

## Examples of simple Buy and Write strategies

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The following examples demonstrate how OptionExpert may be used to help you select option positions. Examples are of the simplest forms of option trading. The more complex option strategies, such as spreads and straddles, will be discussed in Section 4.

In the examples, selection of the underlying stock or index is not covered. Your choices may be based on fundamentals or on technical factors such as chart action or volatility.

Option trading examples in this section include:

- Straight Buy #1 (Buy Calls)

- Straight Buy #2 (Buy Puts)

- Naked Write #1 (Sell Calls)

- Naked Write #2 (Sell Puts)

- Covered Call Write

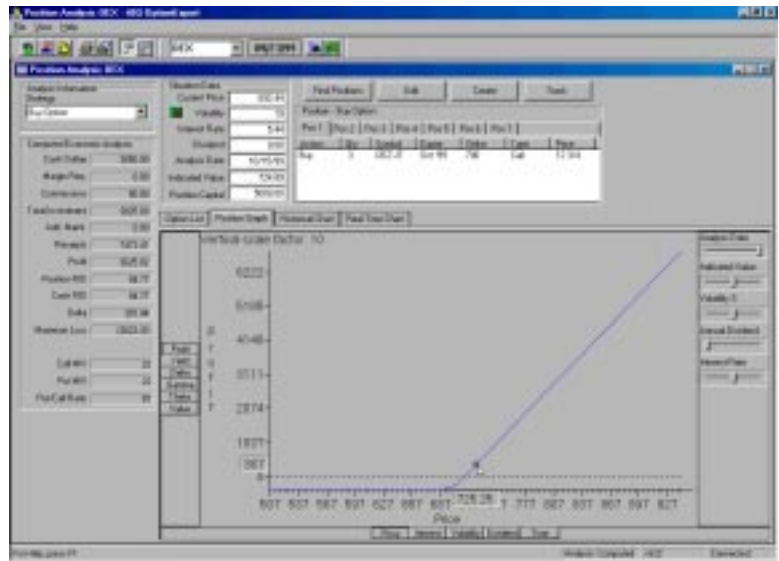
## Straight Buy Example #1 (buy calls)

S&P 100 Index (OEX): September 23, 1999.

The Position Analysis screen for the OEX on September 23 is shown below.

The Situation Data shows an Analysis Date of Oct. 15, which is the date that the October options expire. The indicated or projected value for the OEX index on this date, computed by OptionExpert, is 724.89. This value represents an increase of almost 5% in the underlying index which is rather bullish and should result in an aggressive option position.

On September 23, five option expiration months were being traded for the S&P 100 index. In addition to the current month, October, options were also being traded for the months of November and December of 1999 and January and March of 2000. The option months trading at any time for a particular stock are determined by the exchange on which the options trade and the particular cycle that the options have been assigned.



*Position Analysis Screen for OEX with graph of Buy Call Options position on 09/23/99*

In this first example, the analyst has selected the *Buy Option* command, asking OptionExpert to select a long position, given the data shown in the Situation Data window (Volatility, Analysis Date, Indicated Value for the index, etc.). The Find Position command is then executed.

When more than one profitable position is found, OptionExpert displays numbered tabs along the top of the Position window which are used to select any of the other positions. These other less profitable positions are listed in the order of their expected profitability.

After evaluating all long positions, OptionExpert determined that the slightly out-of-the-money, near-term October 700 call, has the highest expected profitability. The system has selected the purchase of three contracts of the #1 ranked OEZ JT call option (see Position window). The three contracts represent the maximum Capital allocated to this position, which is \$5,000 as specified in the Situation Data. The outlay, \$3,850, consists of the option premium (12.75 ask price times 300) plus Commissions.

The Economic Analysis of this example shows a computed Profit of \$3,625, for a 95% return on investment.

