected ROI) is displayed in the Position window. Other positions with positive ROI are numbered in order of their expected ROI. These are displayed by clicking the numbered buttons at the top of the Position window.
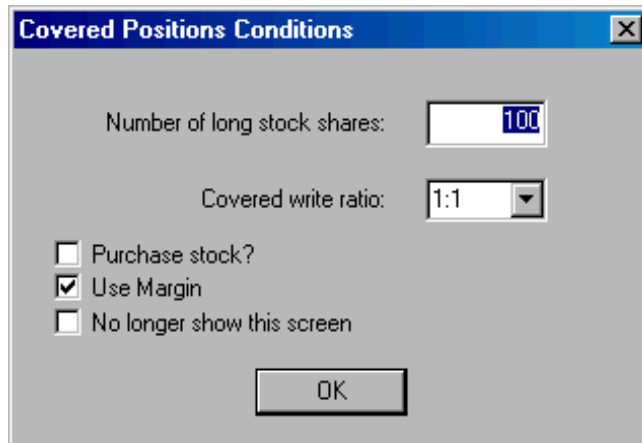
Dialog box displayed when a covered strategy is selected

Covered Positions Note:

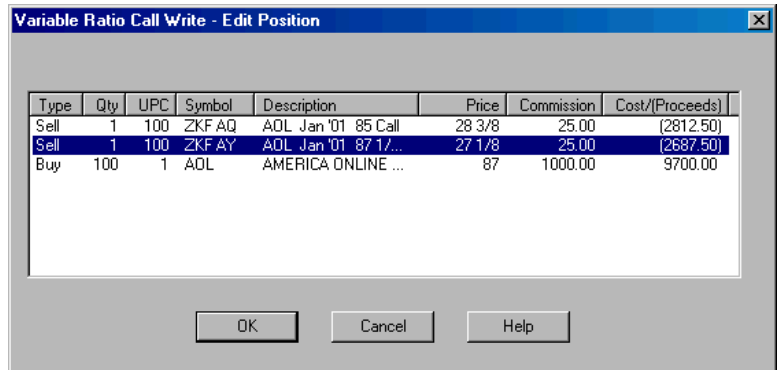When the selected strategy is (or includes) a covered strategy such as Covered Call Write or Variable Ratio Call Write, **Find Positions** displays the *Covered Positions Conditions* dialog box. You must change or accept the entries in this box and click **OK** before **Find Positions** will proceed with its analysis of potential option positions. For an explanation of the entries in this dialog box, see *Customizing Properties*, Section 5, *Margin Criteria* and *Covered Positions* pages.

Checking the *No longer show this screen* option box will prevent the *Covered Position Conditions* box from being displayed in the future.

```
Edit
```

This command displays a dialog box used for editing the position currently shown in the Position window. When the dialog box opens, the position appears in the main window of the box.

Variable Ratio Call Write - Edit Position

Type	Qty	UPC	Symbol	Description	Price	Commission	Cost/(Proceeds)
Sell	1	100	ZKF AQ	AOL Jan '01 85 Call	28 3/8	25.00	(2812.50)
Sell	1	100	ZKF AY	AOL Jan '01 87 1/...	27 1/8	25.00	(2687.50)
Buy	100	1	AOL	AMERICA ONLINE ...	87	1000.00	9700.00

OK   Cancel   Help

Edit Position dialog box with middle option position selected

⬚ *To make changes to a position, proceed as follows:*

1. Double click on the line you wish to change in the upper window of the *Edit* dialog box. A second dialog box will appear containing the data from the selected line (see next page).

Variable Ratio Call Write - Modify Position

Symbol: `ZKF AY` AOL Jan '01 87 1/2 Call

Buy ○
Sell ◉

Quantity: `1` UPC: `100`

Price: `27 1/8`

Commission: `25.00`

[OK] [Cancel] [Help]

2. Use the Modify Position dialog box to change the selected line as follows:

- Change the data in any of the individual boxes by clicking an insertion point in the box and typing in new data.

- When you have completed your changes to this line, click **OK**. The Modify Position box will close and the changes are transferred to the previous (*Edit Position*) dialog box.

