

Options



The Options Page displays option quotes and calculates theoretical option prices. The Black and Scholes Options model is used for the options pricing analysis. The page can display the Last, Net Change, Bid, Ask, Volume, High, Low, Open Interest, Theoretical Value, Implied Volatility, Historical Volatility, and Delta for each call and put that is available. Click the Option button on the Main ribbon to view the Options Page.

Options Page											
Security		MSFT		Leaps		Volatility		15.00		Expires	
Month		May		Price		25.83		Interest		3.00	
Periods		30		Show		Delta & Net					
Delta	I.Volatility	Theoretic	Net	Last	Calls	Puts	Last	Net	Theoretic	I.Volatility	Delta
100.0	77.0	10.77		11.20	21 E Q 15		0.02		0.0000	59.7	-0.0
100.0		8.29		7.75	21 E Q 17.5		0.01		0.0000	40.5	-0.0
					13 E Q 20						
100.0	56.9	5.80		6.15	21 E Q 20		0.01		0.0000	27.9	-0.0
					13 E Q 21						
100.0	40.9	4.81		5.00	21 E Q 21		0.01		0.0001	23.2	-0.0
					13 E Q 22						
98.9	24.3	3.32		3.40	21 E Q 22.5		0.01		0.0054	16.4	-1.0
					13 E Q 23						
89.2	20.4	1.90		2.03	13 E Q 24		0.02		0.08	10.9	-10.5
89.2	11.6	1.90	0.02	1.85	21 E Q 24		0.04		0.08	12.5	-10.8
71.5	7.5	1.11	-0.04	0.88	13 E Q 25		0.04		0.29	6.8	-28.6
71.5	7.5	1.11	-0.11	0.88	21 E Q 25		0.14		0.29	10.6	-28.5
46.9	5.9	0.54	-0.02	0.17	13 E Q 26		0.31	-0.01	0.71	5.2	-53.1
46.9	7.4	0.54	-0.05	0.23	21 E Q 26		0.50	-0.05	0.71	9.9	-53.1
24.3	6.2	0.22	-0.02	0.01	13 E Q 27		1.16	0.24	1.39		-75.8
24.3	8.4	0.22	-0.01	0.04	21 E Q 27		1.33		1.38	13.4	-75.7

The Options Page can be used with both stock and futures option symbols. To view price information for an option, enter the option root symbol in the 'Security' entry box (ex. IBM, OEX.XO, @ESM2). The page will load all available calls and puts for the symbol and display them in the grid. The strike price levels are listed down the middle of the screen, with call prices on the left and put prices on the right.

Use the vertical scroll bar to scroll down and view additional strike price levels. Or, press PageUp and PageDown on the keyboard to move vertically through the strike prices. Click the Tabs at the bottom of the page to switch between different option pages, or press Home and End to move the Tab focus. Drag the tabs left or right to change the ordering. Double-click on any option row to display a chart for the symbol. Charts can also be activated from the Options menu.

The Options Page is often used as a Quote page for since several strike prices for a particular option can be easily monitored at the same time. The option values update as each option trades.

Change the columns that are displayed by a selection of the Show combo box. Selecting Bid & Volume will display the Last, Net Change, Bid, Ask, and Volume. Selecting High & Low will display the Last, Net Change, High, Low, and Open Interest. Selecting Delta & Net will display the Last, Net Change, Theoretical Value, Implied Volatility, and Delta values.



The column widths can be adjusted by dragging the separator bar between column titles. Restore the default column width to all columns by selecting Reset Column Widths from the pop-up menu.

A price Ticker Tape can be activated on the window title bar by selecting Show Ticker Tape from the pop-up menu. The option symbol and price will scroll across the title bar when price changes occur. Select menu Hide Ticker Tape to disable the ticker tape. A 'Time & Sales' window can be opened from the menu for a selected symbol. A 'Snap Quote' window can also be opened from the menu for a selected symbol.

Select Save to ASCII from the pop-up menu to save the options page to an ASCII text file. Several ASCII formats are available. The pop-up menu has selections for printing the options page, copying the page to the Windows Clipboard, and docking the Options form on a stack.

