The Advanced Iron Condor Trading Guide

Trading the Greeks and Active Risk Management

First Edition

By Craig Severson
# Table of Contents

Foreword .......................................................................................................................... 4  
Introduction .................................................................................................................... 8  
Gaining an Edge by Selling Options ............................................................................ 9  
Understanding the Options Greeks .............................................................................. 11  
  Greeks - Delta Definition and Examples ................................................................. 12  
  Greeks - Gamma Definition and Examples ............................................................... 18  
  Greeks - Theta Definition and Examples .................................................................. 25  
  Greeks - Vega Definition and Examples .................................................................. 28  
Using the Greeks for Risk Management ..................................................................... 35  
Delta Neutral/Managing Delta Risk ............................................................................ 40  
  Delta Position Management Examples .................................................................. 55  
Managing Gamma Risk ............................................................................................... 65  
  Using Butterflies to Neutralize Gamma .................................................................. 72  
Managing Vega Risk ..................................................................................................... 81  
  Vega Position Hedging Example ............................................................................. 87  
Active Risk Management Techniques ......................................................................... 93  
Lower Probability Iron Condors ............................................................................... 104  
Putting it All Together - Examples ........................................................................... 116  
  High Probability Iron Condor Example .................................................................. 118  
  Low Probability Iron Condor Example .................................................................. 136  
Trading like a Professional Market Maker ................................................................. 146  
Final Thoughts .............................................................................................................. 153  
Appendix A - High Probability Iron Condor Rules .................................................. 154  
Appendix B - Low Probability Iron Condor Rules .................................................... 158  
Glossary ....................................................................................................................... 160  
About the Author .......................................................................................................... 162
Foreword

The trading world has seen unbelievable changes over the past 10 years, especially for those trading derivatives such as Options and Futures. The landscape continues to change and improve for the Retail trader. Think about some of the changes that have taken place over this timeframe:

- Many Options have gone from being quoted to the nearest nickel...to now being quoted in pennies.
- The volume of Options activity has grown exponentially. This has “tightened” spreads to being “penny wide” in many cases.
- Most Options trading has moved away from pits and is totally electronic.
- Commissions on online Options trades have shrunk considerably to the point where Retail traders can generate trades for a small per-contract fee, or a small sliding-scale commission for larger positions.
- The explosion of ETFs has given traders hundreds of new trading vehicles that offer Options, without the associated event risk of individual equities.

And this explosion in activity has happened because it meets an urgent need of most traders; few have the capital or “mad money” required to purchase enough stock to trade with. We’re no longer using our Home Equity as an ATM, thankfully. Traders are demanding more leverage and the Options markets are supplying the product to meet that need.

And with the proliferation of Options activity has brought a swarm of educators to help a beginning trader get up to speed. We can thank Wade Cook for lighting the fire of Options education back in the 90’s as he thrilled seminar attendees with example trades featuring unbelievable gains that those with small accounts could not dream of reproducing with stock trades.

Unfortunately, many traders fall into the trap of forever looking for the “holy grail” as they learn strategy after strategy yet fail to produce any sustainable gains from their accounts. The typical results yield small gains and “one bad month”, which usually scare the trader away for good. A few years ago when OptionsLinebacker was formed, we figured that the best way to do something was to pick one strategy and get really, really good at it….and then build up our strategies from there.

And we’ve done that; we’ve built on top of that one strategy by trading one or two charts, and we’ve easily outperformed the S&P500 during this time. If there’s one thing that we’ve learned, however, it’s that we cannot celebrate past performance for very long. The Stock Market has changed in character before our very eyes over the past few years and we need better Risk Management tools to tame it. We need to use the Options Greeks and other
Active Risk Management techniques to help protect our trades from the “fat tail” risk becoming more and more common these days. After all, when you trade Options, it’s not what you make, it’s what you keep.

The point of this program, therefore, is to expand on the solid but simple tools that were laid out in the OptionsLinebacker Iron Condor Trading Guide. The tools and techniques that are exposed here have been learned by necessity through our own experiences, as well as from those giants that have blazed the trail before us. My goal is to help bring some of those advanced techniques “down to earth” in a simpler and more practical manner than the usual sources available today.

Those of you who have already tried to learn this material through the usual books and programs know what I’m talking about; by its very nature this subject material has an extremely high barrier to entry. Most of the traders using this material learned it by being dropped into the shark’s pool, were told to read Natenburg’s Option Volatility and Pricing, and wondered if they would make it through their first week. Those that did make it through that baptism of fire guarded it like it was secret knowledge, and those who tried to teach others its secrets usually reverted to teaching by the same method that they were taught: drop the student in the drink and see if they can swim. I cringe every time I hear former pit traders get on a webinar to teach this material and within 2 minutes they’re rolling everyone’s eyeballs back into their foreheads by talking about volatility skew.

And those who have written books on this material have also missed the mark, either diving into Doctorate-level material right off the bat, or trying to simplify it while charging $300 apiece for separate 200 page paperbacks that promise the Holy Grail.

I have you and your understanding in mind as I lay out the material; I truly believe that if you patiently absorb and apply the principles laid out in this program, that you will have a much deeper foundation of the material to build on, and you’ll wonder why you didn’t apply these concepts before. Ultimately, your bottom line should improve as you apply these principles to mitigate that “one bad month” that always seems to put you back at square one again.

I wish you all the success in the world and I thank you for putting your trust in this program!

Craig Severson
January 2011
How to Use This Program

I added this section for people like me that immediately open a package and start to put it together without consulting the owner’s manual. We just can’t wait to get started, can we?!

I have plenty of “shelfware” to attest to the fact that if you start reading a book or diving into an educational program….and you don’t “get it”, you will likely place the program aside for “later” until you can figure it out. That “later” becomes “never” and your expensive program becomes yet another decoration in your office.

I’ve tried to “chunk down” this program into bite-sized pieces, and have placed checkpoints at logical places that encourage you to pause and verify your progress. If you don’t understand a section, keep reviewing the material until you do. Try to apply it with your broker’s analysis software…ask friends….keep digging until you answer it for yourself. The more that your answer comes from inside yourself, the more it will resonate with you over time.

Note the color of the “information boxes” in each section:

• Yellow boxes are used for definitions.
• Green boxes show application for a concept.
• Pink boxes indicate a crucial checkpoint where you must understand a specific concept to continue reading.
• Blue boxes are summaries at the end of each section, which include Key Learning Concepts, and links to the Overview Video/Flash quiz webpage.

The Overview Videos will help show the concepts from each chapter in action, and how we can apply them. When you are satisfied that you understand the Key Learning Concepts for each section, then test yourself with the online quiz video. These are produced using Adobe Flash, which unfortunately will not work with Apple products at this time.

To access the videos and quizzes, you will be given a username and a password with your purchase of this program; please save this as you will need it every time you access the video download site separately.

Ever heard the expression “Light at the end of the Tunnel”? Whenever you’re learning new material for the very first time, it’s common to get stalled at the point of first resistance, and then lose interest. It’s empowering and thrilling when you make the right connections and learn new information, yet it’s equally frustrating when you “stall out” and get overwhelmed learning brand new information. And trust me, you will reach a saturation point at some point during this program.
So that I can keep you “on the rails” until you do see the Light at the End of the Tunnel, I’ve included the following diagram that illustrates your progress through this course:

![Diagram demonstrating progress through the course]

You will start out with the Greeks overview, learn how we apply them to manage each individual category of Risk, see how we apply Dynamic Risk control with “Active Risk Management”, learn a professional-style Iron Condor, and then finish up by applying what we’ve learned in this program through the Exercises.

Keep this “roadmap” in mind as you chart your progress through this program. If you get stuck on a section or cannot find the answer for yourself, email me at craig@optionslinebacker.com.

And finally, if you’re a “bottom line” person that likes to get right to the answers first and work backwards from there, Appendix A and B give you a summary of Trading Rules for the two Iron Condor strategies discussed in this program.
Introduction

Your goal as a reader of this program should be to improve the consistency of your profitability. By improving your consistency, you’ll reduce your drawdowns, improve your profits, and in general run a more efficient money-making machine that can not only provide income, but also account growth over time.