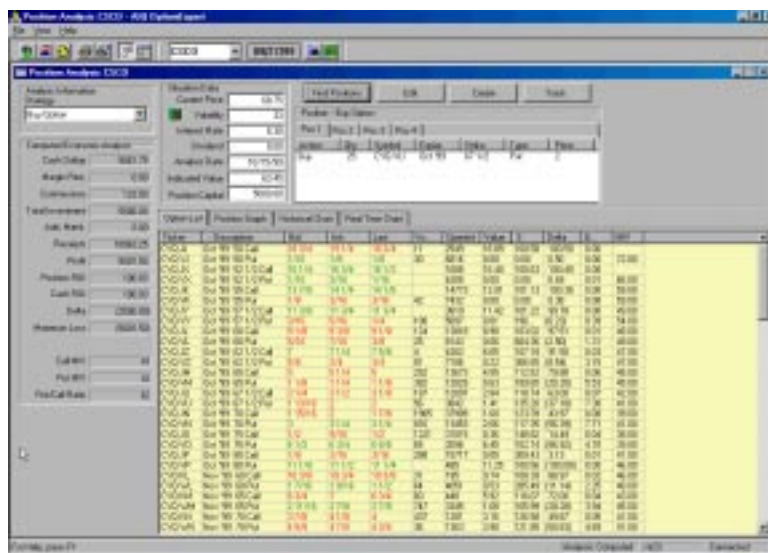
In the figure, the Position Graph of this position is displayed with Profit plotted vs. the stock price. The graph is based on a determination of the value of the option computed over a range of index values. The most important aspect of this graph is the break-even price or value. For the set of conditions shown at the top of the screen, the break-even price is about 705.

A note of caution: To protect against a quick turn in the market while holding any option position, the trader should always maintain stops computed close to the Current Price.

## Straight Buy Example #2 (buy puts)

Cisco Systems (CSCO): September 27, 1999

The Position Analysis screen for CSCO on September 27 is shown in the figure below.



Position Analysis Screen for CSCO  
09/27/99

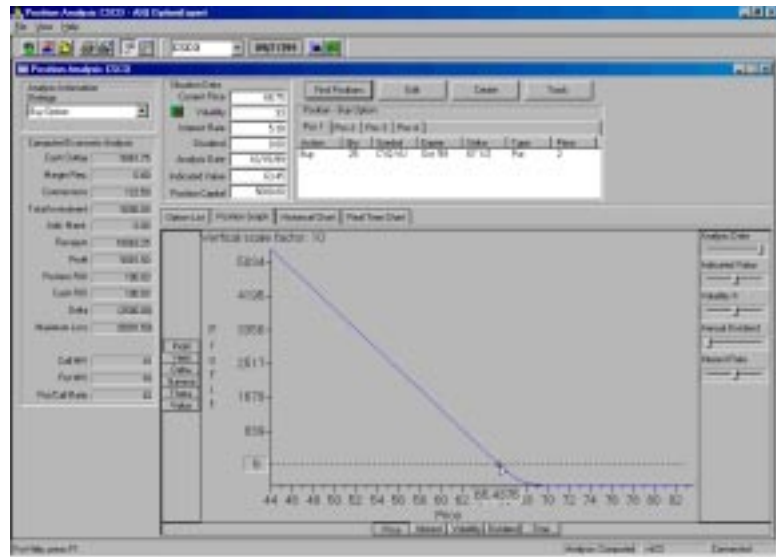
On September 27, the five option expiration months trading for CSCO (October, November, December, January, and March) spanned a period of six months. Situation Data shows an Analysis Date of October 15, which is the expiration date for the October options.

An Indicated Value of 63.45 was computed by OptionExpert for the October 15 Analysis Date. This value represents a decline of 7.7% in the index over the three week period, a very bearish scenario for the stock

With the *Buy Option* strategy selected, OptionExpert was asked to select a long position, given the Analysis Date, Indicated Value, and Volatility for the stock. The system found four profitable positions. The #1 ranked position, the position with the greatest expected profitability, is the October 67 1/2 put (see Position window). With a closing ask price of 2.00 and a fair value of 1.41, the option is indicated to be rather overpriced at 135% of fair value.

The Economic Analysis section shows that the purchase of 25 contracts of the Oct 67 1/2 put requires an outlay of \$5,062, including estimated commission fees. The expected Profit, \$5,001, yields nearly a 100% return on investment.