3. Repeat the above procedure for any other lines that require change.

4. Click **OK**. The dialog box is closed and all changes are transferred to the Position window.

Create

The *Create* command is used for creating your own option positions. You can enter any one or a combination of options from the Option List and the position will appear in the Position window and results of the analysis in the Economic Analysis section.
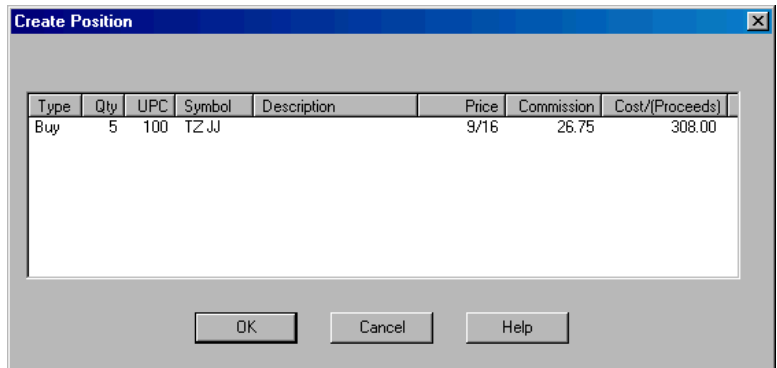
 To use the Create command:

1. Click the **Create** button to open the *Create Position* dialog box.

2. Enter the data for your first option position as follows:

- Type the symbol for the option in the *Symbol* box.

- Use the option buttons to specify **Buy** or **Sell**.

- Complete the required information in the three remaining boxes.
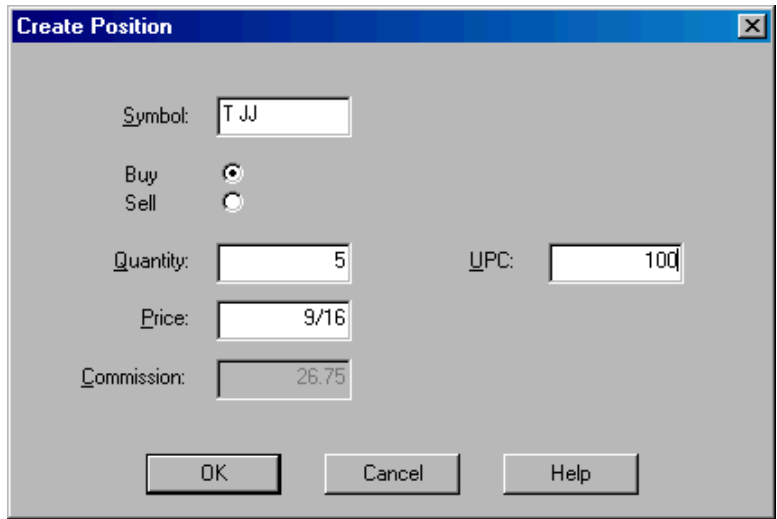
First Create Position dialog box

3. Click **OK**. The second Create Positions dialog box will appear and display the information entered in the previous dialog box.

Type	Qty	UPC	Symbol	Description	Price	Commission	Cost/(Proceeds)
Buy	5	100	TZ JJ		9/16	26.75	308.00

Second Create Position dialog box

4. To create an additional option position:

Create Position dialog box right mouse click menu

- Right mouse click anywhere in the white space in the main window to display the menu.

- From the menu that appears, select **Add** to display the first *Create Position* dialog box.

- Use this dialog box to create your next position.

5. When you have finished creating all of the option positions required for the strategy, click **OK**. The dialog box is closed and the new position is transferred to the Position window.

```
Track
```

When the *Track* command is selected, a small tracking window is created for the position shown in the Position window. This window displays the current profit or loss from the position along with the last prices for the option(s) and the underlying ticker. See Section 4 for information on tracking positions.

The Economic Analysis section lists the results of an evaluation of the position in the Position window, given the values in the Situation Data section. The method used for the analysis (i.e., method used to project the value of the options on the Analysis Date) is shown at the top. The differences between the two analysis methods is explained in the *Position Profit* section of the next section, *Finding Positions*. Because the Expected method is based on the concepts of probability and probability distribution, the data for this method includes an additional item, *B/E Prob.* (Break-even Probability).

Note
Figures shown within parenthesis are negative numbers.

Computed Economic Analysis		Expected Economic Analysis	
Cash Outlay	5000.00	Cash Outlay	5000.00
Margin Req.	0.00	Margin Req.	0.00
Commissions	50.00	Commissions	50.00
Total Investment	4975.00	Total Investment	4975.00
Add. Maint.	0.00	Add. Maint.	0.00
Receipts	7630.18	Receipts	8625.56
Profit	2630.22	Profit	3625.60
Position ROI	52.87	Position ROI	72.88
Cash ROI	52.87	Cash ROI	72.88
Delta	158.86	Delta	158.86
Maximum Loss	(2630.18)	Maximum Loss	4481.00
		B/E Prob.	91.00
Call MIV	21	Call MIV	21
Put MIV	24	Put MIV	24
Put/Call Ratio	138	Put/Call Ratio	138

Economic Analysis section of the Position Analysis window for both Analysis methods

Following is an explanation of the specific elements computed in the Economic Analysis window.