(If you’re looking for a quick way to make 40% a month you might want to stop here)

The best analogy that I can think of for this business...is simply to run your trading operations as though you’re an insurance company. Insurance companies get paid through your premiums to take risk off of your hands. They perform due diligence on you first to decide whether or not your risk is worth taking on. If you’re a 16 year old driver of a Shelby GT or own a beachfront home on Key West, they may not want to insure your risk. If they check you out and decide that your risk isn’t excessive and you’re going to make them money, they’ll charge you a premium every month to earn income from your risk. On occasion you’ll submit a claim against your policy, but over time, chances are very high that they’ll earn much, much more from you than you’ll ever claim from them.

Now think about this in Market terms; imagine that the Market is a huge river of risk flowing by tirelessly. (it is!) You will be paid every month that you decide to take a little bit of risk out of the Market, after doing your due diligence. Occasionally you will pay out a claim, but over time your income should far exceed any claims that are made against you.

So that’s it - we’re just going to take a little bit of risk out of the Market every month, and we’ll get paid for it. We’ll send our army of underwriters out there to make sure that it’s an acceptable risk, and should the Market make a claim, we’ll make sure that we try to deny this claim first before we’ll pay it....and if we do pay it, we’ll know what our maximum payout is.

But it’s never quite that easy, is it? There are a lot of different ways to trade Options, all with their own way of giving you an edge. If you don’t have an edge, then your “insurance company” disguised as your trading operations will be paying out many more claims than collected premiums.

So how do you gain this “edge” over the Market? How do you become the casino that flips the odds in its favor? Let’s take a look at our core edge - selling instead of buying Options.
Gaining an Edge by Selling Options

Right out of the gate, if you’ve sold an option you’ve gained a slight edge vs. the Market. Why? Because you’ve sold a depreciating asset and time is working in your favor. There are times that this alone is good enough to secure your edge and allow you to make a living off of the Market. You don’t find many professional traders buying single Options unless they’re used as a hedge!

But we all know...that edge alone isn’t good enough, is it? We need to stack the deck a little more in our favor.

But to move on from here, the discussion moves to another level, with disagreements as deep as religion. To gain a further edge, we’re going to use the two following theories:

- Market movements follow the psychological behavior of The Herd, which is easily predictable based on past behavior with a certain likelihood of following known patterns. This is called Technical Analysis.

- Market movements are totally random, and that you believe that there is no correlation between past events in the Market, and future price movements. This is called the Random Walk theory.

It’s not likely that you’ll find a more deep-rooted disagreement than what’s found between these two camps.

Technical Analysis is favored by some off-floor traders and most retail traders. They don’t have the intimate connection to the trading pit, so the next best thing they have is the myriad set of tools that have been constructed over the years to show visually “what has already happened”, which in some cases can give some clues as to “what could happen next”. All of these tools really are derived from price and volume, which is no different from what the “random walk” crowd is using. The Technical Analyst gains their edge by using their ability to read patterns, some of which have a good probability of repeating.

Conversely, the Random Walk theory, mostly attributed to the works of Burton Malkiel, is generally adopted by professional traders who have come from an exchange background. Take a tour of the CBOE in Chicago some day - see if you notice any price charts. There are NONE. Talk to a pit trader about Technical Analysis and you’ll hear a wisecrack about “voodoo”. These traders will freely admit that they have no clue where price is going tomorrow, and they just don’t care. They gain their edge in how they manage their positions....and to some degree, being part of the leading edge of price discovery as they’re close to the “action”.

9
So which one is better, Random Walk Theory or Technical Analysis? Not to straddle a fence, but I will say that there are elements of both theories that we can use independently of each other to help reinforce our edge. You don’t have to fall in one camp or another; there’s no reason that you can’t use parts of both methodologies. Which theory that I use depends on where we are in the trade. When should you use which theory?

- I believe that using Technical Analysis helps improve your edge when you are entering a trade, yet does nothing for you to help manage risk once you’re in the trade.
- Using the Greeks or Random Walk theory might help you improve your edge when entering a trade, such as understanding when a spike in Implied Volatility might help give you a better edge in a Short Vega trade (more on that later!), however I think the best application of the Options Greeks is to help manage your risk while in an Options trade.

In the end, what matters is that the method that you use resonates with you. Brett Steenbarger’s excellent book “Enhancing Trader Performance” goes into great depth early on to make the point that a trader will never reach their true potential until they find that one strategy that “fits” with them, causing the lines to blur between work and play as you find the “rage to master”. Some traders love technical analysis and find that it gives them a sense of predictability. Others love the chaos theory and numerical application behind Random Walk. Find something that works for you and master it.

And trust me, if you intend to trade for a living, you will need to master any strategy that you put into play against the best in the world. There is no “minor league” in the Options market; you’re batting against Mariano Rivera every time you step up to the plate.

In today’s volatile Market landscape, I will assert that you need both of these tools to be able to increase your edge; not only entering the trade, but also during the trade while managing your risk. Most of you reading this book don’t lack for Technical Analysis tools; for this reason I’ve parsed out that discussion to a separate eBook that you can pick up for free by subscribing to the monthly Trader’s Fast Track newsletter at http://www.optionslinebacker.com/fasttrack.html

It’s a 31 page eBook that shows how I use Technical Analysis to help increase my edge on trade entries.

But the void that needs to be filled for most, frankly, is to learn how to apply the Greeks to manage Risk so you can apply Random Walk theory. Let’s start by understanding the Options Greeks!
Understanding the Options Greeks

New Options traders avoid learning about the Greeks as much as children detest taking cough syrup; you know that you should learn them, but they’re so...difficult. Most retail traders are visual learners and a price chart speaks to them, whereas raw numbers do not.

If nothing else, remember that professional traders who manage Options portfolios for a living often look at their position Greeks and nothing else. That fact alone should make you wonder what it is that they know...that the rest of us Retail traders don’t know. The answer is simple; it’s all about Risk Management. They gain an Edge by selling Options and then try to maintain that edge by managing their risk.

I have spent a lot of time recently trying to figure out a way to simplify the concepts of Options Greeks using different terminology, as I haven’t found a book currently out there in the market that does a good job. Most will have you in the Land of Nod after 20 pages. Others are better off being used as doorstops. Let’s see if we can change that by making them a little bit more accessible through repetition and application.

If nothing else, after reading this program I hope that you start using some of the Greeks to gain a better understanding of your positional risk. Remember, it’s not what you earn, it’s what you keep…..and understanding your risk is the first step to keeping your profits. You don’t have to eat the whole elephant at one sitting; learning how to evaluate your positional risk will put you far ahead of other traders that are just managing positions via technical analysis and hoping that phantom lines of support and resistance will keep their positions safe.

Before I lead you like Willy Wonka into Wonkaland, let me first caution you that this program offers you the BASICS of this discipline. I’m going to show you the 20% of the material that will give you 80% of the impact of Risk Management and truly understanding how to use Options to help manage your portfolio. The other 80% is up to you and how badly that you want to maintain your edge; once you understand and apply the principles from this program, you will find that a whole new world of trade management opens up to you, and you will be able to “go deep” on a whole new range of trade management topics.

We will focus on the four major Options Greeks, (Delta, Gamma, Theta, and Vega) by starting with what is probably the most important Greek, Delta.
Greeks - Delta Definition and Examples

Delta Definition

**Delta (Δ) is the measure of the change of an Option’s value with respect to a one point move in the price of the underlying instrument.**

An Option’s Delta is the one Greek that most traders have at least some familiarity with, however most have not used it to help manage their entire position.