A graph of this position is shown below. The break-even stock price, the price below which the position is profitable, is shown to be about 65-1/2.



*Position Analysis screen for CSCO with graph of Buy Put Options position on 09/27/99*

## Naked Write Example #1 (sale of calls)

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Cisco Systems (CSCO) September 27, 1999.

This example shows the use of OptionExpert for the basic strategy of naked or uncovered option writing. It involves the writing of naked calls, an aggressive bearish strategy. The same stock (CSCO) is used in this example as in the previous example. However, this time OptionExpert is asked to select a Sell Option position.

The Situation Data for CSCO shows the Current Price of the stock to be 68-13/16. As in the previous example, the Analysis Date is October 15, 1999, the expiration date for the October options, and the Indicated Value computed by OptionExpert for the Analysis Date is 63.51. Due to a slight time difference, both the Current Price and Indicated Value are a fraction higher than in the previous example.

In an uncovered write position, no Cash Outlay is involved. However, Margin collateral is always required and, for the purpose of the analysis, Capital outlay for a naked write position is the Margin requirement less the option premium.

The computation of Margin for an uncovered write is rather involved. Basically, the Margin requirement is a fixed percentage of the value of the underlying stock less the amount of the option premium. However, the requirement is offset by the out-of-the-money differential. For calls, if the stock is below the strike price, the difference is subtracted.

OptionExpert looks at Capital in the Situation Data window to determine how many shares of stock to purchase and how many option contracts to write. In this case, \$5,000 is specified for Capital and the system selects a position requiring a Total Investment as close to this amount as possible without exceeding it. Total investment consists of the option Margin requirement less the option premium received.

Using the system's *Sell Option* strategy, OptionExpert is asked to select a short position, given the Analysis Date, Indicated Value, and Volatility for the stock. The Position Analysis screen shows the Economic Analysis data for the #1 position selected. The #1 ranked position, the position with the highest ROI is the October 62-1/2 call (see Position window). The analysis has determined an expected ROI of 41.5% for this position. With a closing bid price of 7 and a fair value of 6.7, the option is indicated to be slightly overpriced at 106% of fair value. The lower ranked positions are all inferior with respect to Position ROI.

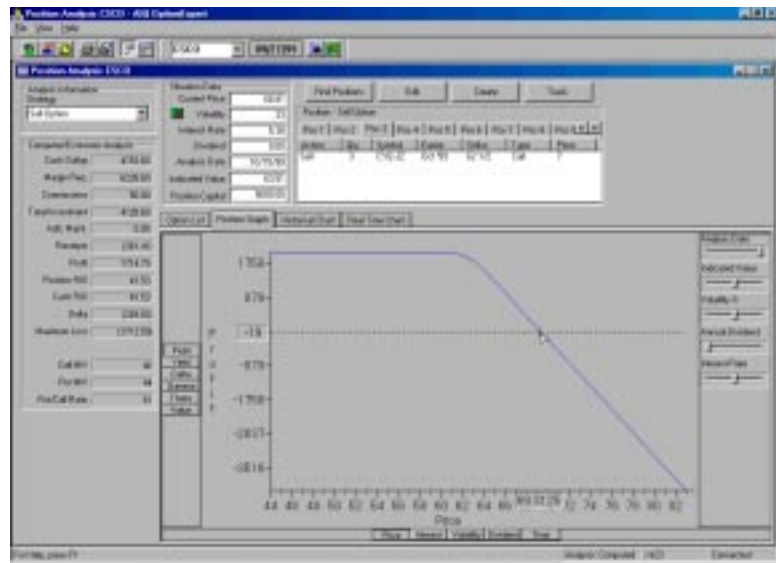
### Note

Margin parameters for both options and stocks are adjusted by changing the entries in the *Margin Criteria* page of *Broker/Margin Properties*. (See *Customizing Properties* in User Manual.)

