

Options II – LiveStream

7/31/15



CLASS PROGRESSION

1. Review Basics, Risk Graphs, and Greeks
2. Vertical Spreads **BULL CALL BEAR PUT**
3. Volatility Based Trading – Straddles, IV, and Strangles
4. Calendar Spreads – Horizontal and Diagonal
5. Synthetics and Risk-Reversals
6. System Development





OPTIONS 2

MASTER STRATEGY LIST

* IRON CONDOOR

- ❖ Bull Call
- ❖ Short Strangle
- ❖ Bear Put
- ❖ Horizontal Call/Put
- ❖ Long Straddle
- ❖ Diagonal Call/Put
- ❖ Long Strangle
- ❖ Bullish Risk Reversal
- ❖ Short Straddle
- ❖ Bearish Risk Reversal



TOOLS USED IN THIS CLASS

Software

- ❖ ThinkorSwim
- ❖ OptionsXpress

Websites

- ❖ www.cboe.com
- ❖ www.ivolatility.com
- ❖ www.finviz.com



OPTION LEGAL DEFINITION

- ❖ A **Contract** between a buyer and seller, that gives the buyer the right, but not the obligation to buy or to sell a specific stock at a specific price on or before a specific date in exchange for a market premium
 - (1)
 - (2) call put
 - (3)
 - (4) STRIKE
 - (5) EXPIRY
 - (6)
- ❖ Let's break down the definition
- ❖ Six questions that need to be answered



WHY TRADE OPTIONS

- ❖ Options are traded in **contracts**, not shares, but they are still priced by the share
- ❖ In the options market:
 - 1 contract typically represents 100 shares of stock = multiplier of contract
 - Ⓐ If the per share quote on the stock is \$40, then 100 shares purchased would cost \$4,000 1) **MAX GAIN = ∞** 2) **MAX LOSS = -\\$4000**
 - Ⓑ If the per share quote of the option is \$4, then 1 contract purchased would cost \$400 1) **MAX GAIN = ∞ THROUGH EXP.** 2) **\$400.00**
 - ❖ There are two main reasons people trade options:
 - Leverage
 - Limited liability

} **HALLMARKS OF AN EFFECTIVE OPTION TRADE**



DETOUR – EFFECT OF STOCK SPLITS

- ❖ Why do companies split their stock?
- ❖ What is the effect of a split on the stock and options?

| XYZ @ \$60 per share | | XYZ @ \$60 per share |
|-----------------------------------|---|---|
| Buy 100 shares @ \$60 | 2:1 split | Buy a \$60 call @ \$2.00 |
| \$6000 in stock | | \$200 in the option |
| After split: | $200 \text{ SHARES} \times \$30.00/\text{SH}$ \$6000.00 | After split: $(2) 30.00 \text{ CALLS} \rightarrow \1.00 $= \$200.00$ |
| Buy 100 shares @ \$60 | 3:2 split | Buy a \$60 call @ \$2.00 |
| After split: \$6000.00 | $150 \text{ SHARES} \times \$40/\text{SH}$ | After split: $(1) 40.00 \text{ CALL} \rightarrow 1.33$ CONTROLS 150 SH. $= \$199.50$ |



Connected Delayed data, Jul, 31 11:10:02, Account: D-10961925 (margin)

Option BP \$105,121.55 Stock BP \$210,243.10 Net Lig \$123,433.25 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Add Simulated Trades Risk Profile Probability Analysis thinkBack Fundamentals

GOOGL GOOGLE INC CL A ETB NASDAQ B: 664.03 664.0725 -0.4875
A: 664.29 -0.07%

UNDERLYING

| Last X | Net Chng | Bid X | Ask X | Size | Volume | Open | High | Low |
|------------|----------|----------|----------|-------|---------|--------|----------|--------|
| 664.0725 D | - .4875 | 664.03 Q | 664.29 P | 1 x 2 | 477,928 | 664.70 | 664.9999 | 657.20 |

OPTION CHAIN Filter: Off Spread: Single Layout: Impl Vol, Probability of Touching,...

| | |
|--|-------------------------|
| D AUG 15 (21) 100 | 20.84% (\pm 27.09) |
| D AUG 15 (28) 100 (Weekly) | 20.69% (\pm 30.899) |
| D SEP 15 (35) 100 (Weekly) | 21.04% (\pm 35.028) |
| D SEP 2 15 (42) 100 (Weekly) | 20.82% (\pm 37.898) |
| D SEP 15 (49) 100 | 21.24% (\pm 41.71) |
| D OCT 15 (77) 100 | 23.60% (\pm 58.009) |
| D DEC 15 (140) 100 | 23.78% (\pm 78.877) |
| D JAN 16 (168) 100 | 23.66% (\pm 66.037) |
| D JAN 16 (168) 10 (GOOG 10, US\$ 152.8) | 23.01% (\pm 3.634) |
| D JAN 16 (168) 100 (GOOG 100, US\$ 152.84) | 23.52% (\pm 5.519) |
| D MAR 16 (231) 100 | 23.67% (\pm 101.169) |
| D JUN 16 (322) 100 | 23.76% (\pm 120.407) |
| D JUN 16 (322) 100 (GOOG 100, US\$ 152.84) | 23.64% (\pm 119.779) |

PRICE SLICES

POSITIONS AND SIMULATED TRADES

| ALL Show All | Expiration Series | Single Symbol | Model | Bjerk sund-Stensland | Interest | 0.25% | Date | 7/31/15 |
|---|---|---------------|-------|----------------------|----------|--------|-------|-----------|
| Spread | Side | Qty Symbol | Exp | Strike Type | Price | Vol | Delta | BP Effect |
| <input checked="" type="checkbox"/> GOOGL | <input checked="" type="checkbox"/> STK | 0 GOOGL | | STOCK | .00 | 21.03% | .00 | \$0.00 |

Notice that the GOOGL options for Jan 2016 settle with 100 shares of GOOG + \$152.80 cash

CHANGE IN CONTRACT SPECS

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|  34698 | APPLE INC. - 7 FOR 1 STOCK SPLIT OPTION SYMBOLS: AAPL/2AAPL MINI OPTION SYMBOLS: AAPL/2AAPL EX-DATE: 05/30/2014 * REMINDER * - ExEff Date: 06/02/2014, Contract Adjustment, Options |
|  34699 | APPLE INC. - 7 FOR 1 STOCK SPLIT OPTION SYMBOLS: AAPL/2AAPL MINI OPTION SYMBOLS: AAPL/2AAPL EX-DATE: 05/30/2014 * REMINDER * - ExEff Date: 06/02/2014, Contract Adjustment, Options |
|  34582 | OCC/CHRONICRIS CONTRACT ADJUSTMENTS FOR CASH DIVIDENDS EX-DATE: 5/8/2014 |
|  34520 | APPLE INC. - 7 FOR 1 STOCK SPLIT OPTION SYMBOLS: AAPL/2AAPL MINI OPTION SYMBOLS: AAPL/2AAPL EX-DATE: 04/25/2014 * REMINDER * - ExEff Date: 05/08/2014, Contract Adjustment, Futures |
|  34519 | APPLE INC. - 7 FOR 1 STOCK SPLIT FUTURES SYMBOLS: AAPL/2AAPL |
|  34084 | APPLE INC. - 7 FOR 1 STOCK SPLIT FUTURES SYMBOLS: AAPL/2AAPL EX-DATE: 2/6/2014 |
|  33532 | OCC/CHRONICRIS CONTRACT ADJUSTMENTS FOR CASH DIVIDENDS EX-DATE: 11/6/2013 |
|  33171 | EXPIRATION PRICES |

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#34698

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DATE: MAY 30, 2014

SUBJECT: APPLE INC. - 7 FOR 1 STOCK SPLIT OPTION SYMBOLS: AAPL/2AAPL MINI OPTION SYMBOLS: AAPL/2AAPL EX-DATE: 05/30/2014 * REMINDER * - ExEff Date: 06/02/2014, Contract Adjustment, Options

Apple Inc. (AAPL) has announced a 7 for 1 stock split ... (AAPL) Common Shares ... ExEff Date: 06/02/2014, Contract Adjustment, Options

Pursuant to Article VI, Section 11A, of OCC's By-Laws, if Apple Inc. options will be adjusted as follows:

CONTRACT ADJUSTMENT

Effective Date: June 6, 2014

Option Symbol: AAPL, American AAPL, AAPL, remains AAPL, AAPL7 remains AAPL7

New Multiplier: AAPL
100 (e.g., for premium or strike dollar extensions 1:00 will equal \$100)

AAPL:
10 (e.g., for premium or strike dollar extensions, 1:00 will equal \$10)

Contract Multiplier: 7

Strike Divisor: 7

New Deliverable Per Contract: AAPL
100 Apple Inc. (AAPL) Common Shares



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OCC

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| Memo/Date | Ex/Eff Date | Title |
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| 36724 05/08/2015 | | ADJUSTED GOOGLE INC. - CASH IN LIEU SETTLEMENT ADJUSTED OPTION SYMBOL: GOLG1 ... (GOOGL) Class A Common Shares, 2) 100 Google Inc. (GOOG ... (GOOGL) Class A Common Shares 2) 100 Google Inc. (GOOG ... Contract Adjustment, Options |
| 36723 05/08/2015 | | ADJUSTED GOOGLE INC. - CASH IN LIEU SETTLEMENT ADJUSTED MINI OPTION SYMBOL: GOLG8 ... (GOOGL) Class A Common Shares, 2) 10 Google Inc. (GOOG ... (GOOGL) Class A Common Shares 2) 10 Google Inc. (GOOG ... Contract Adjustment, Options |
| 36722 05/08/2015 | | ADJUSTED GOOGLE INC. - CASH IN LIEU SETTLEMENT ADJUSTED OPTION SYMBOLS: GOOG1/2GOOG1 ADJUSTED FUTURES SYMBOL: GOOG2C Page 1. #36722 DATE: MAY 8, 2015 SUBJECT: ADJUSTED GOOGLE INC. - CASH IN LIEU ... SYMBOL: GOOG2C Google Inc. options ... Contract Adjustment, Options, Futures |
| 36667 05/01/2015 | | GOOG1 OPTIONS - EXPIRATION PRICING CONSIDERATION ... SUBJECT: GOOG1 OPTIONS - EXPIRATION PRICING CONSIDERATION GOOG1 (adjusted Google, Inc.) GOOG1 options are adjusted Google, Inc. ... Operational, Expiration |
| 36631 04/24/2015 | 04/27/2015 | ADJUSTED GOOGLE INC. - FURTHER ADJUSTMENT ADJUSTED OPTION SYMBOL: GOLG1 ... (GOOGL) Class A Common Shares, and 2) 100 Google Inc. (GOOG ... (GOOGL) Class A Common Shares 2) 100 Google Inc. (GOOG ... Contract Adjustment, Options |
| | | ADJUSTED GOOGLE INC. - FURTHER ADJUSTMENT ADJUSTED MINI |

www.theocc.com

Call your broker, or 1-888-OPTIONS (Options Industry Council)

BUY VS. SELL

- Buy* *Sell*
- ❖ A Contract between a Buyer and Seller, that gives the buyer the right, but not the obligation to buy or to sell a specific stock at a specific price on or before a specific date in exchange for a market premium



BUYING TO OPEN

Be careful – we might be paying too much

- ❖ Option holder
- ❖ Buy to open (BTO) = *WANT OPTION TO GAIN VALUE, THEN SELL TO CLOSE (STC)*
- ❖ Long the option *LONG CALL OR LONG PUTS*
- ❖ Buying options
 - The buyer of an option has the right, but not the obligation, to buy or sell the stock
 - A buyer is not legally bound to execute the contract
 - Risk is limited to the cost of the position



SELLING TO OPEN

Be careful – we might not receive enough

- ❖ Option writer
- ❖ Sell to open (STO) = price of option drops
 - 1) BUY TO CLOSE (BTC)
 - 2) EXPIRES ITM OR OTM

↳ STOCK POS.
- ❖ Short an option
- ❖ Selling options
 - The Seller of an option is in a legally binding contract and has an obligation to fulfill the contract
 - Selling options could carry unlimited risk → STO A CALL (NAKED CALL)
 - Example:
*EXPIRE NAKED CALLS
JUNE 2005 35.00 CALL (NAKED CALL)
EXPE GAPS TO 72.00 OVERNIGHT*



We don't have to make back our losses on the same ticker. Ticker EGO never a good investment.

CALLS

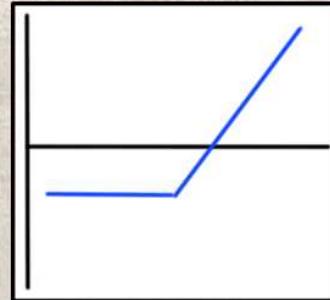
LONG
BTO AND STO
SHORT
CALLS

- ❖ A Contract between a buyer and seller, that gives the buyer the **right**, but not the obligation **to buy** or to sell a specific stock at a specific price on or before a specific date in exchange for a market premium
- ❖ Right to buy the stock = call option
- ❖ We have the right to “call” someone out of the stock
- ❖ XYZ @ 100.00
 - We BTO the May 100 call @ \$2.00
 - Reward vs. Risk

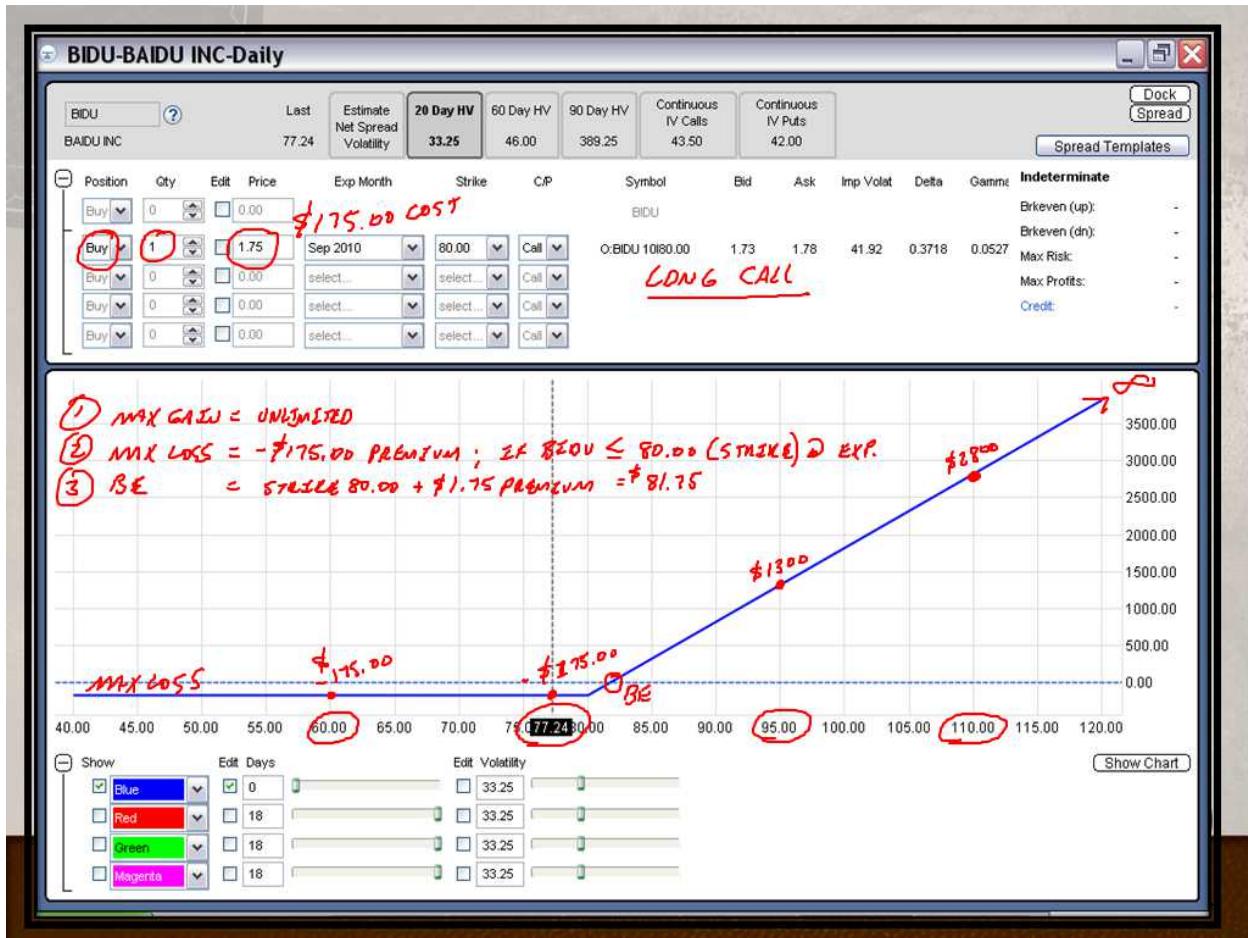


WHEN TO BUY A CALL

- ① ♦ Long call, or BTO a call
- ② ♦ When we are bullish on the stock
 - Want the stock price to increase
 - Also known as (+) Delta **BULLISH**
- ③ ♦ We think that volatility will increase
 - Want the stock to move more
 - Want implied volatility of the contract to increase
 - Also known as (+) Vega
- ④ ♦ Time is hurting the position
 - Want stock to move quickly
 - Also known as (-) Theta