Most traders following a typical education program are used to looking at the Delta of a call option, where they were all taught to “buy call Options with a Delta of .70 or higher”. What does that mean? Simply, it’s that the value of the option rises $.70 for the first $1 that the underlying instrument moves up. If a $15 stock rose one point up to $16, then a .70 Delta Option that you bought for $1 would now be worth $1.70. Delta is a double-edged sword, however. If that stock moved down $1 to $14, then your original .70 delta Option that you bought for $1 would now be worth $.30! (By the way, the expression "underlying instrument" just means the actual STOCK that is being traded that your option strike prices are based on)

That’s the standard example of understanding how Delta affects the price of a call option, however what we’re interested in now is how that call Option affects the Delta reading of an entire position or portfolio. Most of you are not buying and selling single call Options, otherwise you wouldn’t be reading this book. We care about how our risk equation changes for our whole account or a combination position if the market goes up or down, and what we can do about it should the price move adversely against it.

So let’s add another definition regarding the character of positions depending on their Delta value:

Positive Delta positions **gain value** as the price of the underlying instrument goes **up**, while Negative Delta positions **gain value** as the price of the underlying goes **down**.
Example: let’s say that you had ten of those call Options, each with a Delta of .70. Your positional Delta reading would now be:

\[
\text{Delta (\(\Delta\))} = (0.7 \, \text{Delta}) \times (10 \, \text{contracts}) \times (100 \, \text{shares/contract}) = +700 \, \text{Deltas}
\]

Notice that this position has a positive Delta number...so for that first point move higher in price of the underlying stock, your entire position would gain $700. Similarly, with a one point move down in the underlying stock this position would lose $700 of value. With me so far? If not, slow down, and keep reading that paragraph until it makes sense. It’s important that you start to think in terms of your position’s “Delta” as an aggregate reading, and not just for a single Option contract.

Something that is also important to clarify here is that you are not winning or losing that $700 as in a concluded trade; it’s simply the value that your portfolio is gaining or losing dependent on what the underlying price is doing to your position. It’s showing you how your position’s profit/loss is dynamically affected by the changes in the price of the underlying instrument.

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DON’T GO ANY FURTHER UNTIL YOU UNDERSTAND THIS!

The **DELTA** reading of your position or portfolio means how much the value will **GAIN** or **LOSE** with the next point move of the underlying instrument.

A position with a **POSITIVE** delta reading will gain that amount of value with the next point move **UP** in the price.

A position with a **NEGATIVE** delta reading will gain that amount of value with the next point move **DOWN** in the price.

---

**Delta Composition**

So let’s define how different instruments create Deltas; here are some of the more-common trades that create a **Positive Delta** position, one that gains value as the underlying price rises:

- **Buying calls** creates a Positive Delta position.
- **Selling puts** creates a Positive Delta position.
- **Buying the underlying stock** creates a Positive Delta position.
- **Buying (going long) the underlying futures contract** creates a Positive Delta position.
Now let’s define the different combinations of Options that create a Negative Delta position, one that gains value as the underlying price falls:

- **Buying puts** creates a Negative Delta position.
- **Selling calls** creates a Negative Delta position.
- **Selling short the underlying stock** creates a Negative Delta position.
- **Selling (going short) the underlying futures contract** creates a Negative Delta position.

And let’s combine long and short calls, and long and short puts together into Options “credit spreads” to see what kind of Deltas that they produce from the combined position:

- **A Credit Spread Call Vertical (Bear Call Spread)** that is set up OTM will be a negative Delta position, since the negative Deltas of the short strike will be larger than those of the positive Deltas of the long strike.
- **A Credit Spread Put Vertical (Bull Put Spread)** that is set up OTM will be a positive Delta position, since the positive Deltas of the short strike will be larger than those of the negative Deltas of the long strike.

**Delta Size**

Now that we’ve defined what Delta is and what types of positions create different “Deltas”, let’s define the quantity of how many Deltas that each of these different types of positions creates:

- **Long or Short Underlying Stock** - one share of long stock creates +1 Deltas on that position. Similarly, one short share of that stock creates -1 Deltas on that position.
- **Long Options** - a long call will generate positive or “long” Deltas equivalent to the number of contracts traded times the actual Delta value of that Option. A long put will generate negative or “short” Deltas equivalent to the number of contracts traded times the actual Delta value of that Option.
- **Short Options** - a short call will generate negative or “short” Deltas equivalent to the number of contracts traded times the actual Delta value of that Option. A short put will generate positive “long” Deltas
equivalent to the number of contracts traded times the actual Delta value of that Option.

- **Options Spreads** - will provide Deltas equal to the positive Delta Options minus the negative Delta Options, and the final result can yield negative or positive Deltas depending on the composition of the spread.

- **Futures Contracts** - let’s stick to the major US indices for this definition, such as the S&P500 and the Russell 2000. The number of Deltas that a long S&P500 emini futures contract will add to the position depends on which Options chain that you are trading; one long contract will add +50 Deltas to a position trading the SPX Options, however it will add +500 Deltas to a position trading the SPY Options. (reverse the numbers for selling short a Futures contract on the S&P500 eminis) Similarly, one long contract on the Russell 2000 eminis will add +100 Deltas to a position trading the RUT Options chain, and +1000 Deltas to a position trading the IWM Options chain.

Let’s look at an example of how we can combine two Options to form a “spread”, and how the Delta of the aggregate position is determined. To begin, let’s go into the Options chain in Figure 1 and select a credit spread to analyze:

**Figure 1**

For this example, we’ll use the January 650/660 call spread on the RUT. If we sold this credit spread, we’d receive a credit of at least $1.80 on a $10 spread. ($3.20 bid on the 650 call minus $1.40 ask on the 660 call) If we used 10 contracts apiece, then the sold calls would create the following position:

\[
\text{Delta 650 Calls} = (-.29 \text{ Delta}) \times (10 \text{ contracts}) \times (100 \text{ shares/contract}) = -290\Delta
\]

Note that the 650 calls that we sold actually create *Negative* Deltas. This makes sense if you think about it, because if you sell calls, you want the price to settle below that strike price by expiration. A rise in price against sold calls would reduce the value of the position.

Now let’s look at the positional Delta that we’ll create from the long calls:
Delta 660 Calls = (.14 Delta)x(10 contracts)x(100 shares/contract) = +140Δ

If we combine both of these positions into one credit spread, we’ll create the following positional Delta:

\[-290Δ + 140Δ = -150 \text{ Deltas for the entire spread position}\]

The entire credit spread position has a positional risk of -150 Deltas, or the position would lose $150 of value for the first point that the RUT rises from this price point. Similarly, the position would gain $150 of value if the price of the RUT drops one point. As we define Gamma, we’ll show how this Delta value would change after that first one point move.

In an upcoming chapter we’ll show how to apply how the different sizes and compositions of positions to help us manage our Delta Risk.

**Delta “Neutral”**

Now let’s take the concept one step further; if you set up an Iron Condor with a Vertical Call credit spread (Bear Call Spread) and a Vertical Put credit spread (Bull Put Spread), then your total position should be essentially “Delta neutral” as the positive Deltas created from the put spread will be cancelled out by the negative Deltas of the call spread!

This “neutrality”, of course, will change as the price of the underlying instrument moves up or down. As the price approaches the Put credit spread, the entire position will become more “Delta positive”, meaning that if the price rises, the position will gain value. As the price approaches the Call credit spread, the entire position will become more “Delta negative”, meaning that if the price falls, the position will gain in value.

We’ll define how we use Deltas to manage our Options positions in a later section in this program. Next, we’ll tackle how Deltas actually “accelerate” with time and price distance by understanding the Greek value “Gamma”.
KEY LEARNING CONCEPTS FOR THIS SECTION

- A **Positive Delta** position wants the price to rise to gain value.
- A **Negative Delta** position wants the price to fall to gain value.
- A **Positive Delta** option position will show **more positive Deltas** if the price falls.
- A **Negative Delta** option position will show **more negative Deltas** if the price rises.
- Different types of stock, futures, and Options positions create either Positive or Negative Deltas.
- Option Spread positions combine positive and negative Deltas from the individual Options to create a net positive or net negative Delta position.

TEST YOUR UNDERSTANDING!