The Economic Analysis shows that the purchase of three contracts of the October 62-1/2 call requires an outlay of \$4,154, which consists of Margin plus estimated commission fees. Margin for this short option position is computed using the initial option Margin rate (20% in this example) entered through the Margin Criteria page. (See *Margin Criteria, Customizing Properties, User Manual.*)

Profit, \$1,715 is derived from Receipts and the net option premium. Receipts are monies received or paid out at the close of the position. In this case, Receipts are a negative \$361 (negative amounts are enclosed in parenthesis). Negative Receipts simply means that at the close of the position the options are expected to have value and must be bought back, resulting in a debit to the trader's account. The expected value of the options is derived from the probability analysis of the position using all expected stock values on the analysis date.

A graph of this position is shown below. The break-even stock price, the price below which the position is profitable, is the point where the profit curve crosses the zero profit line. From the graph, the break-even stock price is seen to be around 69-3/4.



*Position Analysis screen for CSCO with graph of Sell Call Options position on 09/27/99*

## Naked Write Example #2 (sale of puts)

America Online (AOL): September 27, 1999.

In this example, OptionExpert is used to find a position for the strategy of writing naked puts, a bullishy oriented strategy.

The Situation Data window for AOL on September 27, 1999, shows the Current Price of the stock to be 101. The Indicated Value for the Analysis Date of October 15, 1999, which is the expiration date for the October options, is 117-1/2. This value represents a projected increase in the price of the stock of 16%, a very bullish projection.

On this date, the five option expiration months trading for AOL (October, November, December, January, and March) spanned a period of six months.

Using the system's *Sell Option* strategy, the analyst has asked OptionExpert to select a short position based on the Analysis Date, Indicated Value, and Volatility entered for the stock.

The Position Analysis screen shows the #1 ranked write position for AOL on this date. This position, the in-the-money October 110 put contract, currently sells at a slight discount.

The screenshot shows the 'Position Analysis AOL' window. On the left, there are input fields for 'Current Price' (101.00), 'Volatility' (20.00), 'Interest Rate' (5.50), 'Dividend' (0.00), 'Analysis Date' (10/15/99), 'Indicated Price' (117.50), and 'Position Capital' (500000). Below these are 'Customer/Commission Orders' and 'Cash/Commission' sections. The main area is a table with columns: 'Symbol', 'Expiration', 'Bid', 'Ask', 'Last', 'Vol', 'Implied Value', 'I', 'Delta', 'G', 'Theta'. The table lists various options, with the top entry being 'AOO VB' (AOL October 110 put) with a bid price of 10-7/8 and an implied value of 11.78.

Symbol	Expiration	Bid	Ask	Last	Vol	Implied Value	I	Delta	G	Theta
AOO VB	10/15/99	10-7/8	11-1/8	10-7/8	10	11.78	11.78	-0.15	-0.15	-0.15
AOO VA	10/15/99	10-1/2	11-1/4	10-1/2	10	11.78	11.78	-0.15	-0.15	-0.15
AOO VA	10/15/99	10-1/2	11-1/4	10-1/2	10	11.78	11.78	-0.15	-0.15	-0.15
AOO VA	10/15/99	10-1/2	11-1/4	10-1/2	10	11.78	11.78	-0.15	-0.15	-0.15
AOO VA	10/15/99	10-1/2	11-1/4	10-1/2	10	11.78	11.78	-0.15	-0.15	-0.15

Position Analysis screen for AOL on 09/27/99

Looking at the Option List in the lower part of the Position Analysis screen, the bid price is 10-7/8 for the AOO VB contract (AOL October 110 put). A theoretical fair value of 11.78 has been computed for this



