



ASPEN GRAPHICS®
FOR WINDOWS®
TRADE WITH CONFIDENCE

Using Basic Aspen Optionanalysis®

Where do I start?

Take a few minutes to view the pages already setup for options analysis. From the menubar, click on File/Retrieve Page. This will display the List of Pages. In the middle of this list, there are over 30 pages that begin with the letter "O". These are the options pages. They can be classified in 7 different categories:

1. **System Pages:** Omaster, Omacro(1), Owild & Otest-- These are great resource pages! OMaster will show you all quote information on one symbol, Otest is a great place to list a lot of options & Omacro and Owild describe all macro combinations to display options (see page 9 of this guide for information on using the # and @ macros).
2. **Chart Pages-** incorporate graphs and tables with quote windows: Ochart(1-3), Opt(1-3)
3. **Quote Pages-** great for "what-if"-ing: Oquote(1,2)
4. **Futures Pages-** include open interest, volume and other fields of specific interest to futures traders: Ofutures(1-4), Opc_ratio
5. **Stock Pages-** Contain bid, ask, trade, volume and Greeks (on Ostock2) for evaluating stock options: Ostock(1,2,4), O-asker, O-bidder, O-Trade
6. **Greek Pages-** extensive analysis of Greeks: Ogreek(1-3,5)
7. **Profit & Loss Pages-** Great for tracking option strategies and portfolios (and monitoring delta neutrality of a strategy): OqPL20, OqPL20s (similar to previous but smaller font)
(See also windows OqPL10 and OqPL5, both with "s" versions)

"What-if"-ing scenarios using Oquote2

1. Begin with **Oquote2**-- this page is nice because it displays a wide range of calls & puts (about 16-18 of each; **calls** in top section, **puts** in bottom section) and includes all Greeks, implied volatility and theoretical pricing.
2. Type the underlying symbol (DON'T open any cells, just type from the keyboard)
3. Bring up the **Quote Menu** and make sure "**Edit Cells is On**" (This allows you to edit any value on this page to input your assumptions about the market.)
4. **Locking Volatility** –Left click on **Lock Volatility** from the Quote Menu.

Why do I have to lock volatility before I start what-ifying?

By default, Aspen uses the Black-Scholes pricing model to calculate the theoretical price of options. The following inputs are necessary to calculate the theoretical option price:

- a. Price of the underlying instrument
- b. Strike price of the option
- c. Time remaining until expiration
- d. Current risk-free interest rate
- e. Volatility of the underlying instrument

Aspen Graphics takes the *first four input values* AND *the current market price of the option* and solves for the volatility. That's why we refer to it as *Implied Volatility*; the volatility is "implied" from the pricing model. The volatility is then plugged back into the pricing model, to solve for the theoretical price of the option. When volatility is locked, it is held constant so that the theoretical option price will update as you make changes to the various inputs to the model.

What inputs to the pricing model can I change?

U-price: Double-click left on Uprice (double-click Left on a value allows you to ADJUST it -an edit box opens to change the value). Clicking again w/ Left "undoes" command ("unlocks" or "defaults" to original value). Enter a new value in the edit box and see the theoretical options prices and the Greeks update below (the theoretical option prices are found in the column labeled THEOR.)

Expire Adjust: (decreases number of days to expiration from the ExpAdj field); **Change** and watch the theoretical Price, Greeks and O-Expiry adjust. This simulates the options value *n number of days from now.*

Volatility: change from **top line** or **Quote Menu**

1. **Vlty** (top line) allows you to enter a fixed volatility (i.e.HVOL of underlying)
2. **Vlty** (bottom section) is set from Quote Menu/Option Parameters
 - *Skew - creates a vlty skew "on the fly" and saves it to Database Skews
 - *Implied - volatility implied from the pricing model, based on market price
 - *Database - chooses a value you've set w/ .MODIFY command (i.e..modify OEXN405C vlty 7.95)

Rate (interest) Change and see changes to Ivlty and the rest of the values.

Note: *Theoretical prices and Greeks will sometimes disappear when we make changes. This is because some hypothetical inputs to the pricing model may render invalid values. Aspen is designed to help in decision making, so invalid values are blanked out.*

Accounting using the Profit and Loss pages

NOTE: If you are using these pages to monitor a real market position, and not just for hypothetical manipulation, **DO NOT USE MACROS**, as the relationship of an option to what is currently at-the-money or the lead month will change over time.

1. Begin with **Oqpl20** as example. This monitors the profit or loss of a strategy.
2. **Enter** up to four **underlyings** simply by typing in symbols (prefacing a symbol with a comma will place entry in first available space (,cl#))
3. Open edit box under Options and **enter the options** you wish to follow
Remember to "spell out" the whole option (i.e. CLK6C1900, on SG)
Market, Theor and **Vlty** will appear
4. Double-click under **Qty** and **Price**, and enter values in each field. An entry under **Qty will bring up Greek values**; an entry under **Price will display Profit (Actual) and Theoretical P&L**
5. **Total P/L** Points and \$'s are calculated **at bottom**
 - a. You can also LOCK and ADJUST variables to perform **hypotheticals**.
Xadjust works without locking volatility.
 - b. **Total Delta** for strategy is a good way to test for **delta neutrality** of your total position.

How can I customize my options package?

Certain parameters that effect the calculation of an option's theoretical value can be customized from the Option Parameter menu. This menu is displayed by bringing up a menu in either an option quote page (Quote Menu) or an option chart window (Option Chart Menu/Strategy Menu). From either of these menus, click on **Parameters**.

A number (*n*) entered in the **Adjust** field will shift the expiration date used in the theoretical option price calculation to *n* days from now. Left-clicking on **Days** will change to **Date** and allow you to enter a specific expire date in the **Adjust** field.

The **BATE** fields allow you to choose which price for the underlying & the option to use in the pricing model.

Advanced Optionalysis® allows you to choose two other **Pricing Models**: the **Binomial** & the **Whaley**.

Scope allows you to set parameters system-wide (**Global**), for the active window only (**Quote or Chart**) or for a **Strategy** (in an option chart).

Quote Option Parameters

Expire	Adjust	Volatility	Implied
Days	0.0		
Option Bate		Implied Vlty Update	Option only
Recent			
Underlying Bate		Interest	5.100
Recent		Future	TB#
Pricing Model		Year Type	Days
Black-Scholes		Calendar	365
Scope		Draw	Done

The **Interest** rate used in the pricing model is set to the 90-day T-bill. This can be changed to a **symbol**, a constant value or a **formula**.

Year Type used in the pricing model can be set to the number of **Calendar** days (365), **Weekdays** (261) or **Market** days (253).

Volatility can be set to **Implied** (using the pricing model), **Skew** (calculated on the fly or one saved in the database) or a **Database** value set with .MODIFY command.

Setting **Implied Vlty Update** to **Option only** will hold vlty constant when the underlying price changes, so that the theoretical value of the option will reflect the new underlying price (like locking volatility during what-ifing). **Option or Underlying** will recalculate the vlty when EITHER the option or the underlying trades. In this case, the theoretical value of the option will always be very close to the actual option price.