Watch the Overview Video and take the online quizzes for the “Delta” topic at:

http://www.optionslinebacker.com/dn/quiz.html
Greeks - Gamma Definition and Examples

Now we’ll consider the derivative of Delta, or how fast Delta changes with time and distance.

Gamma Definition

An option’s Gamma affects the rate of change of Delta:

**Gamma (\(\Gamma\)) is the measure of the change of an Option’s Delta value with respect to a one point move in the price of the underlying instrument.**

As Options sellers, we will almost always be dealing with Negative or Short Gamma positions. Negative Gamma positions lose value as the price approaches the position. Conversely, positive Gamma positions gain value as the price approaches the position, as we’ll see later with Gamma-hedge positions such as Butterfly spreads.

The way that Gamma affects Delta really surprises many newer Options traders. When Options are well out of the money, Delta values change very slowly with changes in the underlying price and this lulls many new traders to sleep, thinking that their position is well-protected. The closer that the position gets to the money, however, the faster that Gamma ramps up and “accelerates” the movement in Delta. Your position might have been miles out of the money and the price made a big move towards it, and your position barely changed in value…yet you find that the closer the price gets to it, the faster it’s losing value!

And the fun doesn’t stop there! Gamma doesn’t stay static as time approaches expiration; it tends to narrow and get VERY large near expiration as the price approaches being “at the money”, which is why you hear warnings about Gamma Risk near expiration, and why I won’t set up new positions within 15 to 20 trading days of expiry.

Let’s first discuss how Gamma dynamically affects the Delta. Why do you need to know this? Because it shows me how much my position’s Delta will change if the underlying instrument moves another point towards it. **It allows me to be more proactive when managing my portfolio.**

I’ll use an example to help me illustrate my point. Let’s use Google stock, which is currently trading for $620/share at the time of this writing. From Figure 2, we can see that the $620 call Options are trading for $10.30 x $10.40,
and the Delta of these Options is currently .51. I have purchased 10 contracts of these calls for my position.

Figure 2

<table>
<thead>
<tr>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>Did X</th>
<th>Ask X</th>
<th>Exp</th>
<th>Strike</th>
</tr>
</thead>
<tbody>
<tr>
<td>.51</td>
<td>.02</td>
<td>-.35</td>
<td>.50</td>
<td>10.30</td>
<td>10.40</td>
<td>JAN 10</td>
<td>620</td>
</tr>
<tr>
<td>.36</td>
<td>.01</td>
<td>-.32</td>
<td>.47</td>
<td>5.10</td>
<td>6.20</td>
<td>JAN 10</td>
<td>530</td>
</tr>
<tr>
<td>.23</td>
<td>.01</td>
<td>-.27</td>
<td>.39</td>
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<td>3.60</td>
<td>JAN 10</td>
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<td>1.20</td>
<td>1.30</td>
<td>JAN 10</td>
<td>660</td>
</tr>
</tbody>
</table>

Let’s recap what we know already based on Delta for this 10 contract position:

<table>
<thead>
<tr>
<th>GOOG January $620 Calls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option Delta</td>
</tr>
<tr>
<td>.51</td>
</tr>
</tbody>
</table>

With an option Delta of .51, that means that 10 contracts will give me a total position Delta of positive 510. We know that it’s going to be a positive Delta number because I am “long calls”, or I have bought the calls instead of selling them. The Delta number of .51 also means that if the underlying price of Google stock moves up one dollar to $621, then my calls will gain $.51 per share, or $510 since my 10 contracts are controlling 1000 shares of stock with 100 shares/contract. I haven’t listed it here, but keep in mind that the value of my Options would drop $510 if the price of the underlying stock were to drop $1 to $619/share, leaving my calls worth only $9,890...you can see that trading Options directionally is definitely a double-edged sword. You have to be RIGHT!

Now let’s see how Gamma fits in and manipulates the position’s Delta. Looking at the Options chain, the Gamma of the $620 calls is .02, which is a “per
share” value. Let’s go through the same exercise to see how this Gamma value will affect the position’s Delta after a one point move:

<table>
<thead>
<tr>
<th>GOOG January $620 Calls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option Gamma</strong></td>
</tr>
<tr>
<td>.02</td>
</tr>
</tbody>
</table>

This is the important thing; note how the Delta gets cranked up even higher after a positive move. This is why some Options plays look like they “explode” as they move to being at-the-money; it’s due to the effects of Gamma.

So this is really why we need to look at Gamma; once you understand your positional Delta risk...i.e. how much is your position gaining or losing with that next point move in the underlying....then your next step is to find out how that next point move will affect your positional Delta. Why is that important? It defines your risk ahead of time so that you’re being proactive. As a trader, there’s no worse feeling than the panic of watching the price move strongly against your position and not knowing what to do until it’s too late. This will make more sense as we go through the case example at the end of this book.

Now that we’ve looked at how Gamma affects the Delta, then it should come as no surprise that professional traders like to hedge positions or manage their Delta using the underlying stock...or using futures contracts. Both of these instruments have a fixed Delta, and have no Gamma value. That means that the Delta of the position is in direct proportion to the position size, without all the moving parts that Options feature.

If all of the preceding math and mechanics about “how Gamma changes Delta as the price gets closer or further to your Options position” seems confusing and is causing your eyeballs to roll back into your forehead, this is understandable. Holding an Options position is really about trying to manage a multi-dimensional entity that resists any attempt to apply “linear” logic to it. It’s like thinking that you can fly an airplane just because you’ve learned to drive a car...it’s difficult to control as there are so many more moving surfaces to control, and you’re moving in more dimensions vs. left/right & forward/backwards. Many traders give up and go back to stocks or futures because it’s just too confusing.
Hang in there, we just have to learn to APPLY these principles by steering you in the right direction. Let me give you a hand here by summarizing a couple of points that you can use to apply this information:

**A Credit Spread** position has **Negative Gamma** characteristics which means that it will lose value as price approaches the short strike price.

**A Debit Spread** position has **Positive Gamma** characteristics which means that it will gain value as price approaches the short strike price.

This means that if we’re using a Credit Spread like a Bear Call Spread, we want the price to stay as far as possible from the short strike throughout the length of the trade, or at least not move too close to it. On the other hand, if we’re playing a Debit Spread like a Bull Call spread, then we would encourage the price to approach that short strike by expiration to help maximize our profit.

Being able to read the sign of the Gamma on your portfolio can be very, very useful as you learn to “defend” your position.

Now that we’ve defined how Gamma “manufactures” Deltas as the underlying instrument moves closer to your short Options, what about how Gamma changes with time? It is very, very important that you understand at least a sense of this concept, so you know what kind of trades and situations to avoid.

I get many questions from newer spread traders that wonder why I can’t just set up trades in the last week before expiration – why wait weeks and weeks to get paid when you can just set up a spread before OpEx week and get paid on it in a couple of day? GAMMA RISK, that’s why. I’ll use some pictures here which will hopefully explain the concept.

The effects of Gamma are always centered ATM, or “at the money”. When there is a good deal of time left in the month, Gamma is relatively flat yet reaches out in a fairly wide distribution. In figure 3 below, let’s assume we’re trading the RUT and the price is currently at 700. (these diagrams are not to scale and are for illustration only). What does this graph mean? It shows that Gamma will still “manufacture” Deltas against relatively distant out-of-the-money positions, but the effect will be relatively small against your position Deltas if your short strikes are out near the “tails” of the Gamma distribution.
As time marches closer to Options expiration, note how the distribution of Gamma has tightened up (Figure 4), meaning that it is having less and less effect on the Delta of OTM (out-of-the-money) strikes, however it is having an increasingly larger effect on the ATM strikes!

Figure 3

Figure 4
And with very little time to Options expiration, note how the distribution of Gamma has “spiked” in Figure 5; it has now very little effect on the Delta of OTM strikes, but has an extraordinarily strong effect on the Delta of any option that is ATM.