Cash Outlay
Outlay is the price of the contracts in the Position window, plus the entry commissions needed to execute that position. If the option position involves short options which require margin, cash outlay is the total of margin and commissions less any option premiums received. If the position combines stock and options, cash outlay includes the margin and commissions required for the purchase of the stock.

Margin Requirement

If margin is required, the amount is shown here. Margin for short options is calculated using the Options *Initial Margin %* value entered in the *Margin Criteria* page of *Broker/Margin Properties*. Margin for stock positions is calculated using the *Initial Margin %* values for long and short stock, also entered in *Broker/Margin Properties*. You can modify the default value for Margin — see *Customizing Properties*, Section 5.

Commissions

The commissions field displays the total commissions for both entering and exiting that position. Commissions are computed using the commission schedule selected on the *Profile* tab of *Broker/Margin Properties* — see *Customizing Properties*, Section 5.

Total Investment

For positions where stock is not involved, Total Investment is cash outlay less commissions. When stock is involved, Total Investment includes the full value of the stock position rather than the margin requirement.

Additional Maintenance

Additional Maintenance is any additional margin, called maintenance margin, that is required when a position moves against you. For short options, the amount of additional maintenance is calculated using the Options *Maintenance Margin %* value entered in the *Margin Criteria* page of *Broker/Margin Properties*. For stock, the amount of additional maintenance is calculated using the Long and Short *Maintenance Margin %* values, which are also entered in the *Margin Criteria* page of *Broker/Margin Properties*. You can modify the default Margin figures (see *Customizing Properties*, Section 5).

OptionExpert also gives you the option of excluding Additional Maintenance from Cash Outlay (see the *Margin Criteria* page of Properties).

Receipts

Receipts is the expected revenue for the alternative stock and option prices, less exit commissions.

Profit

Profit is receipts less the outlay. See *Position Profit* in next section for further explanation.

Position ROI and Cash ROI (Return on Investment)

ROI (return on investment) is equal to the profit divided by the outlay times 100. Position ROI is derived using Total Investment as the outlay. For Cash ROI, Cash Outlay less Commissions is used as the outlay.

Delta

Delta shows the change in the value of the position from a one unit ($1.00) change in the price of the stock.

Maximum Loss

This is the maximum loss possible, excluding the possibility of an early exit from the position, if the market moves against the position. If there is a single option in the position, the maximum loss would be about the same as the outlay. In other words, the outlay is the actual maximum loss. In the case of a spread, the Maximum Loss will be somewhat different from the outlay because the options that comprise the spread move in different directions in reaction to a change in the price of the stock. For the *Expected* analysis method, Maximum Loss is computed based on probability distribution (see *Expected Profit Defined* in Section 2).

Break-even Probability (B/E Prob)

For the *Expected* analysis method, the probability of the position breaking even is computed. Using the Indicated Value as the expected value, and placing the lognormal distribution around that value, the economic impact of each alternative value of the underlying stock are evaluated. From this, the probability of exiting the position on the analysis date with at least a zero or a positive gain is computed.

No value less than the minimum Break-even Probability figure entered in Properties will be accepted when the system is selecting a position using the Expected method of analysis. You can modify the default value for Break-even Probability in the Properties function (See *Customizing Properties*, Section 5).

Call MIV and Put MIV (Market Implied Volatility)

Call MIV and Put MIV is the market implied volatility for the stock computed by the calls, and then by the puts, and weighted by the volume, or the number of options at each strike price.

Put/Call Ratio

The Put/Call Ratio is a contrarian indicator. The PCR value is equal to the volume or the number of puts on a given day divided by the number of calls, and in turn divided by the 10-day exponentially smoothed average of the same indicator multiplied by 100. As a contrarian indicator, the PCR says that when the puts greatly outnumber the calls, the market is reaching a bottom. Hence, a number around 200 would be a bullish signal, and a number around 50 would be a bearish signal.

The PCR indicator is a popular indicator in option trading and it is included for the convenience of the user.

Printing Positions

OptionExpert allows you to easily produce hard copies of position information. The printed information includes position detail, Situation Data, Economic Analysis, and a Position Graph.