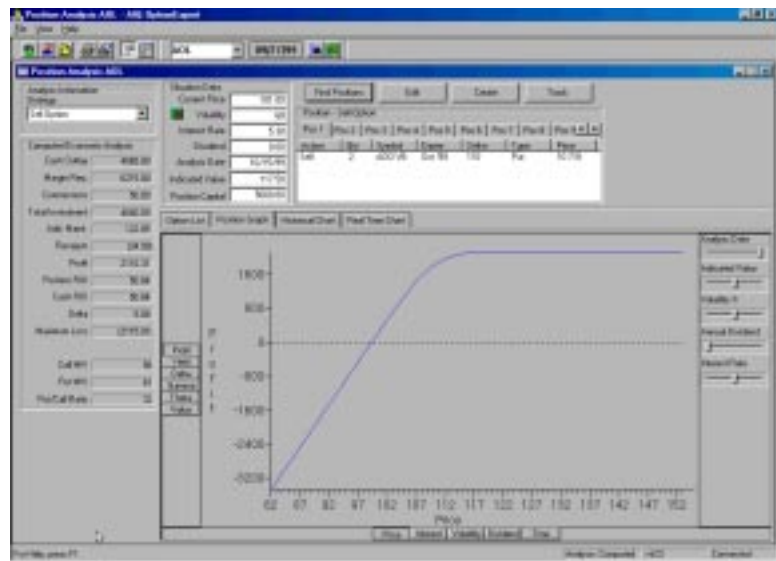
contract. At 94.4% of fair value, the contract is somewhat underpriced, giving a slight edge to the buyer of this option.

In a naked write position, Capital outlay consists of Margin collateral and Commissions less the option premium received. The Economic Analysis section shows that the sale of 2 contracts requires a Cash Outlay of \$4,065, including commission fees. Total investment which excludes Commissions is \$4,040. OptionExpert looks at Capital in the Situation Data to determine how many contracts to write. In this case, the amount specified is \$5,000 and the system, therefore, has selected a position that requires a Total Investment of less than this amount.

The analysis of this position indicates an expected Profit (Receipts less Outlay) of \$2,116, an ROI of 50.8%.

The negative value (\$35) shown for Receipts deserves some explanation. OptionExpert has determined that the expected value of the 2 contracts on October 15, 1999, less Commissions, is only \$35 and assumes that the position is closed or bought back on that date. This figure is based on the computed value of the option on the Analysis Date.

Of course, if the stock increases in price and remains above the 110 level, the option would eventually expire worthless. If this is the case, the writer who stays with this position winds up keeping the entire amount of the proceeds from the sale of the option, for a \$2,175 before-Commissions profit.



*Position Analysis screen for AOL with graph of Sell Put Options position on 09/27/99*

A graph of the uncovered write position for AOL on September 27, 1999 is shown on the preceding page. For the conditions specified, the graph reflects the calculated value of the position on the Analysis Date vs. the price of the stock. This graph clearly shows the enormous potential for loss should a large and sudden drop in the price of the stock occur. On the other hand, the potential profit is limited to the net premium received.

## Covered Call Write Example

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Cisco Systems (CSCO): October 4, 1999.

An example of using OptionExpert for a different type of strategy, the covered call write, is discussed in the following section.

In this example, an investor has a long position in Cisco Systems stock and wants to write calls to enhance the income from the stock (the stock is not currently paying a dividend). This investor is not concerned about risk on the downside and, although he likes the stock's long-term prospects, he is only mildly bullish on the near-term and does not expect a major up move in the near future.

By writing a conservative near-term, out-of-the-money call, the premium will provide income and the stock will have room to advance before the call is in danger of being exercised. Since the investor is only mildly bullish, the risk of losing appreciation in the event of a large up move is not a major consideration.

The Situation Data for CSCO on this date, shows the Current Price of the stock to be 70-1/2 and an Indicated Value of 79.78 for the Analysis Date of November 19, the expiration date for the November options. This value is the value originally computed by the system.

When a covered strategy is selected, OptionExpert uses the entries in the *Covered Positions* page of *Option Strategy Properties* to determine the number of shares of underlying stock to cover, the ratio of options to stock shares (*covered write ratio*), and whether the stock will be purchased at the time the position is taken. In this example, sufficient stock to cover the position is already owned, and, therefore, no new Capital is involved. Regardless, the stock is an integral part of the position and is committed as collateral for the life of the position.

The current value of the stock is only considered as Capital outlay when the *Purchase Stock?* option is checked in *Covered Positions*. In such case, a commission is also included in Capital outlay.

If the stock is to be purchased, OptionExpert looks at the *Number of long stock shares* in *Covered Positions* to determine the number of shares of stock to buy. Net Cash Outlay will then consist of the long stock Margin requirement (current value of the stock times Margin fraction) less the option premium. However, the position will not be selected unless sufficient Capital is specified in Situation Data.