Figure 5

This is why you take your life into your hands if you have a sold Option in a credit spread that is ATM near expiration. You can go from having a profit one minute, to being deeply in the hole the next if you catch even a portion of that Gamma curve and its manipulation of your positional Delta.

How do we apply this “Gamma Time Effect” to our trading? Probably the biggest application for Professional traders is that they close “short Gamma” positions early, rather than risking front month profits due to the unpredictability and volatility that Gamma brings in the final days of the month. Something else that the Professionals do is to leverage this characteristic by “Gamma Scalping”, which is a form of directional scalp/day trading and well beyond the scope of a beginner’s guide to the Greeks.

And make no mistake, there are valid short Option selling strategies using expiration week or Weekly Options that can be very profitable. A trader needs to be very disciplined and mechanical in dealing with these plays, as they are highly directional trades and not at all like the typical High Probability Options trade where most of the price action occurs miles away from your position.
KEY LEARNING CONCEPTS FOR THIS SECTION

• Gamma shows how much your Deltas will change if the price of the underlying instrument moves another point.

• Options positions that are **Negative or Short Gamma** (credit spreads) want the price to move **AWAY** from the position.

• Options positions that are **Positive or Long Gamma** (debit spreads) want the price to move **TOWARD** the position.

• Options positions are more sensitive to Gamma as the date gets closer to expiration.

TEST YOUR UNDERSTANDING!

Watch the Overview Video and take the online quizzes for the “Gamma” topic at:

**Greeks - Theta Definition and Examples**

Now we get to the favorite Greek of all Option sellers, Theta.

**Theta Definition**

An Option’s Theta is your biggest friend if you’re an Option seller....and your worst enemy if you’re an Option buyer.

*Theta (Θ) is the measure of the change in an Option's value with respect to a one-day change in time.*

If this “Theta” number is positive, then it illustrates how much your position is gaining value every day as a result of Theta. Conversely, if this number is negative, then it illustrates how much value that your position is losing every day due to premium erosion.

For the purposes of this book, I won’t try to re-create Natenburg’s classic “Option Volatility and Pricing” or McMillan’s “doorstop” reference “Options as a Strategic Investment”; let’s make it simple. If you see a positive number that represents the Theta of your entire position, then you’re doing something right with your Option selling strategy. If you see a negative number, then you’re directionally speculating and your position is losing time value every day.

Let’s go over some basic facts on how Options positions affect Theta:

**Selling Puts** creates a Positive Theta position, and **Selling Calls** creates a Positive Theta position.

This is the MAIN edge that we use when selling Options - we are selling a wasting asset, and this “burning time value” is represented as “Positive Theta”. Now let’s see what happens when we BUY Options....

**Buying puts** creates a Negative Theta position, and **Buying Calls** creates a Negative Theta position.
If you’re like most Options traders, you first started trading Options by buying them. This decay in time value was a real challenge; on some trades, even if you picked the direction of the move correctly, you lost money if you didn’t buy enough time for the move to happen. The Negative Theta of the position burned a hole in your position. This didn’t happen with stocks when you first started trading, however. Let’s see how Stocks are affected by time value:

- **Buying the Underlying Stock** has no effect on Theta.
- **Selling Short the Underlying Stock** has no effect on Theta.

Stocks that you buy have no “time value” and can stay at the same price indefinitely without losing money. (there is “opportunity cost” but that’s a different topic) Conversely, shorting a stock may come with an interest cost of “borrowing” the stock, plus any cost of potential dividend payouts if you hold it over the ex-dividend date. This will not change the calculation of Theta on any Options position that you hold in parallel with the short stock, however.

What about Futures contracts? How do they factor in with “time value”?

- **Buying the underlying futures contract** has no effect on Theta.
- **Selling the underlying futures contract** has no effect on Theta.

Futures contracts don’t have any “time decay” although there is a slight erosion of the contract value over time due to the “cost to carry” build into the price of the futures contract. For most positions that are held for a month or less, it’s negligible.

Since we’re mostly interested in income-generating trades that generally involve Options spreads, let’s see how these respond to Theta:

- **Selling a Credit Spread** means that the **Positive Theta** of the short Option is larger than the **Negative Theta** of the long Option, so the position will be Positive Theta overall.
- **Buying a debit spread** generally means that the **Negative Theta** of the long Option is larger than the **Positive Theta** of the short Option, so the position will be **Negative Theta** overall.
This makes sense as most of the trades that we do are Credit Spreads, which we just want to go “flat” for the time period that we hold the spread, as we’ve sold a wasting asset that will make us money as it erodes. A debit spread, on the other hand, is more of a directional trade (one that requires the underlying instrument to move in a predicted direction) and the short Option is frequently used to either lower the cost basis of the trade, add a little downside insurance, or both.

With a complex Options portfolio that may contain many different elements of short and long Options, stocks, and futures contracts...it’s nice that we can summarize the “time decay” component of the portfolio into one number, which is our newest Greek “Theta”.

**KEY LEARNING CONCEPTS FOR THIS SECTION**

A Positive or “Long” Theta position means that time is working for you.

A Negative or Short Theta position means that time is working against you.

**TEST YOUR UNDERSTANDING!**

Watch the Overview Video and take the online quizzes for the “Theta” topic at:

Greeks - Vega Definition and Examples

Vega Definition

An Option’s Vega can have the greatest effect on its price fluctuations, so this makes it very important that we need to understand this under-appreciated Greek to better manage our spread positions.

Vega (V) is the measure of the change in an Option’s value with respect to a one-percent change in volatility.

If this number is positive, then it illustrates how much your position will gain with a rise in implied volatility. Conversely, if this number is negative, then it illustrates how much value that your position will lose with a rise in implied volatility.

Before we get into Vega itself, it’s important to understand how the Market reacts to volatility. The following characteristics generally hold true:

- **Trends** - Volatility usually rises during a downtrend, and contracts during an uptrend; this is because prices generally fall much faster during downtrends than they rise during uptrends. (price take the stairs up, and the window down)
- **Expectations and Uncertainty** - Volatility will usually rise preceding a big announcement, as the “implied” move is accounted for in advance due to the uncertainty. Volatility will then normally contract after the announcement due to the certainty coming back into the market.

So let’s see how individual Options react to Vega; what characteristics will they show if we sell an individual option position?

- **Selling Puts** creates a Negative or Short Vega position.
- **Selling Calls** creates a Negative or Short Vega position.

Generally when you sell an Option, it’s better to have volatility contract after you’ve entered the position, as opposed to expand after you’ve entered the position. You’ll know this for a fact if your position Vega is a negative number.
Now let’s see what kind of Vega we’ll notice if we buy an Option position:

- **Buying Puts** creates a **Positive** or **Long Vega** position.
- **Buying Calls** creates a **Positive** or **Long Vega** position.

Generally when you buy an option, it’s better to have volatility *expand* after you’ve entered the position, as opposed to contract after you’ve entered the position. You’ll know this for a fact if your position Vega is a positive number. What about if we buy or sell stock or futures contracts for our portfolio? How will that affect the Vega of the portfolio?

- **Buying the underlying stock** has no effect on **Vega**.
- **Selling short the underlying stock** has no effect on **Vega**.
- **Buying the underlying futures contract** has no effect on **Vega**.
- **Selling the underlying futures contract** has no effect on **Vega**.

Neither stocks nor futures contracts will show any change in value with a change in Implied Volatility.

The classic example of how Vega affects an Option is seen with the basic rookie mistake. At the end of a very long downtrend, where implied volatility is at its highest point and fear is running rampant in the Market, a new trader will read their charts and might correctly guess that the bottom of the Market is in. They buy out-of-the-money calls, as they expect a big move. Buying calls, as stated above, is a **Positive or Long Vega** position; the Option will gain value with a rise in implied volatility. The problem in this case is that implied volatility will drop rapidly as the price rallies, causing the dreaded “volatility crush”. In this instance, the rookie trader will be lucky to make a profit at all, even though they correctly guessed the Market’s future direction.