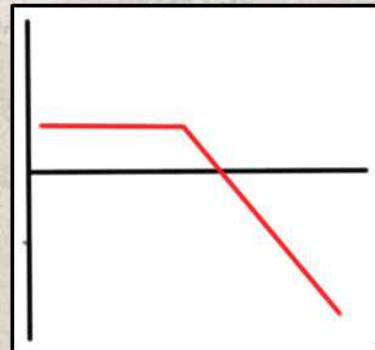




Long Call on BIDU

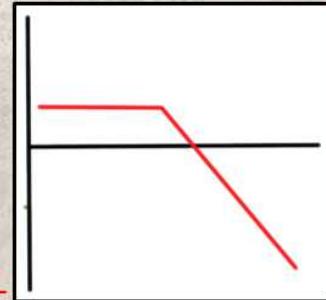
SELLING A CALL

- ❖ Also known as shorting the call, or naked call
- ❖ A Call obligates the seller of the call to deliver the specific underlying stock
- ❖ If the seller of the call is forced to deliver the stock, then this is known as assignment
- ❖ Unlimited risk

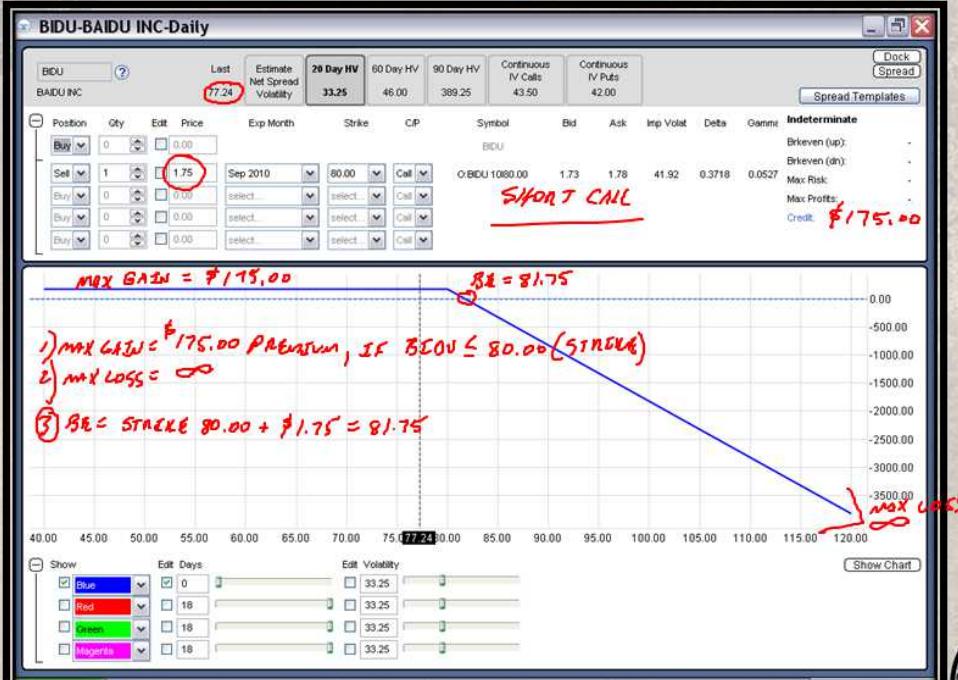


WHEN TO SELL A CALL

- ❖ Short call, or STO a call
- ①❖ When we are bearish on the stock
 - Want the stock price to decrease
 - Also known as (-) Delta **BEARISH**
- ②❖ We think that volatility will decrease
 - Want stock to move around less
 - Want the implied volatility of the contract to decrease
 - Also known as (-) Vega **WANT VOL. TO FALL**
- ③❖ Time is helping the position
 - Want the stock to move slowly
 - Also known as (+) Theta **TIME DECAY HELPS**

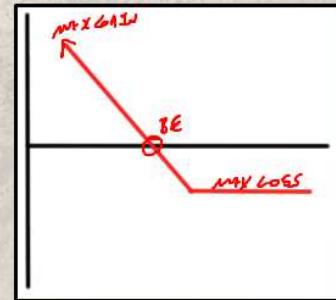


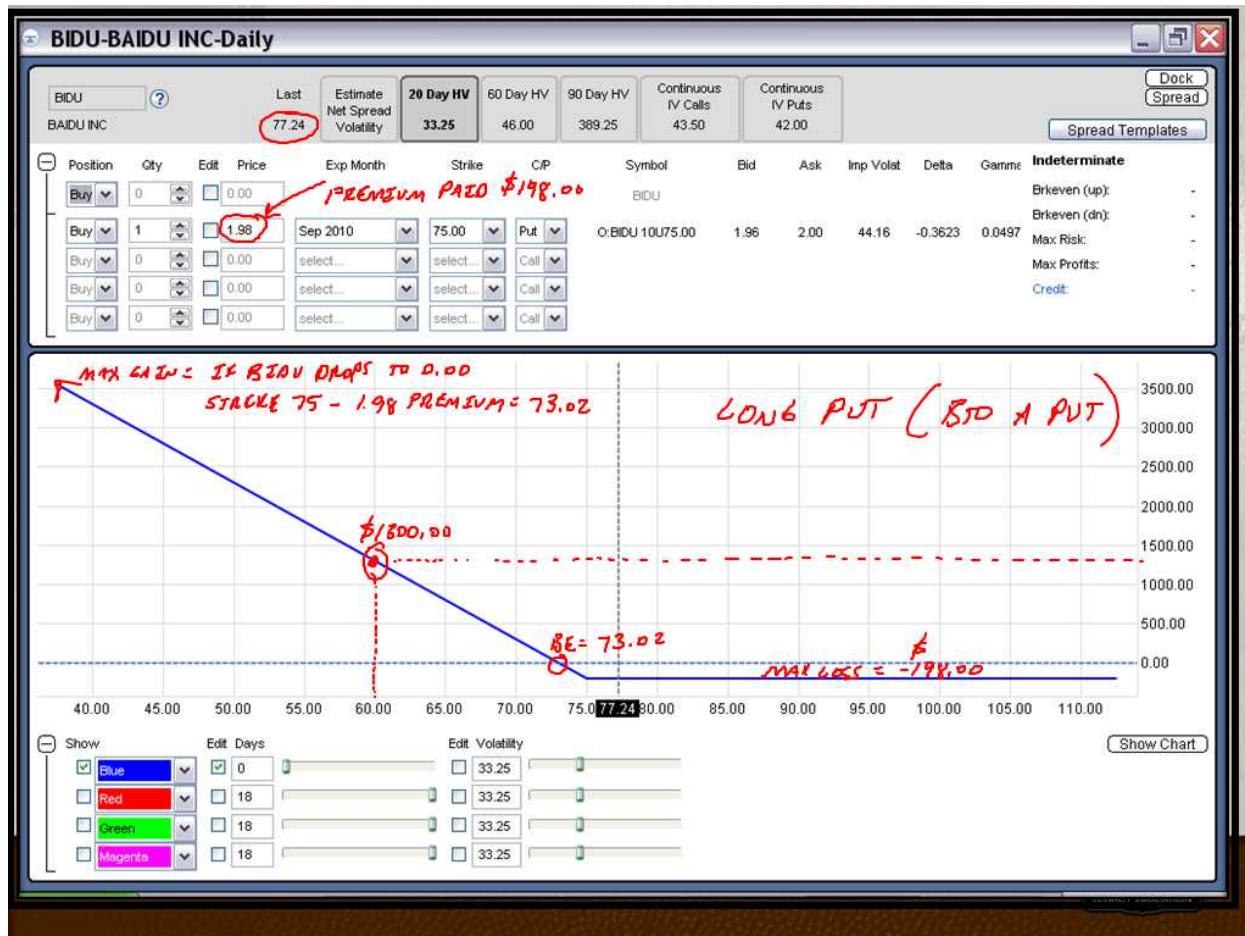
RISK GRAPH SHORT CALL



WHEN TO BUY A PUT

- ❖ Long put, or BTO a put
- ①❖ When we are bearish on the stock
 - Want the stock price to decrease
 - Also known as (-) Delta
- ②❖ We think that volatility will increase
 - Want the volatility of the stock to increase
 - Want the implied volatility of the contract to increase
 - Also known as (+) Vega
- ③❖ Time is hurting the position
 - We want the stock to move quickly
 - Also known as (-) Theta





MATRIX

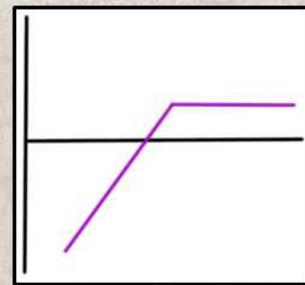
- ❖ Selling to open a put (naked put) is the most confusing
- ❖ Double negative = positive

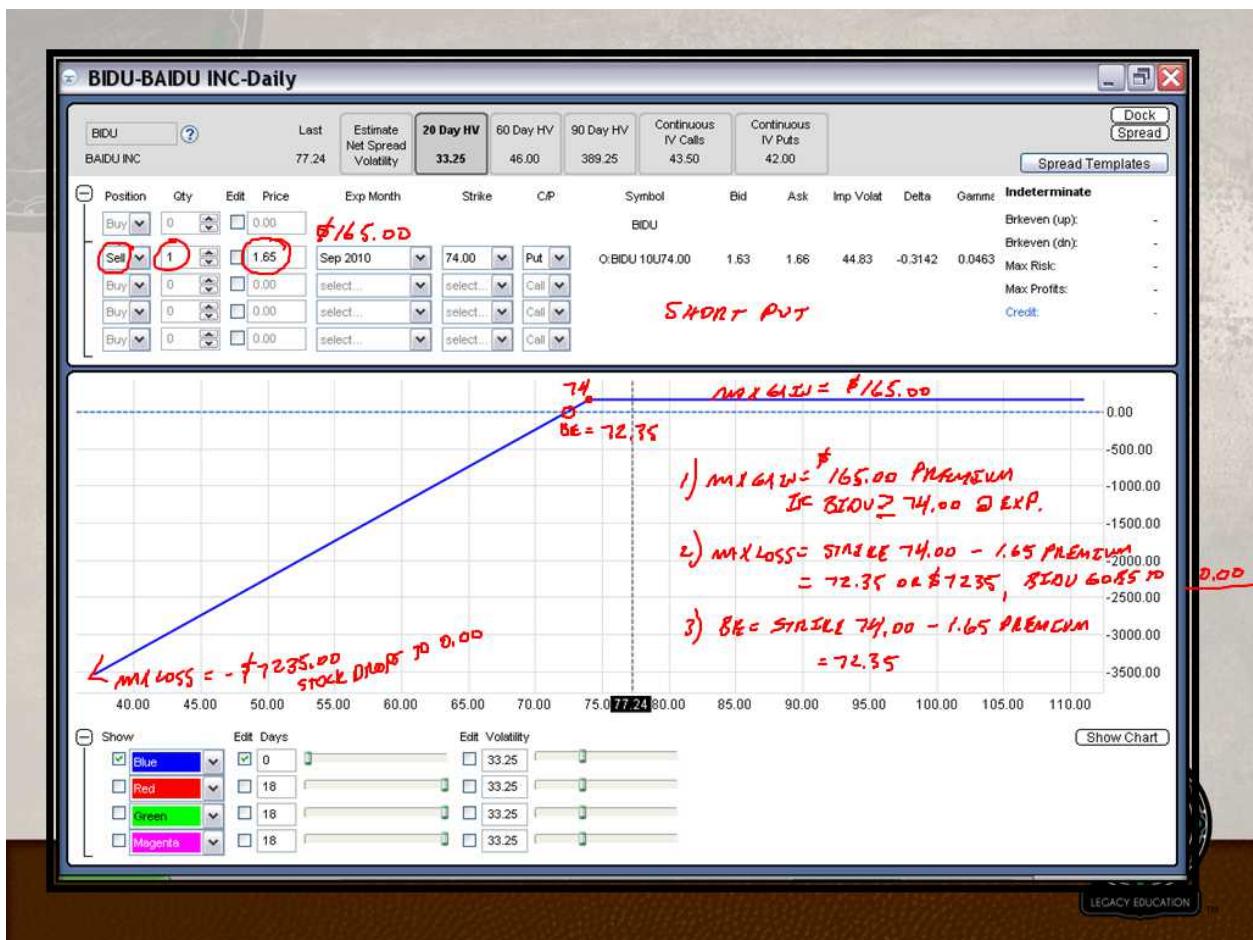
| | | |
|-----------------|----------------|-------------|
| <u>BTO (+)</u> | <u>STO (-)</u> | ----- |
| <u>CALL (+)</u> | <u>PUT (-)</u> | ----- |
| 1 BTO (+) | CALL (+) | (+) BULLISH |
| 2 STO (-) | CALL (+) | (-) BEARISH |
| 3 BTO (+) | PUT (-) | (-) BEARISH |
| 4 STO (-) | PUT (-) | (+) BULLISH |



WHEN TO SELL A PUT

- ❖ Short put, or STO a put
- ① ❖ When we are bullish on the stock
 - Want the stock price to increase
 - Also known as (+) Delta
- ② ❖ We think that volatility will decrease
 - Want the volatility of the stock to decrease
 - Want the implied volatility of the contract to decrease
 - Also known as (-) Vega
- ③ ❖ Time is helping the position
 - We want the stock to move slowly
 - Also known as (+) Theta







STOCK OPINION

❖ A Contract between a Buyer and Seller, that gives the buyer the right, but not the obligation to buy or to sell a specific stock at a specific price on or before a specific date in exchange for a market premium

❖ 4 basic market outlooks

- Bullish → *BULL CALL*
- Bearish → *BEAR PUT*
- Neutral → *SHORT STRANGLE / IRON CONDOR*
- Bi-directional → *LONG STRADOLE*



Strategy Matrix (version 1).xls [Autosaved] [Compatibility Mode] - Excel (Product Activation Failed) Sign in

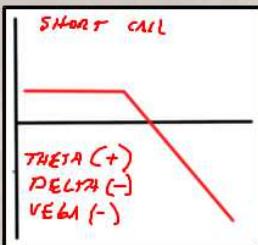
| | A | B | C | D | E | F | G | H | I | J | K | L | |
|----|-------------------|---------------------------------|------------------|---------|----|---|----------|----|----|---------|----------|------------------------|---------------|
| 1 | Option Strategies | | Credit/ Debit | Outlook | | | | | | | Impact | | |
| 2 | | | | Bearish | | | Stagnant | | | Bullish | | Volatility Increase | Time Decay |
| 3 | | | -3 | -2 | -1 | 0 | +1 | +2 | +3 | | | | |
| 4 | 1 | Protective Put | Debit | N | N | N | N | Y | Y | Y | Benefits | Hurts | |
| 5 | 2 | Covered Call | Debit | N | N | N | Y | Y | N | N | Hurts | Benefits | |
| 6 | 3 | Bull Call Vertical Spread (ATM) | Debit | N | N | N | N | Y | Y | N | Negates | Negates | |
| 7 | 4 | Bear Put Vertical Spread (ATM) | Debit | N | Y | Y | N | N | N | N | Negates | Negates | |
| 8 | 5 | Call Horizontal Spread | Debit | N | N | N | N | Y | Y | N | Benefits | Benefits | |
| 9 | 6 | Bull Call Diagonal Spread | Debit | N | N | N | Y | Y | Y | N | Benefits | Benefits | |
| 10 | 7 | Straddle | Debit | Y | Y | N | N | N | Y | Y | Benefits | Hurts | |
| 11 | 8 | Strangle | Debit | Y | Y | N | N | N | Y | Y | Benefits | Hurts | |
| 12 | 9 | Put Horizontal Spread | Debit | N | Y | Y | N | N | N | N | Benefits | Benefits | |
| 13 | 10 | Bear Put Diagonal Spread | Debit | N | Y | Y | Y | N | N | N | Benefits | Benefits | |
| 14 | 11 | Call Ratio Backspread | Credit | N | N | N | N | N | Y | Y | Benefits | Hurts | |
| 15 | 12 | Put Ratio Backspread | Credit | Y | Y | N | N | N | N | N | Benefits | Hurts | |