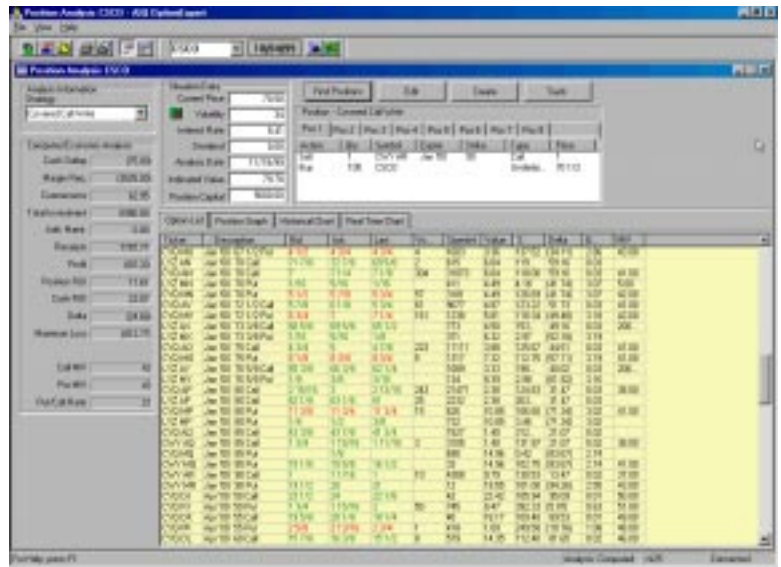
### Note

Although Cash Outlay includes entry Commissions, Commissions are not included in the determination of the size of the position.

Therefore, the figure for Cash Outlay which appears in the Economic Analysis window may sometimes exceed specified Capital by a small amount.

The system also checks the *Covered Write Ratio* to determine if all of the calls will be covered by stock. In this example, the ratio is one for one, meaning that each option contract is fully covered by shares of stock. An example using a greater than one to one ratio, a strategy known as a ratio call write, is discussed in the next section.

On October 4, 1999, the five option expiration months trading for CSCO are October, November, December, January, and April.



Position Analysis Screen for Cisco Systems 10/04/99

**Note**

When you select a covered strategy and click **Find Positions**, a special dialog box (*Covered Positions Conditions*) is displayed which allows you to specify the number of shares in the underlying stock that you own. In addition, you can specify the covered write ratio which allows you to sell calls against more shares than you own.

To ask OptionExpert to select a covered write, the *Covered Call Write* strategy is selected from the list of strategies. When the Find Positions button is clicked, OptionExpert starts looking for profitable covered call write positions using the Situation Data and the information entered in *Covered Positions*.

In this case, OptionExpert has found eight profitable positions as indicated by the eight numbered tabs that appear at the top of the Position Window. When the analysis is completed, the most profitable (#1) position is always displayed in the Position window. Other positions are displayed by simply clicking the numbered tabs.

The following table lists the eight profitable positions along with some of the data from the Option List window of the Position Analysis screen and the ROI computed for the position.

Rank	Month	Strike	Bid	Percent Fair Value	Volume	ROI
1	Jan	90	1	130.5	10	11.6
2	Jan	85	1-3/4	132.0	3	11.0
3	Apr	85	4	132.6	3	10.4
4	Jan	80	2-15/16	124.8	243	9.9
5	Apr	80	5-1/2	129.4	27	9.7
6	Jan	75	4-3/4	125.7	223	6.0
7	Apr	75	7-3/8	121.9	38	5.9
8	Jan	72-1/2	5-7/8	123.2	61	4.2

As you can see, most of the calls are far out-of-the-money and have low premiums. Another factor consistent to all of the calls in this list is that they are overpriced relative to their fair value. Remember, selling options that are overvalued is one of the primary strategies of all option writers.

In writing options, obviously, the shorter the term the more conservative the position, everything else being equal. For this reason, the January options with fewer trading days to expiration are more conservative call positions than the April options. In this case, the investor has decided that the April calls, despite their higher premiums, have too much risk due to the length of time remaining.