Conversely, this also explains why buying puts can work so incredibly well during a quiet market, and you’re forecasting a downturn. If you buy the put prior to the breakdown and the subsequent rise in implied volatility, then the value of your put Option will literally “explode” in value.

Now that we’ve discussed how Vega affects single Options, let’s see how Vega affects our Iron Condor credit spreads.
Let’s look at a basic call credit spread, where we’re selling the call at the nearer strike and buying the call at the further strike. Let’s use the same January RUT 650/660 call spread that we used for the “Delta” example.

### Figure 6

<table>
<thead>
<tr>
<th>CALLS</th>
<th>Strike:</th>
<th>JAN 10</th>
<th>JAN 10</th>
<th>JAN 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delta</td>
<td>gamma</td>
<td>vega</td>
<td>bid X</td>
</tr>
<tr>
<td>JAN 10</td>
<td>100</td>
<td>97</td>
<td>.06</td>
<td>40.20</td>
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<tr>
<td></td>
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<td>.01</td>
<td>.21</td>
<td>30.10</td>
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<td></td>
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<td>.01</td>
<td>.34</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>.03</td>
<td>.00</td>
<td>.09</td>
<td>.20</td>
</tr>
</tbody>
</table>

**Notes:**
- **Jan 650 Call Vega = .32.** This is a short option so the value is then negative .32. Since we’re using 10 contracts, the total Vega for these calls is -320.
- **Jan 660 Call Vega = .21.** This is a long option so the value is then positive .21. Since we’re using 10 contracts, the total Vega for these calls is +210.

Combining the two options together, we have \((-320) + (210) = -110\). The call credit spread is therefore a **Negative or Short Vega position**.

**DON’T GO ANY FURTHER UNTIL YOU UNDERSTAND THIS!**

**Credit Spreads and Short Options** are **SHORT VEGA** positions, which gain value when implied volatility drops.

**Debit Spreads and Long Options** are **LONG VEGA** positions, which gain value when implied volatility rises.

So what does this mean? If we go back to the definition of Vega, then this position will lose $110 of value for the first percentage point rise in volatility. Conversely, it will gain $110 of value for the first percentage point drop in volatility. I could go through the example with a put vertical credit spread but it would show the same thing - it would be a Short Vega position.
Let’s step back for a second and consider what we just learned. Credit spreads are Short Vega positions – they don’t react well when implied volatility rises when you’re already in the position. They react very well, however, when implied volatility drops when you’re already in a position.

That last paragraph is incredibly important, because it identifies an edge that we have as Options sellers - we want to set up credit spread trades when implied volatility is peaking. This usually happens when the Market sees a brief, panic-induced selloff which spikes the implied volatility. Trades that are entered during this condition become quickly profitable as the price gets a relief rally back up, due to the dropping implied volatility. (especially Put Credit spreads!)

Another element related to Vega is what I call the Vega Defense in my daily newsletter. This is mostly applicable to Bear Call spreads; once I’m in the trade, the trade becomes somewhat self-defending because volatility will usually shrink as the upside rally continues. Since my credit spread is a Short Vega position, it will gain value as the implied volatility drops. This helps offset any loss of value from the Negative Gamma aspect of the price move. In this case, the effects of Vega help “defend” my topside call spread against an upside attack.

Lastly, another characteristic of Vega that we need to understand when we set up our credit spreads is how Vega changes with time. Much like Theta, the effects of Vega dissipate with time. This is best seen visually, you can see in Figure 7 below that Vega is “centered” at the money, similar to Gamma. (using RUT 700 as the current price) Note how the Vega distribution is relatively large and wide, having an effect even on OTM positions and especially ATM.

31
As we get close to expiration, however, note in figure 8 how Vega has “shrunk”:
What does this tell us? *That the effects of a change in implied volatility will have the most dramatic effect on longer-term Options vs. those about to expire.* This means that if we expect to see an event where we expect Implied Volatility to shrink dramatically - such as what we see during a Market bottom - then we’ll get the most dramatic effect with back-month Options.

**A QUICK NOTE ON CONVENTIONS**

To this point we have talked about the Greeks having “Positive” or “Long” characteristics in the same breath, as well as having “Negative” or “Short” characteristics. They mean the same thing, however traders who are unfamiliar with these conventions need to have them first explained in “Positive” or “Negative” terms first.

From this point forward in this program, we are going to act and speak like Professionals, who use the convention “Long” and “Short” when describing anything such as Stocks, Options, Futures, or position Greeks.

**KEY LEARNING CONCEPTS FOR THIS SECTION**

**VEGA** shows how much your position value changes with a 1% change in implied volatility of the instrument you're trading.

**SHORT VEGA** positions like to see volatility drop after you’ve entered the position.

**LONG VEGA** positions like to see volatility rise after you’ve entered the position.

**Back Month** positions are more sensitive to changes in volatility than **Front Month** positions are.

**TEST YOUR UNDERSTANDING!**

Watch the Overview Video and take the online quizzes for the “Vega” topic at:

http://www.optionslinebacker.com/dn/quiz.html
After this phase of the program, we have covered the overview of the Options Greeks. It’s important that you take the time to fully understand them before you move on to the subsequent chapters and we begin to apply them. If you missed some of the online quiz questions, take the time to go back and review the material before you press on.

Now we’ll start to apply our knowledge of the Greeks by using them to Manage Risk in our trades.
Using the Greeks for Risk Management

Now that we’ve defined the Greeks, how can we use them? And what’s all this business about Risk Management? Well, the reason that we track the Options Greeks is to have a better understanding about how the entire position changes dynamically with changes in price, time, and volatility. And any time that something changes, there is potential risk if it changes too much. Let’s use some examples to illustrate these risks:

**Delta Risk** - the Delta of a position shows us the change in the value of a position if the underlying stock price moves one point. If the Delta value is relatively small - which is also relative to the size of our live position - then we know that the next point move in the underlying stock won’t affect our position’s value very much. If the Delta value is large, however, then we know how much that next point move in the underlying stock will either hurt our position, or cause a large gain. This is our Delta Risk. How much Delta Risk is too much? That’s what we need to figure out and we’ll get to that soon.

**Gamma Risk** - the Gamma of a position shows us how much Delta will change after the next point move of the underlying stock. If the underlying stock moves one more point towards our position, will it increase or decrease the value of the position, and by how much? As the price gets closer and closer to a short Options position, the Delta Risk can increase exponentially due to the way that Gamma affects the Delta. And we also know that this effect increases as we get closer in time to Options Expiration. These two dimensions show us our Gamma Risk.

**Vega Risk** - the Vega of a position shows us how much the value of the position will change with a 1% change in Implied Volatility. If the Implied Volatility increases by 1%, will it increase or decrease the value of our position? This is our Vega Risk.

**Theta Risk** - the Theta of a position shows us how much the value of the position will change after one more day of time goes by. This is only measuring your risk should you be Long an Option, which is not what we’re doing the majority of the time. This is our edge when we sell Options. If you hold a long position, this Greek will show you your Theta Risk.
Now that we’ve defined our risks, let’s put it into context by defining a typical position; let’s examine a SPY 117/119 Bear Call Spread Options position with 5 contracts. This trade is initiated by selling 5 calls at the SPY 117 strike, and buying 5 calls at the 119 strike for “insurance” to make this an Options Credit Spread. Let’s look at the Greeks for this position:

<table>
<thead>
<tr>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
</tr>
</thead>
<tbody>
<tr>
<td>-32.68</td>
<td>-7.82</td>
<td>3.03</td>
<td>-13.60</td>
</tr>
</tbody>
</table>

This is precisely where the newer Options trader starts to fade out, as there are just too many numbers and it’s difficult to figure out how this four-dimensional object can be managed. It’s not unlike a puppeteer controlling a marionette. Let’s start by cutting this monster down to size!

First of all, we don’t really need to manage the “Theta Risk”; we have sold an Options position and the Theta is positive, so it’s in our favor and thus not a “risk”. We’re earning $3.03/day on the position from the daily burn on the Options time value, that’s all it means.