Strategies Matrix – everyone receives a copy

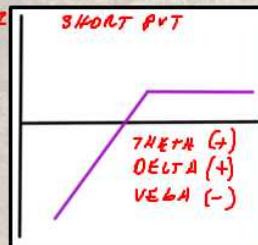
LONG CALL
LONG PUT
SHORT CALL
SHORT PUT

QUIZ

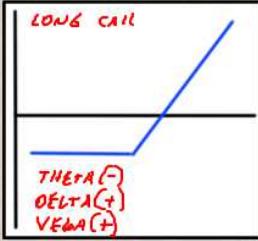
#1



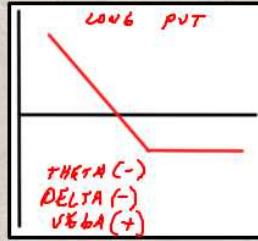
#2



#3



#4





STRIKE PRICES

- ❖ A Contract between a Buyer and Seller, that gives the buyer the right, but not the obligation to buy or to sell a specific stock at a specific price on or before a specific date in exchange for a market premium
- ❖ ITM, ATM, and OTM
- ❖ Strike price selection is key for each strategy





STRIKE PRICES

- ❖ A Contract between a Buyer and Seller, that gives the buyer the right, but not the obligation to buy or to sell a specific stock at a specific price on or before a specific date in exchange for a market premium
- ❖ ITM, ATM, and OTM
- ❖ Strike price selection is key for each strategy



Connected Delayed data, Jul, 31 12:48:06, Account: D-10961925 (margin)

Option BP \$105,145.25 Stock BP \$210,290.50 Net Lig \$123,612.25 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Add Simulated Trades Risk Profile Probability Analysis thinkBack Fundamentals

SPY SPDR TR S&P 500 ETF TR ETB B: 211.17 +.35 A: 211.18 211.17 +0.17

UNDERLYING

| Last X | Net Chng | Bid X | Ask X | Size | Volume | Open | High | Low |
|----------|----------|----------|----------|----------|------------|--------|--------|--------|
| 211.17 Z | +.35 | 211.17 K | 211.18 M | 58 x 502 | 37,073,569 | 211.42 | 211.45 | 210.51 |

OPTION CHAIN Filter: Off Spread: Single Layout: Volume, Open Interest

| CALLS | | | | PUTS | | | | | |
|--|----------|--------|--------|--------|--------|--------|--------|--------|----------|
| Volume | Open Int | Bid X | Ask X | Exp | Strike | Bid X | Ask X | Volume | Open Int |
| SEP 15 (49) 100 13.60% (+8,477) | | | | | | | | | |
| 44 | 10,665 | 7.06 C | 7.13 M | SEP 15 | 206 | 2.30 N | 2.31 X | 1,319 | 47,913 |
| 375 | 16,858 | 6.30 Q | 6.33 Q | SEP 15 | 207 | 2.55 Q | 2.56 X | 1,100 | 31,754 |
| 827 | 15,347 | 5.55 Q | 5.57 Z | SEP 15 | 208 | 2.84 Q | 2.85 X | 9,032 | 54,704 |
| 8,315 | 18,398 | 4.82 Q | 4.86 Q | SEP 15 | 209 | 3.16 I | 3.17 Q | 10,774 | 55,150 |
| 2,336 | 41,010 | 4.13 Q | 4.16 Q | SEP 15 | 210 | 3.51 Z | 3.53 Q | 2,647 | 64,072 |
| 2,218 | 27,146 | 3.49 Q | 3.51 Q | SEP 15 | 211 | 3.91 Q | 3.93 Q | 1,975 | 28,285 |
| 12,927 | 33,282 | 2.88 X | 2.90 I | SEP 15 | 212 | 4.35 Q | 4.38 Q | 10,925 | 35,721 |
| 1,684 | 30,043 | 2.33 Q | 2.35 Q | SEP 15 | 213 | 4.84 N | 4.87 Q | 569 | 25,045 |
| 2,323 | 29,411 | 1.83 Q | 1.85 Q | SEP 15 | 214 | 5.35 M | 5.44 M | 37 | 3,852 |
| 4,566 | 126,950 | 1.40 Q | 1.42 Q | SEP 15 | 215 | 5.94 A | 6.06 X | 636 | 4,954 |
| 4,281 | 22,368 | 1.04 Q | 1.05 Q | SEP 15 | 216 | 6.62 X | 6.76 M | 74 | 3,327 |
| 898 | 35,082 | .74 Q | .76 C | SEP 15 | 217 | 7.36 X | 7.50 A | 120 | 3,584 |
| 6,047 | 34,372 | .51 Q | .53 Q | SEP 15 | 218 | 8.19 A | 8.32 A | 5 | 3,130 |

PRICE SLICES

POSITIONS AND SIMULATED TRADES

| ALL Show All | All 2 series | Single Symbol | Model | Bjerk sund-Stensland | Interest | 0.25% | Date | 7/31/15 |
|---|--------------|---------------|--------|----------------------|----------|--------|--------|-----------|
| Spread | Side | Qty Symbol | Exp | Strike Type | Price | Vol | Delta | BP Effect |
| <input checked="" type="checkbox"/> SPY | | | | | | | | |
| <input checked="" type="checkbox"/> STK | | 0 SPY | | | .00 | 12.48% | .00 | \$0.00 |
| <input checked="" type="checkbox"/> OPT | LONG | +9 SPY | AUG 15 | 195 PUT | 1.15 | 17.76% | -30.43 | - |
| <input checked="" type="checkbox"/> OPT | SHORT | -9 SPY | AUG 15 | 197 PUT | 1.37 | 16.52% | 39.30 | - |
| <input checked="" type="checkbox"/> OPT | LONG | +10 SPY | AUG 15 | 200 PUT | .59 | 15.08% | -72.08 | - |

SPY strikes are 1.00 apart

Connected Delayed data, Jul, 31 12:51:25, Account: D-10961925 (margin)

Option BP \$105,150.85 Stock BP \$210,301.70 Net Lig \$123,594.75 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Add Simulated Trades Risk Profile Probability Analysis thinkBack Fundamentals

GOOGL GOOGLE INC CL A ETB NASDAQ B: 661.24 661.43 -3.13 A: 661.45 -0.47%

UNDERLYING

| Last X | Net Chng | Bid X | Ask X | Size | Volume | Open | High | Low |
|----------|----------|----------|----------|-------|---------|--------|----------|--------|
| 661.43 Q | -3.13 | 661.24 Q | 661.45 K | 2 x 1 | 698,267 | 664.70 | 664.9999 | 657.20 |

OPTION CHAIN Filter: Off Spread: Single Layout: Volume, Open Interest

| CALLS | | | | PUTS | | | | | |
|--|----------|---------|---------|---------|--------|---------|---------|--------|----------|
| Volume | Open.Int | Bid X | Ask X | Exp | Strike | Bid X | Ask X | Volume | Open.Int |
| AUG1 15 (7) 100 (Weekly) 19.66% (± 15.23) | | | | | | | | | |
| 5 | 51 | 13.80 C | 15.10 C | AUG1 15 | 650 | 3.10 C | 3.40 X | 1,083 | 850 |
| 1 | 11 | 12.10 C | 13.10 X | AUG1 15 | 652.5 | 3.60 C | 4.30 M | 61 | 47 |
| 43 | 27 | 10.40 C | 11.40 X | AUG1 15 | 655 | 4.60 C | 5.10 X | 238 | 138 |
| 58 | 61 | 8.90 C | 9.90 A | AUG1 15 | 657.5 | 5.40 C | 6.20 C | 46 | 126 |
| 151 | 671 | 7.90 C | 8.40 C | AUG1 15 | 660 | 6.50 X | 6.90 I | 464 | 889 |
| 141 | 147 | 6.40 C | 7.20 X | AUG1 15 | 662.5 | 7.50 C | 8.50 M | 43 | 85 |
| 262 | 343 | 5.30 C | 6.00 A | AUG1 15 | 665 | 8.80 C | 9.90 C | 92 | 115 |
| 34 | 40 | 4.30 C | 5.00 X | AUG1 15 | 667.5 | 10.40 C | 11.40 C | 6 | 8 |
| 445 | 501 | 3.60 X | 4.10 X | AUG1 15 | 670 | 11.90 C | 13.00 C | 20 | 214 |
| 133 | 68 | 2.80 C | 3.40 C | AUG1 15 | 672.5 | 13.70 X | 14.90 C | 16 | 2 |
| 646 | 613 | 2.25 X | 2.70 X | AUG1 15 | 675 | 15.60 C | 16.80 A | 7 | 129 |
| 36 | 19 | 1.70 C | 2.20 C | AUG1 15 | 677.5 | 16.60 C | 19.40 C | 2 | 22 |

PRICE SLICES

POSITIONS AND SIMULATED TRADES

| ALL Show All | Expiration Series | Single Symbol | Model | Bjerk sund-Stensland | Interest | 0.25% | Date | 7/31/15 |
|---|---|---------------|-------|----------------------|----------|--------|-------|-----------|
| Spread | Side | Qty Symbol | Exp | Strike Type | Price | Vol | Delta | BP Effect |
| <input checked="" type="checkbox"/> GOOGL | <input checked="" type="checkbox"/> STK | 0 GOOGL | | STOCK | .00 | 20.59% | .00 | \$0.00 |

The GOOGL Aug1 weekly expiration has 2.50 strikes (amazing number of strikes)

Connected Delayed data, Jul, 31 12:53:46, Account: D-10961925 (margin)

Option BP \$105,182.25 Stock BP \$210,364.50 Net Lig \$123,597.25 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Add Simulated Trades Risk Profile Probability Analysis thinkBack Fundamentals

YELP YELP INC COM Company Profile ETB NASDAQ B: 27.40 27.41 +1.38 A: 27.41 +5.30%

UNDERLYING

| Last X | Net Chng | Bid X | Ask X | Size | Volume | Open | High | Low |
|---------|----------|---------|---------|-------|-----------|-------|-------|-------|
| 27.41 D | +1.38 | 27.40 P | 27.41 P | 2 x 1 | 4,220,140 | 25.69 | 27.48 | 25.69 |

OPTION CHAIN Filter: Off Spread: Single Layout: Volume, Open Interest

| CALLS | | | | PUTS | | | | | |
|-----------------|----------|--------|--------|--------|--------|--------|--------|--------|-----------------|
| Volume | Open Int | Bid X | Ask X | Exp | Strike | Bid X | Ask X | Volume | Open Int |
| SEP 15 (49) 100 | | | | | | | | | 47.08% (+3,844) |
| 0 | 169 | 4.30 A | 5.90 X | SEP 15 | 22 | .20 C | .45 A | 19 | 291 |
| 0 | 40 | 3.20 A | 5.00 A | SEP 15 | 23 | .35 C | .60 C | 29 | 376 |
| 2 | 55 | 3.20 X | 4.20 X | SEP 15 | 24 | .55 N | .70 C | 33 | 262 |
| 27 | 346 | 3.00 X | 3.40 A | SEP 15 | 25 | .75 C | .90 C | 3 | 281 |
| 40 | 523 | 2.50 C | 2.75 X | SEP 15 | 26 | 1.10 C | 1.30 C | 4 | 11 |
| 229 | 3,985 | 1.95 X | 2.15 C | SEP 15 | 27 | 1.50 C | 1.75 C | 2 | 88 |
| 12 | 79 | 1.45 X | 1.65 C | SEP 15 | 28 | 2.00 X | 2.25 A | 1 | 84 |
| 0 | 14 | 1.00 X | 1.25 C | SEP 15 | 29 | 2.65 X | 2.90 A | 0 | 62 |
| 59 | 321 | .80 C | .95 C | SEP 15 | 30 | 3.30 A | 3.90 X | 25 | 1,973 |
| 13 | 61 | .55 X | .70 A | SEP 15 | 31 | 4.00 X | 4.80 C | 1 | 77 |
| 1 | 443 | .40 X | .55 A | SEP 15 | 32 | 4.90 X | 5.80 C | 41 | 112 |
| 1 | 51 | .25 X | .40 A | SEP 15 | 33 | 5.70 A | 7.60 C | 3 | 4,815 |
| 104 | 214 | .20 N | .30 A | SEP 15 | 34 | 6.60 A | 8.60 C | 0 | 2,128 |

PRICE SLICES

POSITIONS AND SIMULATED TRADES

| ALL Show All | Expiration Series | Single Symbol | Model | Bjerkens-Stensland | Interest | 0.25% | Date | 7/31/15 |
|--|---|---------------|-------|--------------------|----------|--------|-------|-----------|
| Spread | Side | Qty Symbol | Exp | Strike Type | Price | Vol | Delta | BP Effect |
| <input checked="" type="checkbox"/> YELP | <input checked="" type="checkbox"/> STK | 0 YELP | | STOCK | .00 | 46.18% | .00 | \$0.00 |
| | | | | | | | | \$0.00 |

YELP has 1.00 strikes

<http://www.cboeoptionshub.com/2013/04/11/expiration-saturday-soon-to-be-gone/>

EXPIRATION DATES

- ❖ What is the last day that an option can be traded and exercised *MOST IMPORTANT QUESTION*
- ❖ A stock option legally expires Friday at 4 pm Eastern
- ❖ Options settle either ITM, or OTM, Friday at 4 pm Eastern
- ❖ 0.01 ITM = automatic exercise
- ❖ Legal expiration used to be Saturday at 12 pm Eastern – it was changed after February 2015 expiration
- ❖ If Friday of expiration is a market holiday, then Thursday is the last trading day
[http://www.cboeoptionshub.com/2013/04/11/
expiration-saturday-soon-to-be-gone/](http://www.cboeoptionshub.com/2013/04/11/expiration-saturday-soon-to-be-gone/)



WEEKLYS AND LEAPS

- ❖ Long-term Equity AnticiPation SecuritiesSM (LEAPS) at CBOE
 - Expirations greater than 8 months
 - January is the typical expiration month, *SOMETIMES JUNE*
 - Listed 2-3 years out
 - Calls and puts
- ❖ Weekly expirations
 - Liquid stocks, ETFs, and indexes
 - Expiration is each Friday
 - 3-4 weeks out
 - Mar4 = last trading day is the 4th Friday of March
 - Feb2 = last trading day is the 2nd Friday of March



CASH SETTLED OPTIONS = SPX, RUT, NDX, VIX (LAST TRADE THURSDAY)

WEEKLYS AND LEAPS

- ❖ Long-term Equity AnticiPation SecuritiesSM (LEAPS) at CBOE
 - Expirations greater than 8 months
 - January is the typical expiration month, *SOMETIMES JUNE*
 - Listed 2-3 years out
 - Calls and puts
- ❖ Weekly expirations
 - Liquid stocks, ETFs, and indexes
 - Expiration is each Friday
 - 3-4 weeks out
 - Mar4 = last trading day is the 4th Friday of March
 - Feb2 = last trading day is the 2nd Friday of March



PREMIUM

- ❖ A Contract (**100 shares**) between a Buyer and Seller, that gives the buyer the right, but not the obligation to buy (**call**) or to sell (**put**) a specific stock (**underlying security**) at a specific (**strike**) price on or before a specific (**expiration**) date in exchange for a market premium
- ❖ Premium is the price of the option
 - ① Intrinsic value
 - ② Extrinsic value