Also, the further out-of-the-money, the lower the risk of the option being exercised. The #1 ranked position, the January 90 call, is almost 20 points out-of-the-money and the next ranked option, the January 85 call, is out-of-the-money by almost 15 points. The 90 call is priced at 1 vs 1-3/4 for the 85 call and, therefore, at this time call buyers are willing to pay only an additional 3/4 point for a call that is 5 points closer to being in-the-money.

The call writer must decide whether the extra 3/4 point in premium is worth taking the additional risk of having his stock called. In this example, our theoretical investor opts to risk the 85 call and selects it over the more conservative January 90 call.

This is a relatively conservative position; although the option is almost three and one half months from expiration, the strike is almost 15 points above the Current Price of the stock. You can see why the option is priced so low. More important, OptionExpert values the option at just 1.40, indicating that the listed price of 1.75 is quite high

relative to the fair value. Regardless of a trader's motive in writing options, it is always a good approach to sell options that are priced high relative to their fair value.

Looking at the Economic Analysis section, the outlay is a negative 150. This is computed by deducting the option commission from the premium received. Receipts and Profit are computed based on the expected values of the stock and the option on the Analysis Date, November 19.

The position ROI (return on investment) of 11.0% is computed based on the total outlay, which includes 100% of the value of the stock. The cash ROI of 22.5% is based on the premise that the stock is purchased on margin and includes only 50% of the value of the stock.

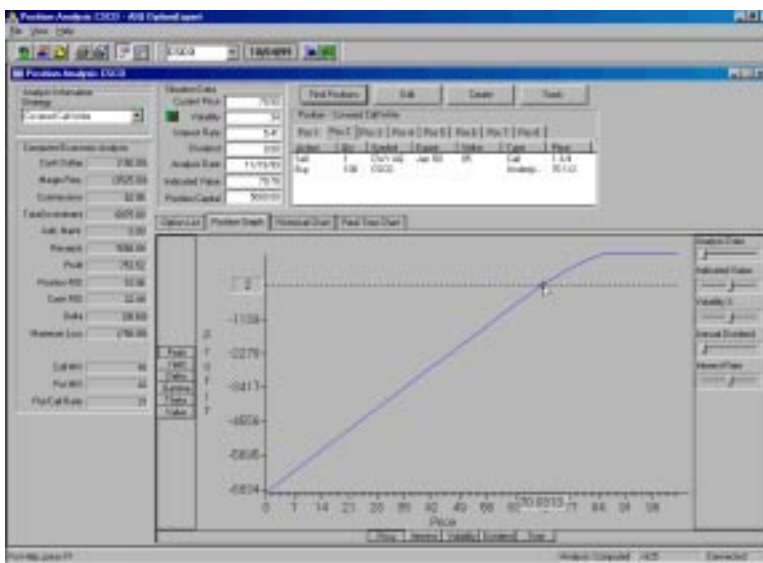
These returns may appear low, especially when compared to more speculative option strategies. However, since the return represents an investment period of just six weeks, it is best viewed on an annualized basis. With this strategy, the trader with a long-term position in the stock who continues to "roll over" call options can obtain substantial annual returns.

It is important to realize, however, that the Profit from this position comes almost entirely from the anticipated gain in the stock price — the option premium amounts to only \$150 after Commissions (the high commission charges associated with low-priced options are a major disadvantage of this type of trade). Hence, less than 20% of the \$754 Profit from this position is contributed by the option premium.

You might wonder, why take a risk, no matter how small, for such a relatively small amount of money? Of course, higher premiums involve higher risk, and in the business of call writing, higher risk comes in the form of longer option terms and/or lower strike prices.

The graphic on the next page displays a Position Graph of the covered write position for CSCO on October 4, 1999. For the conditions specified, the graph reflects the computed value of the position on the Analysis Date vs. the price of the stock.

This graph shows the conservative nature of this position, particularly for investors who are somewhat bullish on the stock. It shows that the potential profit is limited to the upside by the strike price of the call option.



*Graph of Covered Call Write position for Cisco Systems on 10/04/99*