We’ve cut out 25% of our Greeks that we have to manage, let’s see what the rest of these numbers mean:

**Delta** - the Delta of this position reads -32.68. First of all, it’s a Short Delta position, meaning that the position will gain value as the price goes DOWN, and lose value as the price goes UP. How much will it change? This position will gain $32.68 of value if the price of the SPY drops by one point, and it’ll lose $32.68 of value if the price of the SPY rises by one point. In the next section, we’ll see how to “manage” this Delta number.

**Gamma** - the Gamma of this position reads -7.82. First of all, it’s a Short Gamma position, meaning that this is a Short Options position therefore we want the price to go AWAY from the position,... in this case, down since it’s a Bear Call spread. Secondly, it’s showing us how much the Delta will change if the SPY moves up or down one point. If the price goes higher, then the Delta of the position will increase by the Gamma amount, or in this case the Delta will rise to (-32.68)+(-7.82) = -40.50. If the price goes lower, then the Delta of the position will decrease by the Gamma amount, or in this case the Delta will fall to (-32.68)-(-7.82) = -24.86.

The Gamma Risk is that as the price comes closer to this short Bear Call Spread Options position, the Delta Risk will rise faster and faster; it creates an “acceleration” of risk. You probably experienced this phenomenon the very first time that you entered a credit spread position, and it can be quite scary how fast the risk will accelerate the closer the price gets to your position. To combat this risk, you would add positions with Positive Gamma characteristics.
that would actually gain value as the price closed in on your position! We’ll discuss this in the “Managing Gamma Risk” section further on in this program.

**Vega** - the Vega of this position reads -13.60. First of all, it’s got a Short Vega number, meaning that we have a Short Options position therefore we want the implied volatility to DROP once we enter the position. If the Implied Volatility drops by 1%, then the position value will gain $13.60.

So what do we do with these numbers? How on earth do we manage a position with all of these moving parts? If there’s one thing I’ve learned over time, it’s that there are always similar analogies to trading no matter where I look in nature or technology. And one of the best analogies to managing all of these Greeks in a trade is....flying an airplane.

Let’s think about this for a minute and see if any lessons apply to our challenge. A pilot uses both arms and legs to control the following:

- **Left Hand** - controls the throttle in a single engine plane, determines the engine speed and how fast your aircraft goes.
- **Right Hand** - controls the yoke or “stick”, which controls the ailerons and elevator, and controls your bank direction left/right, and up/down.
- **Left and Right Feet** - controls the rudder, which helps control left/right skid direction.

(Pilots, please bear with my elementary analog here....)

Now if you had no experience piloting aircraft and got thrown into an emergency where you had to fly a plane, what would your first concern be? Obviously you’d be intimidated by all of the controls and gauges and would not be sure where to start and what’s most important. After you gain your composure, however, you would quickly figure out that the most important thing to determine is whether or not you are climbing or falling! Air under the wings is good. Contact with the ground is undesirable unless it’s at the right approach speed and angle. I’ve seen enough “air disaster” movies to know that the first thing that the tower asks the frightened “pilot” is what their altitude is and whether their altimeter is rising or falling.

Once they get the plane leveled off, THEN they can worry about things like direction, speed, fuel, nearest airport, approach vectors, rate of descent, and all of the other myriad details necessary to bring a fast flying object to rest in a controlled manner on the ground.

And this is EXACTLY what we do with an Options position; we manage these four Greeks to arrive at Expiration in a controlled fashion. **The Greek that we care the most about is Delta**, because it really gives you a dynamic
understanding of whether your position value is rising or falling….similar to the way a pilot instinctively knows that altitude is their most important reading.

And this analogy doesn’t stop there, unfortunately. With Options trading, you don’t need much knowledge at all to ENTER a position. Unfortunately, all too often the novice Options trader finds themselves at 10,000 feet and plummeting with absolutely no idea of what to do next to manage their descent. Only after they get into trouble with their position do they call the “control tower” in a panic, when they’re only 500 feet from the ground and about to crash.

Don’t worry, we’ve all been there. The object of this program is to help you understand all of those gauges and controls so that you can make a gentle, controlled approach into the expiration cycle of your choice.

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**KEY LEARNING CONCEPTS FOR THIS SECTION**

**DELTA RISK** shows how much the next point move of the underlying instrument will affect the value of that position.

**GAMMA RISK** shows how much the next point of the underlying instrument will affect the DELTA.

**THETA RISK** is only applicable in Long Options positions.

**VEGA RISK** shows us how much the value of the position will change with a 1% change in Implied Volatility.

A Short Delta position wants to see the prices fall, and a Long Delta position wants to see prices rise.

Short Options positions will have **SHORT GAMMA**, which is telling us that the position wants the price to stay away from the short Option. This effect will increase as the time gets closer to Options Expiration.

Short Options positions will also be **SHORT VEGA**; this means that it wants to see implied volatility drop after you’ve entered the trade.

**TEST YOUR UNDERSTANDING!**

Watch the Overview Video and take the online quizzes for the “Risk Management” topic at:

http://www.optionslinebacker.com/dn/quiz.html
You’re making good progress - keep it up! You’ve learned what the Options Greeks are, and now we’re starting to put some meat on those bones by actually applying the theory to see how we can Manage Risk in our trades.

Now it’s time to dive in a little deeper by showing you specifically HOW we will manage trade Risk, one Greek at a time. We’ll start with the most important one, Delta Risk.
Delta Neutral/Managing Delta Risk

Now that we understand the basics of what the four major “Greeks” signify and what risks they bring to our positions, how can we apply them to help manage our positions? This section is focus in on how to apply all of our newfound knowledge to manage Delta risks.

First of all, let’s assume that we’ve entered an Iron Condor combination Credit Spread trade, with a Bull Put Spread position and a Bear Call Spread position. Let’s take inventory on what our position characteristics are:

- We have a small Delta value because the Short Deltas of the Bear Call Spread trade are generally canceling out the Long Deltas of the Bull Put Spread position. This small Delta value means that the position’s value will not change much with a one point change in price, in either direction.
- We have a Short Gamma position; price needs to stay away from our position(s).
- We have a Long Theta position; time value is burning in our favor.
- We have a Short Vega position; it will help our position to see the Implied Volatility drop from this level.

If you’ve entered a credit spread trade like this, at some point one or both of your Credit Spreads have been “attacked”. You have a Short Gamma position, meaning that your position is losing value as the price closes in towards your short strike. Depending on how far you let the price come towards - or through - your short strike, it can be very painful to watch that attack! Perhaps that situation occurred because - like many newer traders, you knew how to get into the trade, but not how to “defend” it. You sat there like a deer in the headlights and HOPED that price turned away from that spread.

Now that we understand the Greeks, we can do things about the position that you have in play. We’ll monitor the risk proactively, and adjust your portfolio to mitigate that risk. The main Greeks that we’ll use to monitor risk and adjust will be Delta and Gamma.

For any given option or combination of Options, you will have a specific level of Delta/Gamma/Theta/Vega for that price and time. Your job as a trader is to manage that portfolio as a whole, and not piecemeal. This can be a departure from how you have managed trades in the past. Think of the separate positions in your account as one large position.

If you are in a balanced Iron Condor, with the Delta of both put and call short strikes being approximately equal, then you will be “Delta Neutral”. This
means that the short Deltas from the call spread will be about equal to the long Deltas from the put spread. When your position is “Delta Neutral”, there is very little risk from the first point move in the underlying in either direction, and Theta is doing its job of burning off your time value, making the positions a little more profitable every day.

But stuff happens, doesn’t it? Markets tend to move, and these Short Gamma credit spreads really hate movement in the underlying towards your position. Due to the effects of Gamma, the closer that the price gets to your position, the more pain that you feel. The losses accelerate and you start to get the very real feeling that the Market is out to get you! What can you do?

**Adjust!** Think of your combined Options position as a big pot of stew. If you’ve ever seen a chef working on a recipe, they’ll take a quick taste, make a wry face, and then immediately reach for one or more ingredients to adjust the flavor to their liking. You’re going to do the same; that Options position (or pot of stew) is just a work in progress.