INTRINSIC VALUE

- ❖ Intrinsic value is the amount of money that could be realized if we exercise an option
- ❖ Only ITM options have intrinsic value
- ❖ It is the distance ITM



INTRINSIC VALUE

- ❖ If we BTO the March 126 call @ \$5.50, then exercise the contract
 - ❖ What is the net result? ~~5.50 COST - 3.56 INTRINSIC = -1.94 LOSS~~
 - ❖ Does it make sense to exercise the contract? ~~NO! SELL TO CLOSE~~



ITM, ATM, AND OTM

CALLS, OR PUTS

❖ ITM

- Sensitivity to time low
- Sensitivity to volatility low
- Sensitivity to price move high

❖ ATM

- Sensitivity to time high
- Sensitivity to volatility high
- Sensitivity to price move 0.50 A, \$0.50 on \$1.00 move

❖ OTM

- Sensitivity to time low
- Sensitivity to volatility low
- Sensitivity to price move low



ITM, ATM, AND OTM

LET'S TAKE A QUIZ

The screenshot shows a financial trading platform displaying an option chain for a stock. The top header includes fields for Last X, Net Chng, Bid X, Ask X, Size, Volume, Open, High, and Low. Below this, the 'OPTION CHAIN' section has a 'Filter: Off' button and a 'Spread: Single' dropdown. The 'Layout' dropdown is set to 'Position, Intrinsic, Extrinsic'. The main table is divided into two sections: 'CALLS' (highlighted with a red circle) and 'PUTS' (highlighted with a red circle). The 'CALLS' section shows various option contracts with columns for Position, Intrinsic, Extrinsic, Bid X, Ask X, Exp, Strike, and Price. The 'PUTS' section shows similar data for put options. Handwritten annotations 'ITM' and 'OTM' are written in red across the rows of the table.

| OPTION CHAIN | | Filter: Off | Spread: Single | Layout: Position, Intrinsic, Extrinsic | | | | | | | | |
|-------------------|-----------|-------------|----------------|--|--------|--------|--------|--------|----------|-----------|-----------|--|
| Position | Intrinsic | Extrinsic | Bid X | Ask X | Exp | Strike | Bid X | Ask X | Position | Intrinsic | Extrinsic | |
| - MAR 15 (21) 100 | | | | | | | | | | | | |
| | 4.56 | 1.84 | 8.15 C | 8.25 C | MAR 15 | 125 | 1.58 O | 1.60 C | | 0 | 1.59 | |
| <i>ITM</i> | 3.56 | 1.94 | 5.45 A | 5.65 C | MAR 15 | 126 | 1.88 Q | 1.90 N | | 0 | 1.89 | |
| | 2.56 | 2.28 | 4.80 C | 4.80 C | MAR 15 | 127 | 2.22 W | 2.24 N | | 0 | 2.23 | |
| | 1.56 | 2.885 | 4.20 X | 4.25 C | MAR 15 | 128 | 2.62 Q | 2.63 N | | 0 | 2.625 | |
| | 56 | 3.115 | 3.65 A | 3.70 C | MAR 15 | 129 | 3.05 C | 3.10 C | | 0 | 3.075 | |
| | 0 | 3.175 | 3.15 I | 3.20 C | MAR 15 | 130 | 3.55 H | 3.60 C | | .44 | 3.135 | |
| <i>OTM</i> | 0 | 2.71 | 2.70 Q | 2.72 M | MAR 15 | 131 | 4.10 W | 4.15 C | | 1.44 | 2.685 | |
| | 0 | 2.30 | 2.29 Q | 2.31 Q | MAR 15 | 132 | 4.65 C | 4.75 C | | 2.44 | 2.26 | |
| | 0 | 1.935 | 1.93 H | 1.94 Z | MAR 15 | 133 | 5.30 C | 5.40 C | | 3.44 | 1.91 | |
| | 0 | 1.62 | 1.61 C | 1.63 Z | MAR 15 | 134 | 6.00 I | 6.10 A | | 4.44 | 1.61 | |
| | | | | | MAR 15 | 135 | | | | | | |



EXTRINSIC VALUE

- ❖ All options have extrinsic value
- ❖ Also known as “time value”
- ❖ ATM strike typically have the greatest amount of extrinsic value



EXTRINSIC VALUE

XYZ @ \$40 per Share
We BTO the 35.00 call
Premium - the intrinsic value = extrinsic value

| Option Strike | Price of Option | | | | |
|---------------|-----------------|--------------|-----------------|-----------------|--------|
| 50 | .35 | \$1.05 | - \$0.00 | = | \$1.05 |
| 45 CALL | \$1.05 | \$2.70 | - \$0.00 | = | \$2.70 |
| (Am) 40 CALL | \$2.70 | Option Price | Intrinsic Value | Extrinsic Value | |
| 35 CALL | \$5.70 | 5.70 | - | 5.00 | = .70 |



<https://www.youtube.com/watch?v=lmvxZgnwwD4>

Nice documentary

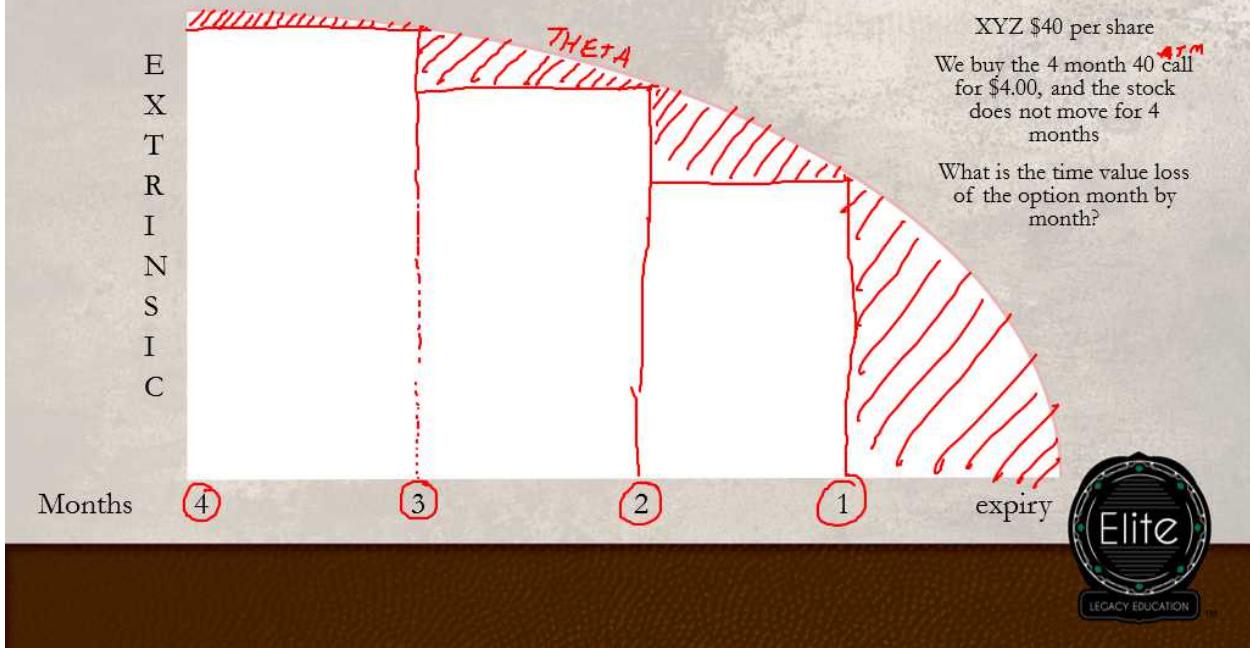
WHAT DETERMINES EXTRINSIC VALUE

- ① ♦ Time remaining to expiration
 - 100 days out **EXPENSIVE**
 - 10 days out
- ② ♦ Volatility of the underlying security
 - NFLX **EXPENSIVE**
 - CSCO
- ③ ♦ Interest rates
- ④ ♦ Stock price
 - \$400.00 per share **EXPENSIVE**
 - \$40.00 per share
- ⑤ ♦ Dividends
- ⑥ ♦ Strike price
 - ITM **EXPENSIVE**
 - OTM **INEXPENSIVE**



$$\left(\frac{\text{HOLD 10 DAYS}}{\text{500 DAYS OUT}} \right)^L = \frac{10 \text{ YTD}}{30 \times 30} = \frac{100}{900} = 11.1\%$$

TIME DECAY (THETA)



Connected Delayed data, Jul, 31 15:09:33, Account: D-10961925 (margin)

Option BP \$104,938.45 Stock BP \$209,876.90 Net Lig \$123,365.75 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Add Simulated Trades Risk Profile Probability Analysis thinkBack Fundamentals

LNKD LINKEDIN CORPORATION COM Company Profile ETB NASDAQ B: 202.96 -24.185 A: 202.87 202.965 -10.65%

UNDERLYING

| Last X | Net Chng | Bid X | Ask X | Size | Volume | Open | High | Low |
|-----------|----------|----------|----------|-------|-----------|--------|--------|--------|
| 202.965 D | -24.185 | 202.96 N | 202.97 P | 6 x 2 | 8,396,002 | 207.81 | 209.90 | 200.73 |

OPTION CHAIN Filter: Off Spread: Single Layout: Theta, Intrinsic, Extrinsic

| CALLS | | | | | PUTS | | | | | | |
|---------------------------------|-----------|-----------|---------|---------|---------|--------|---------|---------|-------|-----------|-------------------------|
| Theta | Intrinsic | Extrinsic | Bid X | Ask X | Exp | Strike | Bid X | Ask X | Theta | Intrinsic | Extrinsic |
| AUG1 15 (7) 100 (Weekly) | | | | | | | | | | | 34.04% (\$8,047) |
| .16 | 27.965 | .585 | 27.10 C | 30.00 C | AUG1 15 | 175 | .01 X | .08 X | -.02 | 0 | .045 |
| .14 | 22.965 | .51 | 22.35 C | 24.60 C | AUG1 15 | 180 | .08 A | .15 Q | -.05 | 0 | .115 |
| .18 | 20.465 | .785 | 19.95 C | 22.55 I | AUG1 15 | 182.5 | .14 W | .21 X | -.06 | 0 | .175 |
| .19 | 17.965 | .885 | 17.55 C | 20.15 C | AUG1 15 | 185 | .25 Z | .29 X | -.08 | 0 | .27 |
| .18 | 15.465 | .86 | 15.10 A | 17.55 C | AUG1 15 | 187.5 | .34 A | .44 X | -.10 | 0 | .39 |
| .18 | 12.965 | .935 | 12.75 A | 15.05 C | AUG1 15 | 190 | .53 Q | .60 X | -.13 | 0 | .565 |
| .22 | 10.465 | 1.41 | 10.85 C | 12.90 C | AUG1 15 | 192.5 | .76 X | .85 N | -.15 | 0 | .805 |
| .23 | 7.965 | 1.685 | 8.80 C | 10.50 C | AUG1 15 | 195 | 1.19 A | 1.29 X | -.18 | 0 | 1.24 |
| .21 | 5.465 | 1.835 | 7.10 A | 7.50 A | AUG1 15 | 197.5 | 1.77 Q | 1.91 A | -.21 | 0 | 1.84 |
| .24 | 2.965 | 2.685 | 5.50 C | 5.80 A | AUG1 15 | 200 | 2.55 X | 2.87 X | -.23 | 0 | 2.61 |
| .25 | .465 | 3.735 | 4.00 C | 4.40 A | AUG1 15 | 202.5 | 3.55 C | 3.80 X | -.24 | 0 | 3.675 |
| .24 | 0 | 3.02 | 2.89 A | 3.15 X | AUG1 15 | 205 | 4.75 X | 5.15 X | -.23 | 2.035 | 2.915 |
| .22 | 0 | 2.07 | 2.00 A | 2.14 X | AUG1 15 | 207.5 | 6.35 C | 6.80 A | -.21 | 4.535 | 2.04 |
| .19 | 0 | 1.36 | 1.32 X | 1.40 Z | AUG1 15 | 210 | 8.20 X | 8.60 X | -.19 | 7.035 | 1.365 |
| .16 | 0 | .86 | .95 N | .94 Y | AUG1 15 | 212.5 | 10.10 Y | 10.95 C | -.17 | 9.535 | .90 |

PRICE SLICES

POSITIONS AND SIMULATED TRADES

| ALL Show All | Expiration Series | Single Symbol | Model | Bjerkstrand-Stensland | Interest | 0.25% | Date | 7/31/15 |
|--------------|---|---------------|-------|-----------------------|----------|--------|-------|-----------|
| Spread | Side | Qty Symbol | Exp | Strike Type | Price | Vol | Delta | BP Effect |
| LNKD | <input checked="" type="checkbox"/> STK | 0 LNKD | | STOCK | .00 | 31.89% | .00 | \$0.00 |
| | | | | | | | | \$0.00 |

We have selected Theta for our option chain – LNKD August1 weekly expiration

Theta for the August1 weekly 202.50 call = -0.25, so the option is losing 0.25 per day due to time decay

Xyz \$100.00

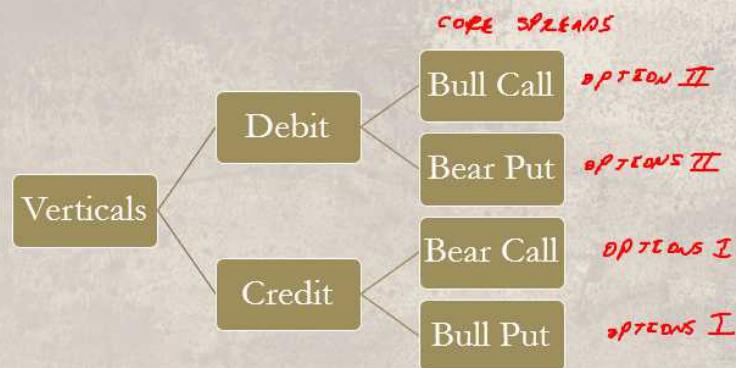
VERTICAL
HORIZONTAL
SEASONAL

TABLE OF SPREADS

| April | May | Aug | Oct | Jan |
|-------|-----|-----|-----|-----|
| 100 | 100 | 100 | 100 | 100 |
| 105 | 105 | 105 | 105 | 105 |
| 110 | 110 | 110 | 110 | 110 |



VERTICAL SPREADS

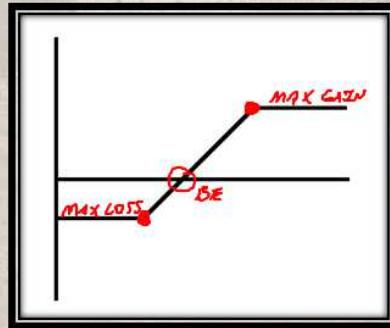


Why do spreads make sense vs. individual option position

1. Less cost/ defined risk
2. Better ability to fit market conditions
3. More consistency
4. Control time decay (Theta)
5. Control exposure to volatility (Vega)
6. Higher ROI for a typical market movement

BULL CALL

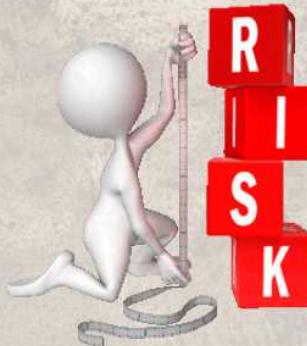
- ✓❖ Outlook -3-2-1 → (1 2) 5
 - Bullish
- ✓❖ Max gain
 - Spread between strikes – net debit
- ✓❖ Risk
 - Net debit
- ✓❖ Probability of profit ~~DEPP.~~
 - Delta of the higher strike call
- ✓❖ Expiration break-even
 - Lower strike call + net debit



BULL CALL GREEKS

- ✓ ♦ Positive Delta
 - Profit as stock rises
- ✓ ♦ Negative Theta *⇒ ENTRY*
 - Time decay hurts
- ♦ Positive Gamma
 - Rate of gain accelerates as stock price rises
- ✓ ♦ Positive Vega
 - Profit as volatility increases

*1) ENTER WHEN IV. LOW
2) OK TO HOLD THROUGH NEWS*



BULL CALL STRUCTURE

- ❖ The Bull Call spread is generally used when we anticipate a moderate rise in a particular stock
- ❖ Lower-risk than owning the stock, or a straight call option
- ❖ Structure involves BTO lower strike calls while at the same time STO an equal number of higher strike calls
- ❖ Same expiration on both “legs” of the spread



BULL CALL CASE STUDY

JAN 18TH, 2014 XYZ is trading for \$200

- ❖ BTO April 200 call for \$8, Delta 0.50
 - Right to buy ^(ATM) @ \$200 ^{COST}
- ❖ Sell April 215 call for \$2, Delta 0.25
 - Obligated to sell ^(OTM) @ \$215 ^{COST}
- ❖ Risk-Reward
 - ① Net debit \$6
 - ② Max Risk \$6
 - ③ Breakeven 206.00 ($\$200 + \6 net debit) *LOW STRIKE + NET DEBIT*
 - ④ Probability of profit (POP) 25% *2 EXP.*



If we double the Delta of the higher strike call, then this equals the probability of touching. Our target is the higher strike.