 To change margins and text font for printed output:

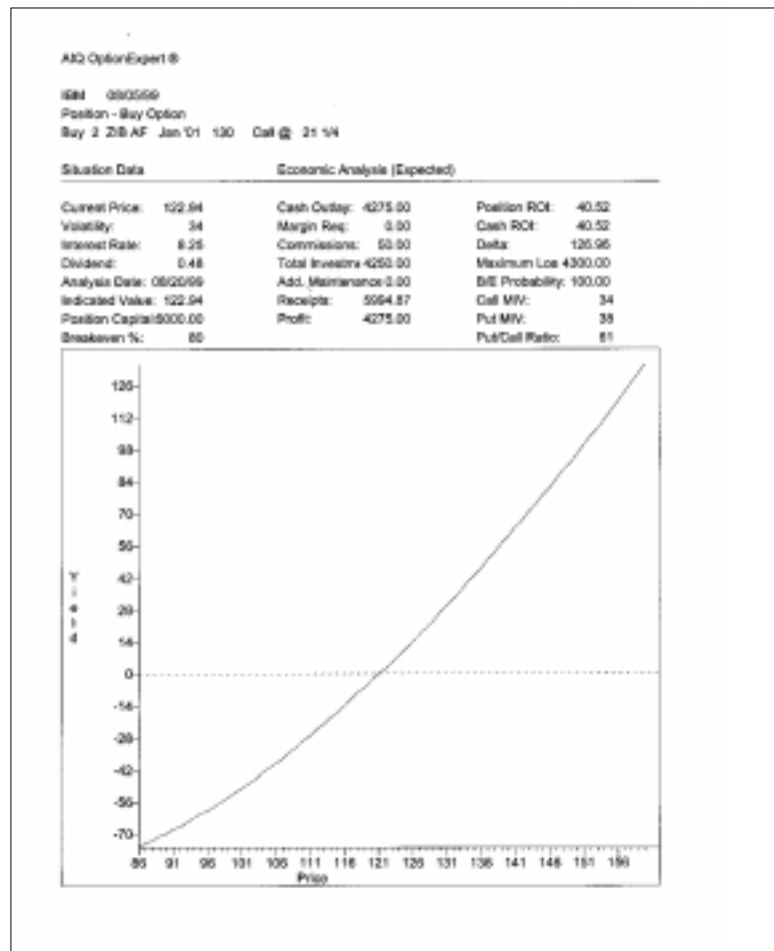1. Select **Print Properties** from the **File** submenu.
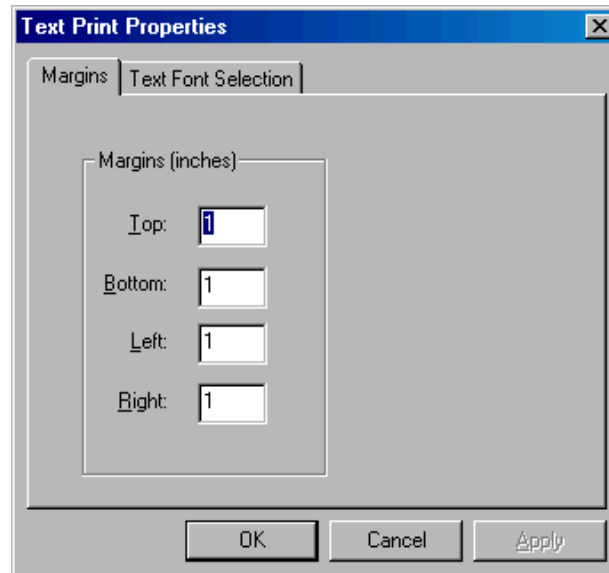
2. The *Text Print Properties* dialog box provides two tabs:

• **Margins** - To specify *Margins*, enter values for Top, Bottom, Left, and Right margins in the text boxes provided.

• **Text Font Selection** - To change the current font selection, click **Change Font**. Use the *Font* dialog box to change any of the following by simply selecting from the list boxes:

> • Font
> • Font Style
> • Size

• When you have completed your changes, click **OK** to return to the *Text Print Properties* dialog box.

3. When you have completed all changes to *Print Properties*, click **OK**.

□ *To print position information:*

1. The position you want to print must be selected in the Position section of the Position Analysis window. Positions are selected by clicking the numbered tabs in the Position window.

2. Printing reproduces the currently displayed Position Graph. To verify that the current graph settings are correct, display the Position Graph (click **Position Graph** command above large lower window). Make any changes to graph settings before printing.

3. To print the selected position, select **Print Position** from the **File** submenu.

Printed position information