The input boxes at the top of the options page are used to specify parameters that affect the calculations for the Theoretical Value, Implied Volatility, and Delta. These boxes can be changed to perform 'what-if' scenarios for the option pricing.

CME Weekly Grain Options

The CME's corn, soybean and wheat symbols have weekly options on the IQfeed. When one of these grain symbols is entered as the Security, a combo box shows with selections for Regular, Week 1, Week 2, Week 3, Week 4, and Week 5. Select the week and the month for the option expiration. The weekly expiration for July Corn would typically be in the prior month of June since the weekly options trade for just 28 days prior to their expiration.

Delta	I.Volatility	Theoretic	Net	Last	Calls	Puts	Last	Net	Theoretic	I.Volatility	Delta
					7300		4.75	-0.25	7.17	12.5	-25.3
					7400		7.50	-0.25	10.27	12.5	-32.9
					7500		13.50		14.19	14.5	-41.2
50.1	5.9	17.72	0.50	6.50	7600		13.00	1.38	18.96	10.2	-49.9

Enter CN1 as the security to show the July 2011 pit corn options. Enter @CN1 to show the July 2011 electronic corn options. IQFeed's electronic symbols have the @ prefix.

Options Model Parameters

Option - Enter the option symbol root (ex. OEX.XO). All the option calls and puts for that symbol will be displayed. Do not enter a specific option with its strike price. Odd month futures option expirations (ex. SP1X) may also be entered.

Month - Select the option month to view. Example, selecting 'July' will display all the calls and puts for the July option. This is entered automatically for futures options. Press the up and down arrows to switch to other months while this box has focus.

Security - Normally, the Option and Security boxes will match each other and no entry will be required. In cases where the underlying security has a different root symbol than the option, then enter the underlying symbol. For example, the underlying contract for the SP2X futures option is the SP1Z futures contract. Enter SP2X as the Option, and SP1Z as the Security. The options model uses this box to determine the Historical Volatility of the underlying security.

Price - The underlying security's current price is entered in this box. The price is automatically entered if the price is available in the system. Manually change the price if desired to perform 'what-if' analysis (ex. What would be the Option price if the stock price went to a higher price).

Historical Volatility - The Historical Volatility is calculated from the daily data of the underlying security displayed in the Security box. If a daily chart file exists for the underlying security, then the Historical Volatility will be automatically calculated and posted to this box. This value for this box can be entered manually or changed if desired.

Periods - This is the number of days to use in the Historical Volatility calculation (ex. How volatile has the market been during the last 10, 20, or 30 days?). Change the Periods number to determine the Historical Volatility over different time spans.

Expires - Enter the option expiration date in the format of MM-DD-YY (ex. 12-31-00). The Days until expiration will be automatically calculated and posted in the Days box after making an entry in the Expires box. The expiration date will be automatically entered if the expiration date is available in the system.

Interest Rate - Enter an interest rate to be used in the calculations. A typical entry would be a number from 3 to 8.

Days - The days until expiration will be calculated from the expiration date. Change this box to do 'what-if' analysis (ex. What will the option price be with only 5 days until expiration?).

Definitions

Historical Volatility measures the volatility (up and down movement) of the option's underlying security. For example, if the volatility of a stock is very high, then the stock option will likely be priced higher because there is more risk involved. Volatility is measured by the changes in price from day to day and helps determine the price of an option.

Theoretical Value is the option price that the Black and Scholes model suggests should be the current value. If the actual option price is considerably higher than the theoretical price, then the option would be considered overvalued.

Implied Volatility is calculated by taking the current option price and determining the volatility that the option price is implying. If the implied volatility is very high (compared to the historical volatility), then the option price is reflecting a perceived higher volatility (or higher risk) by the traders.

Delta is a ratio that ranges from 0-100 and indicates how responsive the option price is to changes in the underlying security. For example, a Delta value of 25 suggests that the option price will move only one quarter as much as the stock price. A Delta value of 50 would suggest that if a stock price moved \$10 dollars, then the option value would move \$5 dollars. High Delta values indicate that the option is very responsive to changes in the underlying symbol's price changes. Typically, options that are far out of the money have low delta values.