BULL CALL GUIDELINES

- ✓ 1. Moderately bullish outlook (traditional up-trend is best) – think higher highs + higher lows
- ✗ 2. Use an expiration that is at least 3 months out
- ✗ 3. BTO and STO an equal number of contracts
- ✗ 4. Enter so that cost (net debit) is $\leq 40\%$ of the spread (distance between the strikes)
- ✓ 5. The net Delta of trade should be ≥ 0.25
- ✓ 6. Make sure there is plenty liquidity in the options
- ✓ 7. Check for news – it is fine to hold through earnings



#1 BULLISH TREND

- ❖ We want to trade with the trend
- ❖ Don't second guess the trend
- ❖ Higher highs + higher lows
- ❖ What is the velocity of the stock?



#1 BULLISH TREND

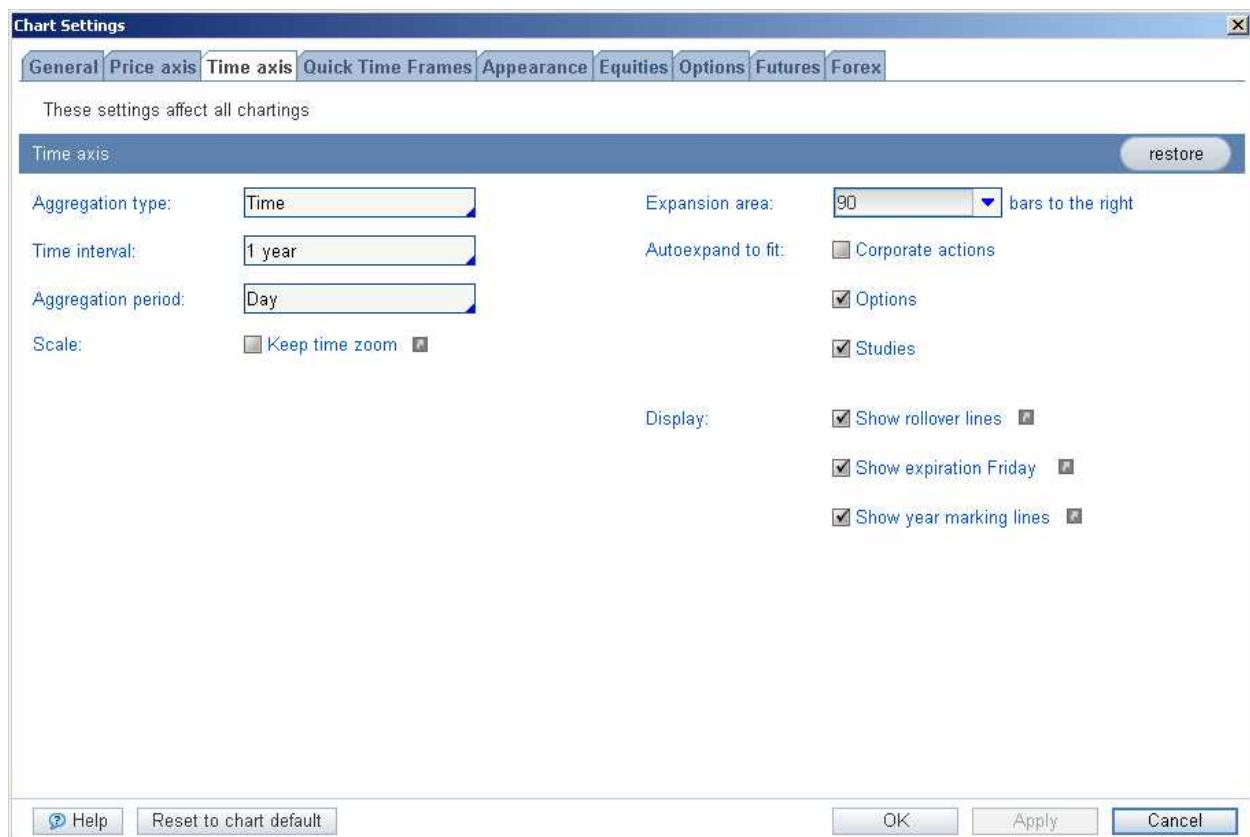




PANW possible Bull Call candidate

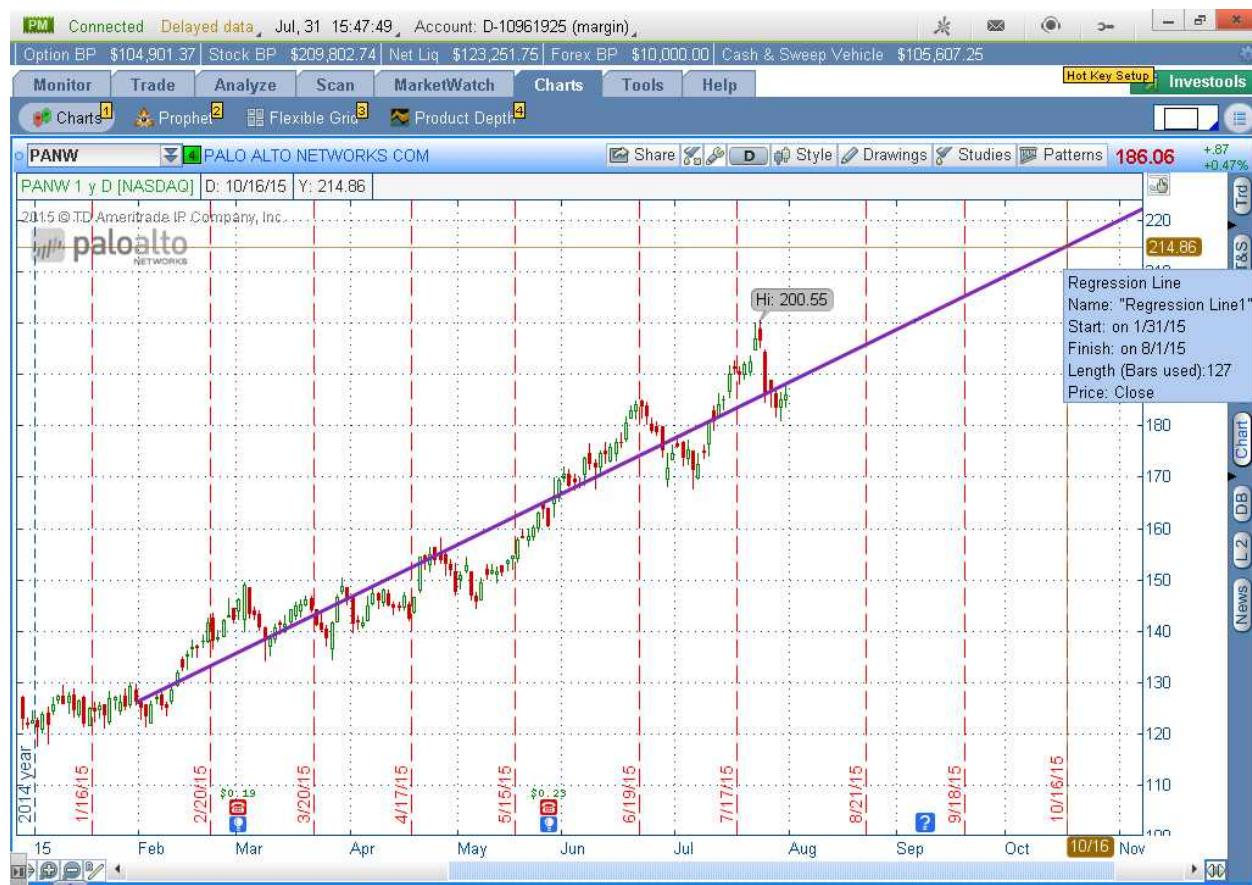
Regression line is place

1. Drawings (top of chart)
2. Regression line
3. Left click to start line
4. Drag right across chart
5. Left click again to set line



Change right expansion settings

Small double arrow at the bottom right of chart



By October expiration, based on regression analysis, the 10/16/15 target is approximately 215.00

#2 EXPIRATION DATE

- ❖ NOC has moved up from \$120.00 to \$170.00 in 4.5 months which is an average monthly move of roughly \$ 11.11 per month
- ❖ We are expecting NOC to move up \$20 per share, and based on its current trend it would take 2 months
- ❖ With March expiration quickly approaching, we would look at JUNE expiration to trade a \$20.00 move 2/27/18
- ❖ We do not have to hold the position until JUNE, but we want plenty of time





#3 EQUAL NUMBER OF CONTRACTS

- ❖ For a bull call spread, we always BTO and STO an equal number of contracts
- ❖ Never sell more contracts than we own
- ❖ If we STO more contracts than we BTO, then we will be in a naked position





#3 EQUAL NUMBER OF CONTRACTS

- ❖ For a bull call spread, we always BTO and STO an equal number of contracts
- ❖ Never sell more contracts than we own
- ❖ If we STO more contracts than we BTO, then we will be in a naked position



#4 COST

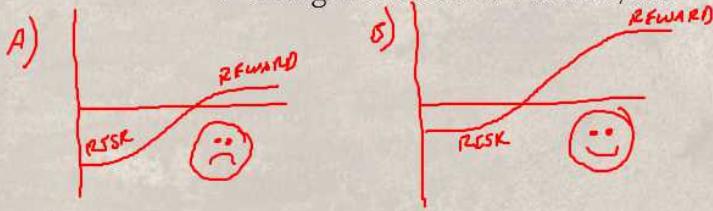
- ❖ Enter so that the maximum cost is $\leq 40\%$ of the spread

- ❖ The spread is the difference between the strikes that we buy and sell

870 200 CALL } 20.00 SPREAD
570 200 CALL } \$8 NET DEBIT

- ❖ This gives us a 1.5 to 1 reward/risk

10.00 SPREAD
\$4 NET DEBIT



#4 COST

- ❖ The net debit (cost) of the bull call spread is

function of:

- ✓ Time until expiration
- ✓ Underlying stock price
- ✓ Spread between strikes (*TRY TO KEEP STRIKES CLOSE*)
- ✓ Using ATM vs. OTM

- ❖ We want the net debit \leq 40% of the spread

- ❖ Remember that net Delta must be ≥ 0.25 (more on this later)

$$\begin{array}{r} \cancel{142} \quad 0 \quad 200.00 \\ 1310 \quad 200 \quad \text{CALL} \quad \Delta = 0.50 \\ 570 \quad 210 \quad \text{CALL} \quad \underline{\Delta = 0.20} \\ \hline \text{NET } \Delta = 0.30 \end{array}$$



#5 NET DELTA Δ

- ❖ What is Delta
- ❖ Delta is the rate of change of the option premium in relation to a \$1.00 increase in the price of the underlying
- ❖ Delta = dollar gain of option premium
- ❖ How sensitive is the option to stock price movement?



#5 NET DELTA Δ

❖ Model inputs:

Price of the stock ~~\$1.00 up~~
Days Until Expiration day ~~C~~
Interest Rate ~~C~~
Dividend ~~C~~
Strike price ~~C~~
Volatility ~~C~~

Theoretical option price = $pN(d_1) - se^{-rt}N(d_2)$
where $d_1 = \frac{\ln(p/s) + (r + 1/2\sigma^2)t}{\sigma\sqrt{t}}$
and $d_2 = d_1 - \sigma\sqrt{t}$
Variables:
 p = stock price s = strike price t = time until expiration
 r = current risk-free interest rate (% of a year)
 σ = volatility (Annual Std. Deviation) \ln = natural logarithm
 $N(x)$ = cumulative normal density function

❖ The theoretical value of the option is calculated off of the above variables



#5 NET DELTA Δ

- ❖ Stocks have a fixed Delta
- ❖ The Delta of stock is always 1.00
- ❖ \$1 rise in the price of the stock is equal to a \$1 gain or profit in the position
- ❖ \$1 fall in the price of the stock is equal to a \$1 loss in the position
- ❖ An option Delta can change
- ❖ Option Delta will range between 0 and 1.00
- ❖ If Delta closer to 0 it is OTM
- ❖ If Delta close to .50 it is ATM
- ❖ If Delta closer to 1.00 it is ITM



#5 NET DELTA Δ

X4Z 40.00 40.00 CALL $\Delta = 0.50$

| Stock Price | Premium | Delta | Gamma = <i>DELTA OF DELTA</i> |
|-------------|---------|---------------|-------------------------------|
| 42 | 5.03 | 0.56 Δ | 0.02 |
| 41 | 4.50 | 0.53 Δ | 0.03 |
| 40 | 4.00 | 0.50 Δ | 0.03 |
| 39 | 3.50 | 0.47 | 0.03 |
| 38 | 2.97 | 0.44 | 0.02 |
| 37 | 2.44 | 0.42 | 0.02 |



Gamma is the acceleration (gas pedal) and Delta is the velocity and direction

#5 NET DELTA Δ

- ❖ The bull call spread consists of buying one (or more) lower-strike calls and selling one (or more) higher-strike calls
- ❖ We BTO and STO an equal number of contracts
- ❖ The options that we buy and sell will have different Deltas
- ❖ XYZ @ 100
 - BTO XYZ 100 call Delta = 0.50
 - STO XYZ 110 call Delta = 0.25
 - Net Delta = 0.25



Northrop Grumman Corp Holding Co

| Symbol | Last | Change | Bid | Ask | High | Low | Volume | Chart |
|--------|--------|---------|--------|------|--------|--------|-----------|-------|
| NOC | 167.10 | +1.39 ▲ | 164.61 | 0.00 | 167.73 | 165.47 | 2,354,150 | |

Time & Sales | Chart | Volatility View | News

Dividend Information* Dividend Frequency Div Date (mm/dd/yyyy) Int Rate

Include Dividends n/a n/a n/a 1.00 %

NOC Expiration Months: Mar15 | Apr15 | May15 | Aug15 | Jan16 *2/27/15*

| Last | Chg | Bid | Ask | Imp. Vol | Delta | Action | Calls | | | | | | Puts | | | | | | <input type="checkbox"/> Disable Roll Overs |
|-------------------------|-------|-------|-------|----------|-------|----------------|--------------------------|-------------------|-------|-------|-------|----------|-------|--------|----------------|--------------------------|--|--|---|
| | | | | | | | ▲ Strike ▼ | Last | Chg | Bid | Ask | Imp. Vol | Delta | Action | | | | | |
| May15 Calls | | | | | | | | May15 Puts | | | | | | | | | | | |
| (74 days to expiration) | | | | | | | | NOC @ 167.1 | | | | | | | | | | | |
| 22.57 | 0 | 21.60 | 23.90 | 20.3 | .9472 | Trade Detail | <input type="checkbox"/> | 145.00 | 0.90 | +0.01 | 0.80 | 0.95 | 25.3 | -.0937 | Trade Detail | <input type="checkbox"/> | | | |
| 20.80 | 0 | 17.90 | 18.90 | 21.6 | .8804 | Trade Detail | <input type="checkbox"/> | 150.00 | 1.35 | 0 | 1.20 | 1.35 | 23.4 | -.1367 | Trade Detail | <input type="checkbox"/> | | | |
| 14.00 | 0 | 13.60 | 14.30 | 19.8 | .8183 | Trade Detail | <input type="checkbox"/> | 155.00 | 2.00 | -0.05 | 1.85 | 2.10 | 22.0 | -.2032 | Trade Detail | <input type="checkbox"/> | | | |
| 10.10 | +0.20 | 9.70 | 10.40 | 19.0 | .7174 | Trade Detail | <input type="checkbox"/> | 160.00 | 3.10 | -0.25 | 2.90 | 3.10 | 20.4 | -.2945 | Trade Detail | <input type="checkbox"/> | | | |
| 6.60 | +0.10 | 6.40 | 6.80 | 17.8 | .5883 | Trade Detail | <input type="checkbox"/> | 165.00 | 4.82 | -0.28 | 4.50 | 4.70 | 19.3 | -.4159 | Trade Detail | <input type="checkbox"/> | | | |
| 4.00 | 0 | 3.70 | 4.10 | 16.8 | .4354 | Trade Detail | <input type="checkbox"/> | 170.00 | 7.10 | -0.40 | 6.70 | 7.10 | 18.3 | -.5568 | Trade Detail | <input type="checkbox"/> | | | |
| 2.05 | -0.05 | 1.95 | 2.15 | 16.1 | .2827 | Trade Detail | <input type="checkbox"/> | 175.00 | 9.00 | 0 | 9.90 | 10.20 | 17.8 | -.6952 | Trade Detail | <input type="checkbox"/> | | | |
| 1.00 | +0.10 | 0.85 | 1.05 | 15.6 | .1596 | Trade Detail | <input type="checkbox"/> | 180.00 | 12.70 | 0 | 13.70 | 14.30 | 18.2 | -.8003 | Trade Detail | <input type="checkbox"/> | | | |
| 0.41 | +0.01 | 0.30 | 0.50 | 15.3 | .0786 | Trade Detail | <input type="checkbox"/> | 185.00 | 0 | 0 | 17.30 | 19.80 | 19.8 | -.8591 | Trade Detail | <input type="checkbox"/> | | | |

Trade Calc | Mini Pricer | Watch List | Reset | Trade

NET Δ = 165 CALL Δ 0.5883 - 175 CALL Δ 0.2827 = 0.305 NET Δ 😊

#6 LIQUIDITY

- ❖ Open interest equals the number of open contracts for a particular strike and expiration
- ❖ We want 100 contracts of open interest on both legs
- ❖ Make sure there is volume somewhere in the expiration we are trading
- ❖ Look at open interest and volume on the option chain
- ❖ Birds in a tree 
- ❖ BTO and STO adds open interest, while BTC and STC reduces open interest
- ❖ Open interest = running total
- ❖ Volume = starts as 0 each day



#7 CHECK FOR NEWS

- ❖ Check for pending news
- ❖ Earnings reports
- ❖ What does this change
 - Exit plans
 - Position size
- ❖ Check on chart
- ❖ Earnings calendar



OK to hold through earnings, but we need to consider the following:

1. If we have a profitable position, then we might consider closing part, or all of it
2. If we plan on holding through earnings, and we haven't placed the trade, then consider reducing the # of contracts.
 - a. Normally I might risk 500.00 on a bull call
 - b. With earnings, I reduce the risk to 250.00

BULL CALL EXAMPLE

| Northrop Grumman Corp Holding Co | | | | | | | | | Time & Sales | Chart | Volatility View | News | | |
|--|---------|---------|--------|----------|----------------|----------------|-----------|-------|----------------------------------|---|---------------------------------|----------------------|-------------------|----------------|
| Symbol | Last | Change | Bid | Ask | High | Low | Volume | Chart | | | | | | |
| NOC | 167.10 | +1.39 ▲ | 164.61 | 0.00 | 167.73 | 165.47 | 2,354,150 | | | | | | | |
| Dividend Information* | | | | | | | | | Div Date (mm/dd/yyyy) | Int Rate | | | | |
| <input type="checkbox"/> Include Dividends | n/a | n/a | n/a | 1.00 % | <i>2/21/15</i> | | | | | | | | | |
| NOC Expiration Months: Mar15 Apr15 May15 Aug15 Jan16 | | | | | | | | | | | | | | |
| Calls | Actions | | | | Actions | | | | Puts | <input type="checkbox"/> Disable Roll Overs | | | | |
| Last | Chg | Bid | Ask | Imp. Vol | Delta | Action | Strike ▾ | Last | Chg | Bid | Ask | Imp. Vol | Delta | Action |
| May15 Calls (74 days to expiration) | | | | | | | | | NOC @ 167.1 | | | | May15 Puts | |
| 22.57 | 0 | 21.60 | 23.90 | 20.3 | .9472 | Trade Detail | 145.00 | 0.90 | +0.01 | 0.80 | 0.95 | 25.3 | -.0937 | Trade Detail |
| 20.80 | 0 | 17.90 | 18.90 | 21.6 | .8804 | Trade Detail | 150.00 | 1.35 | 0 | 1.20 | 1.35 | 23.4 | -.1367 | Trade Detail |
| 14.00 | 0 | 13.60 | 14.30 | 19.8 | .8183 | Trade Detail | 155.00 | 2.00 | -0.05 | 1.85 | 2.10 | 22.0 | -.2032 | Trade Detail |
| 10.10 | +0.20 | 9.70 | 10.40 | 19.0 | .7174 | Trade Detail | 160.00 | 3.10 | -0.25 | 2.90 | 3.10 | 20.4 | -.2945 | Trade Detail |
| 6.60 | +0.10 | 6.40 | 6.80 | 17.8 | .5883 | Trade Detail | 165.00 | 4.82 | -0.28 | 4.50 | 4.70 | 19.3 | -.4159 | Trade Detail |
| 4.00 | 0 | 3.70 | 4.10 | 16.8 | .4354 | Trade Detail | 170.00 | 7.10 | -0.40 | 6.70 | 7.10 | 18.3 | -.5568 | Trade Detail |
| 2.05 | -0.05 | 1.95 | 2.15 | 16.1 | .2827 | Trade Detail | 175.00 | 9.00 | 0 | 9.90 | 10.20 | 17.8 | -.6952 | Trade Detail |
| 1.00 | +0.10 | 0.85 | 1.05 | 15.6 | .1596 | Trade Detail | 180.00 | 12.70 | 0 | 13.70 | 14.30 | 18.2 | -.8003 | Trade Detail |
| 0.41 | +0.01 | 0.30 | 0.50 | 15.3 | .0786 | Trade Detail | 185.00 | 0 | 0 | 17.30 | 19.80 | 19.8 | -.8591 | Trade Detail |

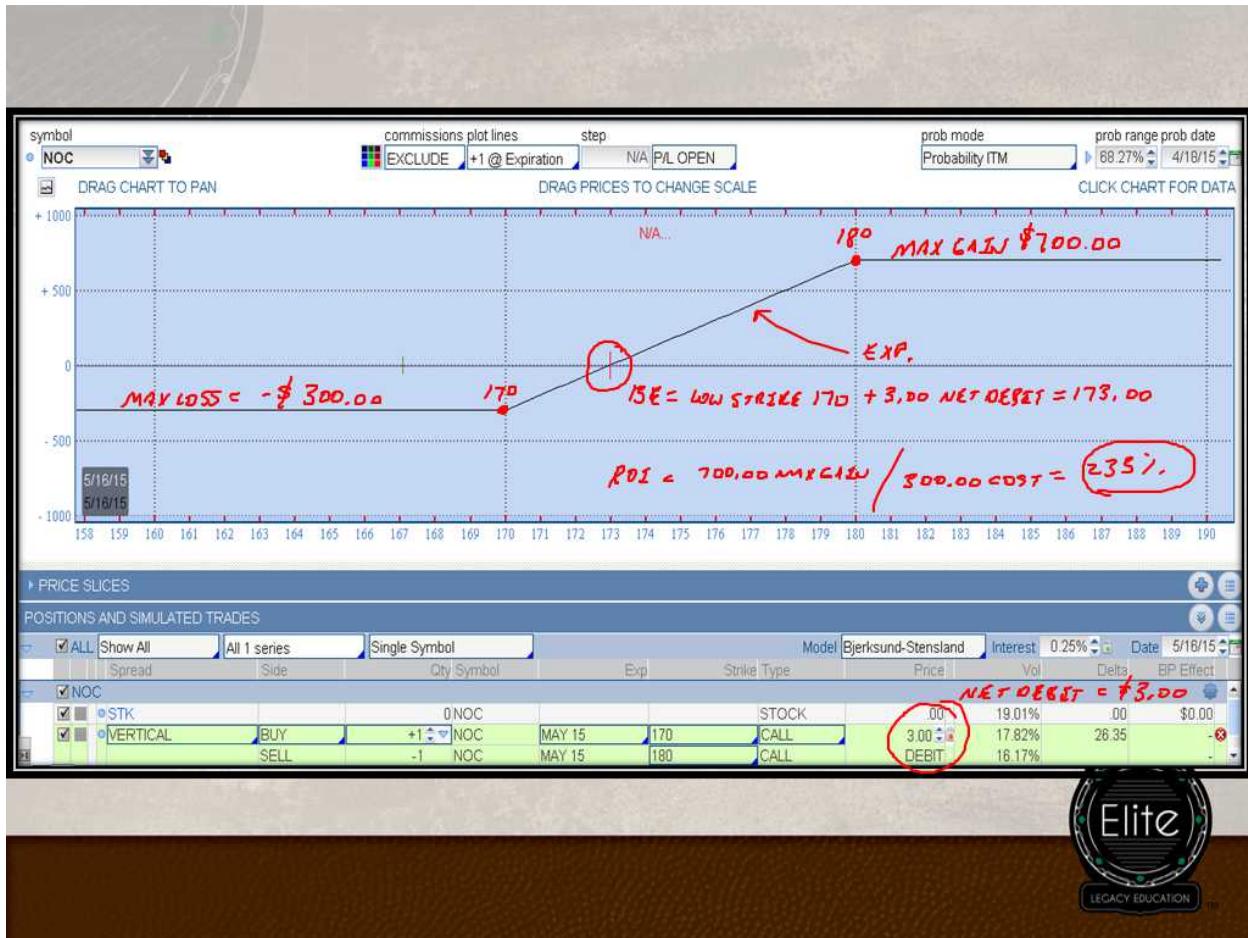
[Trade Calc](#) [Mini Pricer](#) [Watch List](#) [Reset](#) [Trade](#)

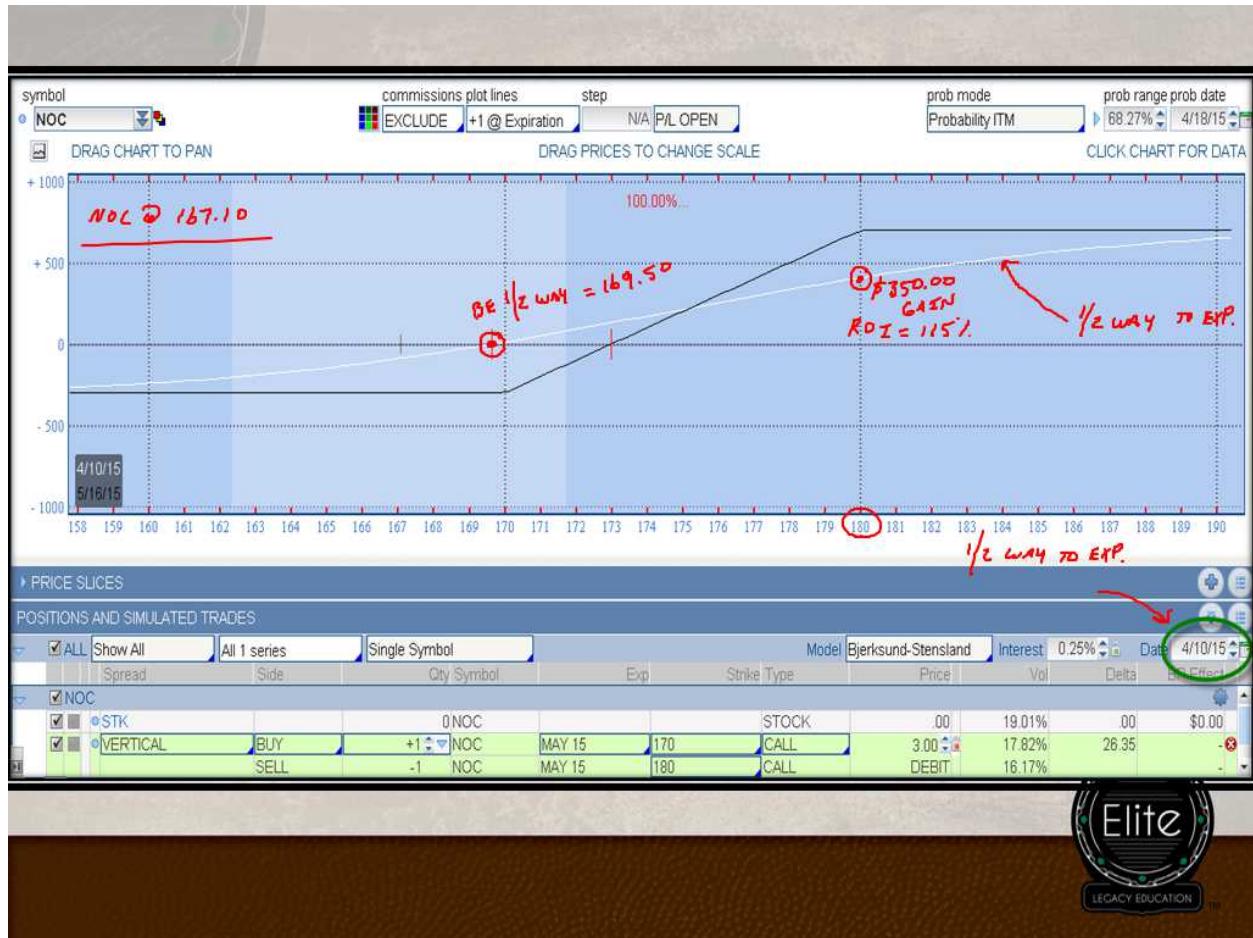


Net debit = 170 call cost 3.90 – 180 call credit 0.95 = 2.95

10.00 spread between strikes, so we can spend up to 4.00 net debit

Net Delta = 0.44 Delta – 0.16 Delta = 0.28





BULL CALL EXAMPLE

| Stock <u>NOC</u> | Price <u>187.10</u> | Date <u>2/17/15</u> |
|------------------------------------|--|-----------------------------------|
| BTO lower strike call | <u>MAY 170 CALL</u> | Debit } <u>\$3.00 NET DEBIT</u> |
| STO higher strike call | <u>MAY 180 CALL</u> | Credit } <u>\$3.00</u> |
| Net debit/max loss | <u>\$3.00 / SHARE</u> <u>- \$300 / CONTRACT</u> | Stock \leq low strike @ expiry |
| Max gain <u>SPREAD - NET DEBIT</u> | <u>10.00 - 3.00 = 7.00</u> | Stock \geq high strike @ expiry |
| Break-even @ expiry | <u>173.00</u> | Low strike + net debit |
| Best-case scenario | | Stock \geq high strike @ expiry |



BULL CALL EXIT

- ① ♦ When stock hits the higher strike ☺ $\text{NLC } 2180.00$
- ② ♦ 60% gain on net debit ☹ $3.00 \text{ NET DEBIT } \times 0.60 = 1.80 \text{ on } \180.00
- ③ ♦ 40% loss on net debit ☹ $3.00 \text{ NET DEBIT } \times -0.40 = -1.20 \text{ or } -\120.00
- ④ ♦ If $\frac{1}{2}$ way to expiration we have not reached our profit, or price target, then re-evaluate ☺
 - ♦ We can exit prior to expiration – use risk graph $\frac{1}{2} \text{ WAY TO EXP.}$
 - ♦ Predetermine exit strategy, and remember our IQ drops in $\frac{1}{2}$ once we enter
 - ♦ Exit plan determines position size

$$\text{POSITION LOSS} = -\$500.00 / -\$200.00 \text{ RISK PER CONTRACT}$$
$$= 2 \text{ CONTRACTS (ROUNDING UP)}$$



Connected Delayed data Jul, 31 17:07:24 Account: D-10961925 (margin)

Account Info

- Option Buying Power \$104,880.35
- Forex Buying Power \$10,000.00
- Net Liq & Day Trades \$123,294.25
- Cash & Sweep Vehicle \$105,607.25

David High Priced

| Symbol | Last | Net Chng |
|--------|--------|----------|
| GOOGL | 657.50 | -7.06 |
| GOOG | 625.61 | -6.98 |
| AMZN | 536.15 | -.61 |
| BIBB | 318.78 | +1.78 |
| ACT | 298.98 | 0 |
| TSLA | 266.15 | -.64 |
| ICPT | 263.81 | +2.01 |
| VRX | 257.53 | +3.25 |
| GS | 205.07 | -2.13 |
| LNUK | 203.26 | -23.89 |
| ALXN | 197.44 | -1.85 |
| TWC | 190.01 | -.83 |
| HUM | 182.09 | -1.61 |
| AMGN | 176.59 | +4.90 |
| BIDU | 172.66 | -1.81 |
| BLUE | 165.83 | +6.66 |
| IBM | 161.99 | +1.03 |
| CP | 160.85 | -.65 |
| ANTM | 154.27 | -.62 |
| EW | 152.16 | -.94 |
| MMM | 151.34 | -.23 |
| SKX | 150.45 | +1.46 |
| BA | 144.17 | +1.16 |
| CI | 144.06 | +1.16 |
| BRKB | 142.74 | -.11 |
| SIAL | 139.61 | -.06 |
| CELG | 131.25 | -.63 |

Scan

Scan in All Stocks intersect with <none>

Add Stock Filter Add Option Filter Add Study Filter

Stock Last min: 80.00 max: []

Stock Volume min: 1,000,000 max: []

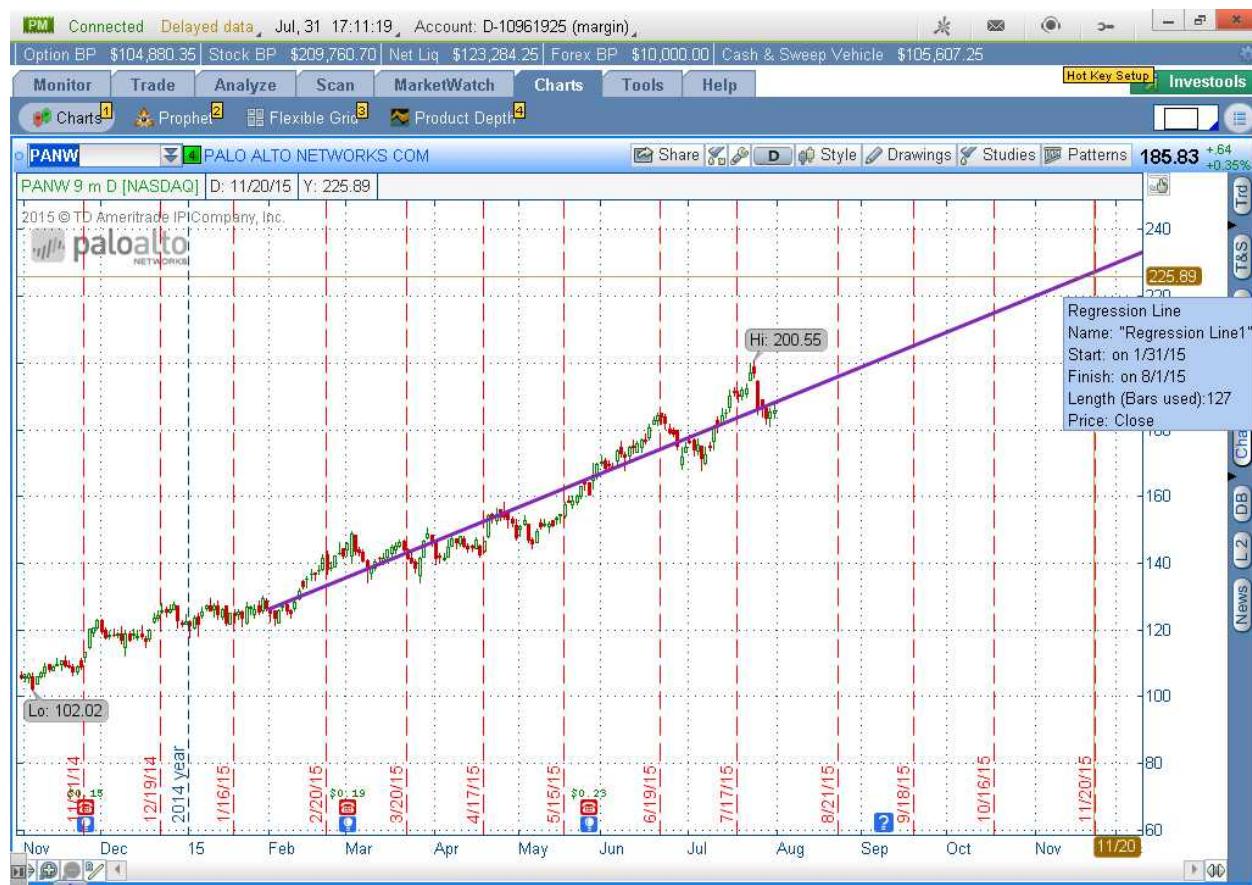
Show 200 Stocks sorted by Symbol Ascending Scan

SEARCH RESULTS Showing 146 of 146

| Symbol | Last | Net Chng | %Chng. | Volume | Bid | Ask | High | Low | EPS | Vol Index |
|--------|--------|----------|--------|------------|--------|--------|----------|----------|-------|-----------|
| AAPL | 121.30 | -1.07 | -0.87% | 42,130,000 | 121.47 | 121.50 | 122.6425 | 120.91 | 8.67 | 27.34% |
| ABC | 105.75 | +1.28 | +1.23% | 2,718,800 | 104.75 | 113.99 | 106.25 | 104.1333 | -1.98 | 21.19% |
| ACE | 108.77 | +.18 | +0.17% | 4,031,400 | 103.21 | 114.35 | 110.20 | 108.57 | 8.37 | 16.76% |
| ACN | 103.11 | +.45 | +0.44% | 2,402,100 | 101.13 | 103.73 | 103.99 | 102.93 | 4.69 | 16.56% |
| ADBE | 81.99 | +.70 | +0.86% | 2,893,400 | 81.94 | 82.20 | 82.8225 | 81.37 | .72 | 25.01% |
| AET | 112.97 | -1.18 | -1.03% | 2,882,300 | 112.95 | 113.08 | 114.98 | 112.69 | 6.06 | 29.18% |
| AGN | 331.15 | +2.28 | +0.69% | 2,893,200 | 325.01 | 349.00 | 332.48 | 326.29 | -9.82 | 26.29% |
| ALXN | 197.44 | -1.85 | -0.93% | 1,697,600 | 190.00 | 197.81 | 200.00 | 196.32 | 2.92 | 29.52% |
| AMBA | 115.87 | +.07 | +0.06% | 2,889,000 | 115.66 | 115.92 | 119.64 | 114.84 | 1.96 | 61.77% |
| AMGN | 176.59 | +4.90 | +2.85% | 7,233,900 | 176.40 | 177.24 | 181.81 | 176.00 | 7.41 | 26.00% |
| AMT | 95.11 | +.16 | +0.17% | 2,710,800 | 91.61 | 98.39 | 95.92 | 94.85 | 1.67 | 19.79% |
| AMZN | 536.15 | -.61 | -0.11% | 2,978,400 | 536.35 | 536.80 | 542.84 | 534.5201 | -.41 | 24.30% |
| ANTM | 154.27 | -.62 | -0.40% | 2,615,500 | 154.11 | 161.33 | 156.12 | 153.64 | 10.26 | 19.81% |
| AON | 100.77 | -1.17 | -1.15% | 1,216,700 | 95.62 | 109.87 | 103.38 | 100.60 | 4.74 | 17.36% |
| APD | 142.51 | +.17 | +0.12% | 2,277,300 | 135.42 | 149.76 | 144.11 | 141.43 | 4.77 | 21.21% |
| AVGO | 125.14 | -2.51 | -1.97% | 3,055,300 | 125.13 | 126.85 | 128.34 | 124.96 | 2.26 | 41.96% |
| BA | 144.17 | +1.16 | +0.81% | 2,927,700 | 144.01 | 144.30 | 144.92 | 143.29 | 7.34 | 18.51% |
| BDX | 152.15 | +.15 | +0.10% | 1,016,600 | 137.40 | 159.98 | 152.88 | 151.88 | 5.45 | 20.12% |
| BE/B | 108.41 | +1.65 | +1.55% | 1,002,600 | 102.90 | 114.03 | 108.52 | 107.03 | 3.15 | 17.27% |

Run a scan for higher priced stocks

- Over 80.00
- Today's volume > 1,000,000 shares
- 146 results, save as watchlist



PANW has nice uptrend – using regression line, target for Nov expiration is 225, Dec expiration is 237

PANW @ 185.83, 7/31/15

Bull Call spread (this is a debit spread)

PW Connected Delayed data Jul, 31 17:16:19 Account: D-10961925 (margin)

Option BP \$104,880.85 Stock BP \$209,761.70 Net Lig \$123,285.25 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Add Simulated Trades Risk Profile Probability Analysis thinkBack Fundamentals

PANW PALO ALTO NETWORKS COM ETB NASDAQ B: 182.86 186.83 +.64 A: 187.36 +0.35%

UNDERLYING

| Last X | Net Chng | Bid X | Ask X | Size | Volume | Open | High | Low |
|----------|----------|----------|----------|-------|-----------|--------|--------|--------|
| 185.83 N | +.64 | 182.86 P | 187.36 P | 1 x 1 | 1,107,504 | 185.00 | 187.96 | 183.68 |

OPTION CHAIN Filter: Off Spread: Single Layout: Delta, Intrinsic, Extrinsic

| CALLS | | | | | PUTS | | | | | | |
|--|-----------|-----------|---------|---------|--------|--------|---------|---------|-------|-----------|-----------|
| Delta | Intrinsic | Extrinsic | Bid X | Ask X | Exp | Strike | Bid X | Ask X | Delta | Intrinsic | Extrinsic |
| DEC 15 (140) 100 37.08% (± 34.747) | | | | | | | | | | | |
| .77 | 25.83 | 6.97 | 31.60 C | 34.00 X | DEC 15 | 160 | 5.70 C | 6.30 A | - .22 | 0 | 6.00 |
| .73 | 20.83 | 8.37 | 28.00 X | 30.40 X | DEC 15 | 165 | 6.80 C | 7.80 C | - .26 | 0 | 7.30 |
| .69 | 15.83 | 10.17 | 25.00 X | 27.00 X | DEC 15 | 170 | 8.40 C | 9.40 C | - .30 | 0 | 8.90 |
| .65 | 10.83 | 11.72 | 21.60 C | 23.50 X | DEC 15 | 175 | 10.20 X | 11.10 T | - .35 | 0 | 10.65 |
| .60 | 5.83 | 14.07 | 19.10 X | 20.70 X | DEC 15 | 180 | 12.10 C | 13.30 C | - .40 | 0 | 12.70 |
| .55 | .83 | 16.27 | 16.70 Z | 17.50 C | DEC 15 | 185 | 14.30 C | 15.70 C | - .45 | 0 | 15.00 |
| .51 | 0 | 14.65 | 14.30 X | 15.00 C | DEC 15 | 190 | 17.00 C | 18.30 X | - .50 | 4.17 | 13.48 |
| .46 | 0 | 12.60 | 12.20 X | 13.00 X | DEC 15 | 195 | 19.80 X | 21.20 X | - .55 | 9.17 | 11.33 |
| .41 | 0 | 10.60 | 10.20 C | 11.00 X | DEC 15 | 200 | 23.00 C | 24.50 X | - .60 | 14.17 | 9.58 |
| .32 | 0 | 7.30 | 6.80 X | 7.80 C | DEC 15 | 210 | 29.50 X | 32.00 X | - .69 | 24.17 | 6.58 |
| .25 | 0 | 5.20 | 5.00 X | 5.40 X | DEC 15 | 220 | 36.90 X | 39.60 X | - .77 | 34.17 | 4.08 |

PRICE SLICES

POSITIONS AND SIMULATED TRADES

| All | Show All | All 1 series | Single Symbol | Model | Bjerksund-Stensland | Interest | 0.25% | Date | 7/31/15 |
|--|--|--------------|---------------|-------------|---------------------|--------------|--------|-----------|--------------|
| Spread | Side | Qty Symbol | Exp | Strike Type | Price | Vol | Delta | BP Effect | |
| <input checked="" type="checkbox"/> PANW | <input checked="" type="checkbox"/> STK | | 0 PANW | | STOCK | .00 | 36.80% | .00 | \$0.00 |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> VERTICAL | BUY +1 PANW | DEC 15 185 | CALL | 11.90 | 36.19% | 30.81 | | |
| | | SELL -1 PANW | DEC 15 220 | CALL | | DEBIT 34.10% | | | (\$1,190.00) |

Net debit = 11.90 (mid-point pricing, probably not realistic; we will have to pay more)

Net Delta = 0.3081 ☺

PW Connected Delayed data, Jul, 31 17:20:02, Account: D-10961925 (margin)

Option BP \$104,885.85 Stock BP \$209,771.70 Net Lig \$123,295.25 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Add Simulated Trades Risk Profile Probability Analysis thinkBack Fundamentals

PANW PALO ALTO NETWORKS COM ETB NASDAQ B: 182.88 186.83 +.64 A: 187.34 +0.35%

UNDERLYING Last X Net Chng Bid X Ask X Size Volume Open High Low
185.83 N +.64 182.88 P 187.34 P 1 x 1 1,107,504 185.00 187.96 183.68

OPTION CHAIN Filter: Off Spread: Single Layout: Delta, Intrinsic, Extrinsic CALLS Strikes: ALL PUTS

PRICE SLICES

POSITIONS AND SIMULATED TRADES

ALL Show All All 1 series Single Symbol Model Bjerksund-Stensland Interest 0.25% Date 7/31/15
Spread Side Qty Symbol Exp Strike Type Price Vol Delta BP Effect

ORDER ENTRY TOOLS

ORDER ENTRY SAVED ORDERS

| Spread | Side | Qty | Pos Effect | Symbol | Exp | Strike | Type | Link | Price | Order | TIF | Excha... |
|----------|------|-----|------------|--------|--------|--------|------|------|-------|-------|-------|----------|
| VERTICAL | BUY | +1 | AUTO | PANW | DEC 15 | 185 | CALL | | 12.05 | LMT | LIMIT | DAY |
| | SELL | -1 | AUTO | PANW | DEC 15 | 220 | CALL | | | DEBIT | | BEST |

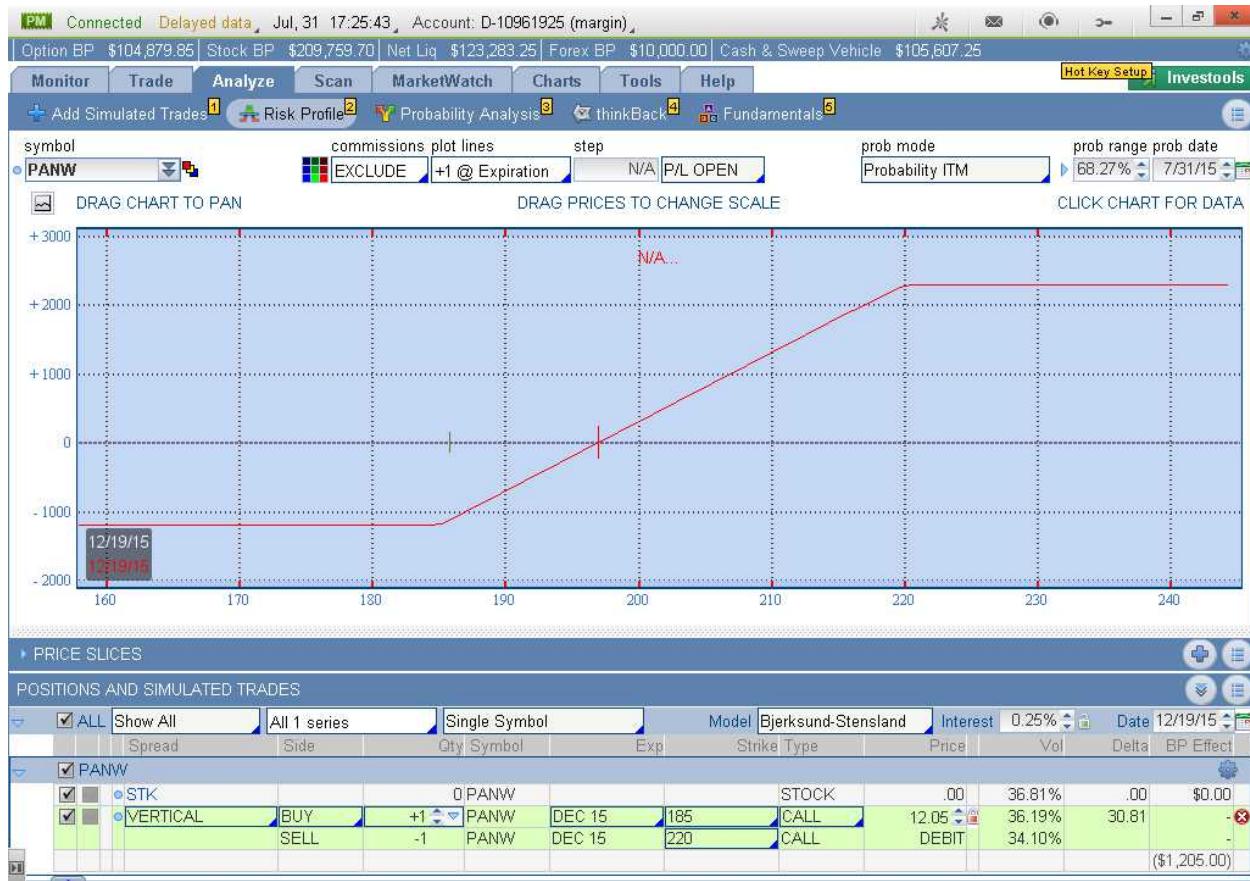
Advanced Order: Single Order Mid 11.90 12.50 Nat Delete Confirm and Send

ORDER AND STRATEGY BOOK Orders: ALL

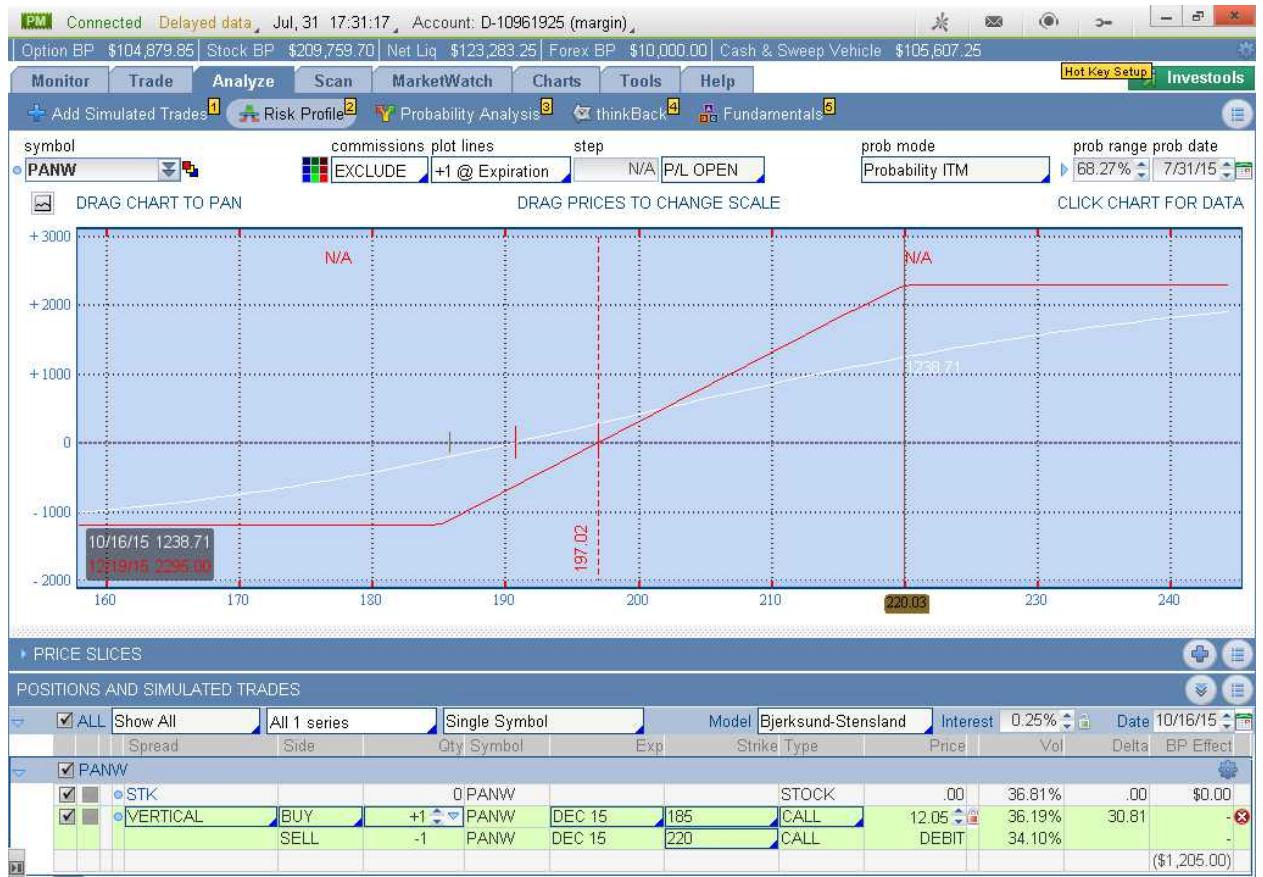
ORDERS STRATEGIES

| Time | Order ID | Description | Status |
|------|----------|-------------|--------|
| | | | |

Cost of trade = 12.05 net debit

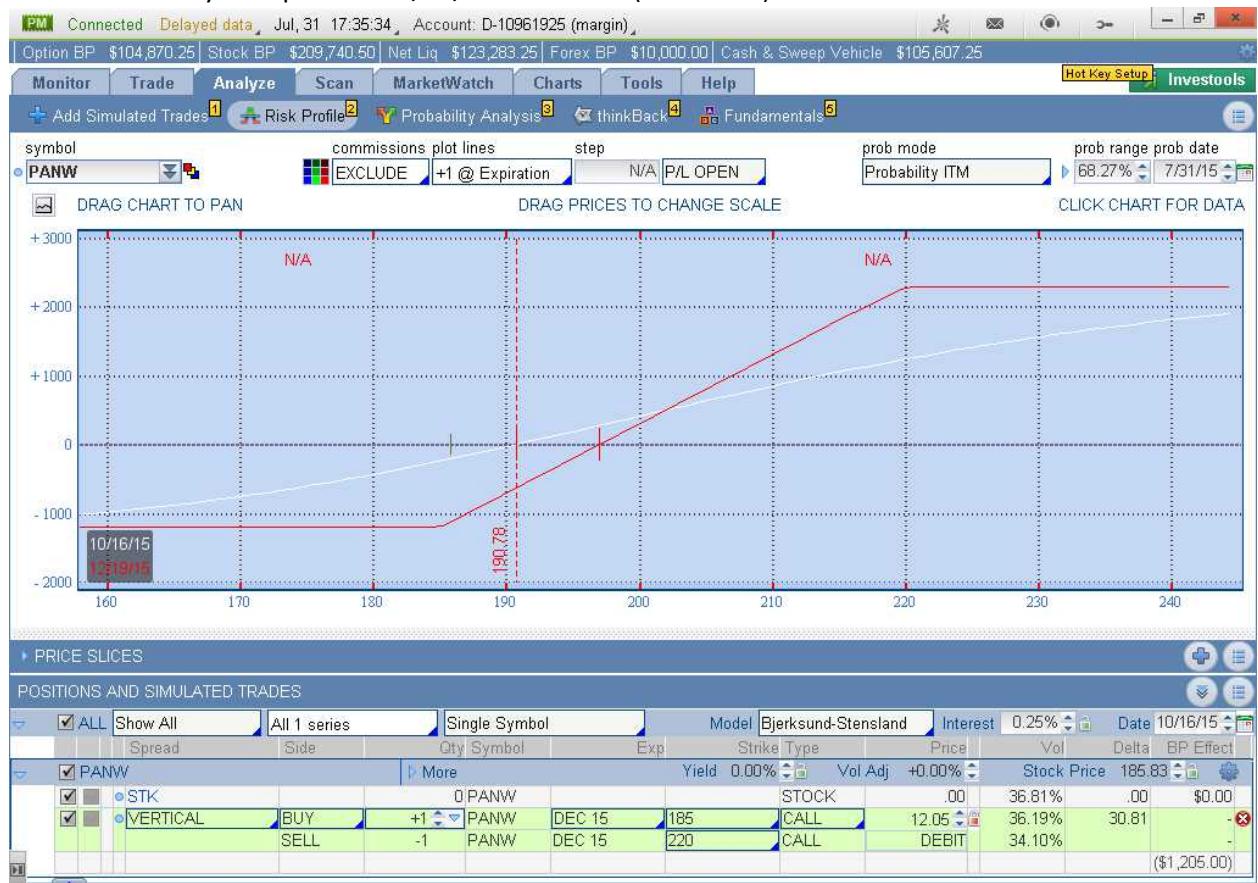


1. Max gain = spread 35.00 – 12.05 net debit = 22.95 per share, or 2295.00 per contract; if PANW > 220 on 12/19/2015
2. Max loss = net debit 12.05 per share, or 1205.00 per contract; if PANW < 185 (lower strike) @ expiration
3. Break-even @ expiration = 197.05 = lower strike 185 + net debit 12.05
4. ROI = max gain 2295.00 / 1205.00 cost = 190% (best case)



5. Model gain = 1238.00 per contract if PANW hits 220 (high strike) $\frac{1}{2}$ way to expiration, 10/16/2015; over 100% ROI

6. Breakeven $\frac{1}{2}$ way to expiration 10/16/2015? 190.78 (see below)



7. Exit plans

- Close the entire position if PANW hits 220
- Reevaluate $\frac{1}{2}$ way to expiration 10/16/2015
 - PANW still in an uptrend
 - Do I have a profit/loss?
 - Would I place the same trade that day (10/16/2015)

8. Position size

- Willing loss -500.00 / max loss 1205.00 net debit = 0.4 contracts
- Trade 1 contract, and we close the entire position if we lose -500.00 (willing loss)

Order Confirmation Dialog

| | | | | | |
|--|---------------------|--|---|---|--|
| Account: | D-10961925 (margin) | paper money | <input type="checkbox"/> Auto send with shift click | <input type="checkbox"/> Single Account | <input type="checkbox"/> Save last used mode |
| Order Description | | BUY +1 VERTICAL PANW 100 DEC 15 185/220 CALL @12.05 LMT [T...] | | | |
| Break Even Stock Prices | | 197.05 | | | |
| Max Profit | | \$2,295.00 | | | |
| Max Loss | | \$1,205.00 (not including possible dividend risk) | | | |
| Cost of Trade including commissions | | \$1,205.00 + \$3.00 = \$1,208.00 | | | |
| Buying Power Effect | | (\$1,205.00) | | | |
| Resulting Buying Power for Stock | | \$207,349.70 | | | |
| Resulting Buying Power for Options | | \$103,674.85 | | | |
| Note: <input type="button" value="SAVE"/> <input type="button" value="EDIT"/> <input type="button" value="DELETE"/> <input type="button" value="SEND"/> | | | | | |

Confirmation screen – click on SEND to transmit

Connected Delayed data, Jul, 31 17:43:07, Account: D-10961925 (margin), Option BP \$103,674.85 Stock BP \$207,349.70 Net Liq \$123,283.25 Forex BP \$10,000.00 Cash & Sweep Vehicle \$105,607.25

Monitor Trade Analyze Scan MarketWatch Charts Tools Help Hot Key Setup Investools

Activity and Positions 1 Account Statement 2 FX Statements 3 Strategy Roles 4

Today's Trade Activity

Working Orders: 1 order

| | Time Placed | Spread | Side | Qty | Pos Effect | Symbol | Exp | Strike Type | Price | TIF | Mark | Status |
|---|------------------|----------|------|-----|------------|--------|--------|-------------|-------|-------|------|---------------|
| 1 | 7/31/15 17:42:54 | VERTICAL | BUY | +1 | TO OPEN | PANW | DEC 15 | 185 CALL | 12.05 | LMT | DAY | 11.90 WORKING |
| | | | SELL | -1 | TO OPEN | PANW | DEC 15 | 220 CALL | | DEBIT | | |

Filled Orders Show average fill prices >> <<

Cancelled Orders >> <<

Rolling Strategies >> <<

Position Statement

| | | adjust account | | <input type="checkbox"/> Beta Weighting ⚡ NOT WEIGHTED | | | | |
|------------------------------------|------|----------------|--------|--|----------|--------------|------------|--------------|
| None | | | | | | | | |
| Instrument | Qty | Days | Mark | Mrk Chng | % Change | P/L Open | P/L Day | |
| AAPL | \$ | | | | -0.87% | (\$32.50) | (\$2.00) | \$0.00 |
| CBI | | | | | -0.02% | (\$10.00) | \$5.00 | \$0.00 |
| CSIQ | + | +400 | 26.855 | +.085 | +0.32% | (\$858.00) | \$34.00 | \$5,371.00 |
| CTRP | | | | | +1.26% | (\$82.50) | (\$27.50) | \$0.00 |
| FEYE | | | | | -6.85% | (\$67.50) | (\$54.00) | (\$2,559.90) |
| FSLR | | | | | -2.23% | \$297.50 | \$42.50 | \$0.00 |
| GS | \$ | | | | -1.03% | (\$410.00) | (\$122.50) | \$0.00 |
| ILMN | | | | | +0.20% | \$0.00 | \$105.00 | \$0.00 |
| IWM | | | | | +0.55% | \$82.50 | \$17.50 | (\$1,000.00) |
| PANW | | | | | +0.35% | \$0.00 | \$0.00 | (\$1,205.00) |
| SPG | \$ | | | | +0.58% | (\$675.00) | (\$27.50) | \$0.00 |
| SPY | | | | | -0.15% | \$262.00 | (\$0.50) | (\$3,800.00) |
| TBT | +100 | | 45.23 | -.72 | -1.57% | (\$373.00) | (\$72.00) | \$2,261.50 |
| TLT | | | | | +0.74% | (\$47.50) | (\$40.00) | (\$1,000.00) |
| | | | | | | (\$1,914.00) | (\$142.00) | (\$1,932.40) |
| | | | | | | (\$1,914.00) | (\$142.00) | (\$1,932.40) |
| Subtotals | | | | | | | | |
| Overall Totals | | | | | | | | |
| CASH & SWEEP VEHICLE: \$105,607.25 | | | | | | | | |
| OVERALL P/L YTD: (\$1,225.00) | | | | | | | | |
| AVAILABLE DOLLARS: \$103,674.85 | | | | | | | | |

ACCOUNT STATUS: OK TO TRADE

Order is now active (see top of page)

The screenshot shows the Investools software interface with the following key elements:

- Top Bar:** Displays account information (Connected, Delayed data, Jul. 31 17:44:40, Account: D-10961925 (margin)), market values (Option BP \$103,674.85, Stock BP \$207,349.70, Net Liq \$123,283.25, Forex BP \$10,000.00, Cash & Sweep Vehicle \$105,607.25), and navigation tabs (Monitor, Trade, Analyze, Scan, MarketWatch, Charts, Tools, Help).
- Header Buttons:** Activity and Positions, Account Statement, FX Statements, Strategy Roller.
- Today's Trade Activity:** A table showing a single working order for a vertical call spread on PANW.
- Filled Orders:** A table showing filled orders for TLT options.
- Cancelled Orders:** A table showing cancelled orders for TLT options.
- Rolling Orders:** A table showing rolling orders for TLT options.
- Position State:** A dropdown menu showing options like Reset all positions, Adjust position, Adjust cash, etc.
- Position Details:** A large table showing detailed position information for various assets, including quantity, days, mark, percentage change, P/L open, P/L day, and BP effect.

Create closing order by right clicking the ticker on the monitor tab (position statement)

Using a limit credit order to negotiate the exiting price.