The concept is fairly simple; if your Short Delta position is being attacked (like a Bear Call spread), then add Long Deltas. If your Long Delta position is being attacked (like a Bull Put spread), then add Short Deltas. It’s kind of like steering a car...if you drift left, then turn the wheel to the right, and vice versa. Life is a series of adjustments and corrections and trading is just another one of them.

Let’s review the instruments that we can use to adjust with:

- **Buying Calls** adds Long Deltas.
- **Selling Puts** adds Long Deltas.
- **Buying the underlying stock** adds Long Deltas.
- **Buying the underlying futures contract** adds Long Deltas.

Note that all of these instruments/positions gain value as the price goes up! That’s why these are Long Delta positions. Let’s review what we can use to add Short Deltas:

- **Buying Puts** adds Short Deltas.
- **Selling calls** adds Short Deltas.
- **Selling short the underlying stock** adds Short Deltas.
- **Selling the underlying futures contract** adds Short Deltas.
Note that all of these instruments/positions gain value as the price goes down! That’s why these are Short Delta positions.

While we’re at it, let’s add a couple of alternatives to add positive or negative Deltas:

- **Selling another Bear Call Spread** adds Short Deltas.
- **Buying a debit call vertical (Bull Call Spread)** adds Long Deltas.
- **Selling another Bull Put Spread** adds Long Deltas.
- **Buying a debit put vertical (Bear Put Spread)** adds Short Deltas.

So many alternatives! What’s a trader to do?! Well, first of all, let’s remove some of the alternatives that I don’t think are going to help us:

- For the reasons discussed in the “Greeks” section above, buying puts and calls are Short Theta positions. That means that they’re losing time value from day one, as well as being susceptible to Vega Risk, or changes in Implied Volatility. At first pass, buying calls or puts looks like a great way to hedge a position because they are effective and inexpensive, but you’re trading one risk for another by doing so. These are extremely difficult instruments to use correctly and not multiply your losses, which is what you were trying to do in the first place by hedging! We will show the one instance in a later section where Long Puts can be used successfully, but for right now we’ll avoid them.
- Selling puts and calls, either through Naked positions or through spreads, cures the “Short Theta” problem, but also opens you up to different forms of positional risk through the other Greeks such as Gamma and Vega.
- I personally don’t like shorting stock. You open yourself up to dividend risk, and after watching how the SEC outlawed shorting financial stocks overnight in September 2008, I never want to short a stock again. I just think that there are cleaner ways to achieve an equivalent hedge and we’ll show you that next.

Let’s look at a different way to add or subtract Deltas:

**The Synthetic Stock Position**

In the previous examples, we can see that using stocks as a Delta hedge is the best solution on paper, however there are some limitations:

- Your underlying shares might be very expensive, particularly in the case of Index ETFs like the SPYders or the DIAmonds, both currently well over $100/share. That’s a lot of cash required to add just one Delta.
• Shorting stock to create Short Deltas can be problematic from the standpoint of dividend risk, and in some cases the shares can be difficult to borrow.
• Congress and the SEC do not fundamentally understand all of the mechanics of the various Markets....certainly not the Options Market, and tend to politically categorize anyone “selling short” as one trying to do harm to the company or stock index. We have had many events over the past few years where short-sellers were punished en masse in what turned out to be a ham-handed and failed effort to prop markets higher.

In a nutshell, hedging with long shares is good but expensive, and hedging with short shares is eventually a recipe for disaster. What can we use instead?

**Synthetic Stock positions!**

I won’t get into the math of put/call parity, but a little-known fact for every Options chain is that if you add the delta of the call at a specific strike price to the delta of a put at that same strike price, their sum will add up to 1.0. As an example, if I look at Figure 9 for the SPY Options chain for the DEC 10 puts and calls at the 119 strike, the calls have a delta of .55, and the puts have a delta of .45.

![Figure 9](image)

What this means....is that no matter what strike I go to on the Options chain, the delta of the put added to the delta of the call will equal 1.0. **Always.** What does this mean to us? We can synthetically create a stock position, either long or short, by trading puts and calls at the same strike! Here are the composition of each of these positions:

**To Create a Long Synthetic Stock Position**

Sell one put and buy one call at the same strike price and the same month

**To Create a Short Synthetic Stock Position**

Sell one call and buy one put at the same strike price and the same month
Think about each position for a second; for the Long Synthetic, selling a put is a Long Delta position, as is buying a call. For the Short Synthetic, selling a call is a Short Delta position, as is buying a put.

Let’s put a little bit of structure around these trades by applying some rules:

<table>
<thead>
<tr>
<th>Trading Rules for Synthetic Stock Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Each contract of these positions creates 100 or -100 deltas depending on whether you set up the position as a long or short synthetic. For instance, selling 5 puts and buying 5 calls at the same strike price creates +500 Deltas.</td>
</tr>
<tr>
<td>• It is good practice to establish the short option out of the money so that early assignment is not an issue if using American-settled Options.</td>
</tr>
<tr>
<td>• Design the synthetic position so that the hedge would no longer be needed (thus likely closed) prior to the short option being ITM.</td>
</tr>
<tr>
<td>• This position will expire with the expiration cycle for that month; make sure that you establish positions that will exist at least as long as the primary position that you are adjusting.</td>
</tr>
<tr>
<td>• You must close the position prior to expiration to retain extrinsic value.</td>
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</tbody>
</table>

If you establish the short option out of the money, you will be paying a debit for the trade, or some cash out of your trading account. Don’t think of this as a “cost” that you will have to pay, because this trade will hold that value until expiration assuming a constant price. The Theta of the short Option erodes at the same rate as the Theta of the long Option, so the value of this position does not decay over time. (but you must close the position before expiration!)

What are the pros and cons of using Synthetic Stock vs. regular stock for adjusting positions?

**Using Regular Stock**

- requires a lot of capital to employ.
- can fine-tune the amount of Deltas to a single digit.
- shorting stock to create Short Deltas comes with risk. (see previous)
- the hedge can live as long as you own the stock.
Using Synthetic Stock Positions

• requires less margin than stock to employ a similar position.
• can only be employed in multiples of 100 Deltas.
• the lifespan of the hedge ends with expiration of that cycle.
• some risk of early assignment if using ITM American-settled Options

So let’s look at our final list of the instruments that we’ll use to manage our Delta Risk:

<table>
<thead>
<tr>
<th>Long Delta Hedge Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buying the underlying stock</td>
</tr>
<tr>
<td>Going Long the underlying futures contract</td>
</tr>
<tr>
<td>Selling a Bull Put credit spread</td>
</tr>
<tr>
<td>Establishing a Long Synthetic Stock position</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Short Delta Hedge Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling Short the underlying stock</td>
</tr>
<tr>
<td>Selling Short the underlying futures contract</td>
</tr>
<tr>
<td>Selling a Bear Call credit spread</td>
</tr>
<tr>
<td>Establishing a Short Synthetic Stock position</td>
</tr>
</tbody>
</table>

If you’ve followed our discussion on Gamma, then you’ll know that any hedge that you place to “neutralize” your Delta will only keep you neutral for that next point move in the underlying stock. The effects of Gamma tend to “accelerate” the production of Deltas the closer that the price gets to the short strike of your credit spread. This means that there’s a dynamic element to hedging as well.

At this point you should be asking all sorts of questions, such as “When should I place the hedge? When do I add to it? When do I take it off?”. Let’s see if we can put some meat on those bones by adding some rules around hedging:

How Do I Determine When to Start Hedging?

You must first determine your own personal “Delta Threshold”. Unfortunately, this will be different for everyone, as it will change with a person’s account size, the size of their current positions, and their psychological makeup of risk and reward. Think about the definition of “Delta” again - the change to your position value with the next point move of the underlying - so what you’re really asking yourself is “how fast is too fast?”.
I’m seen some professional Options traders with seven figure accounts barely blink when their portfolio Delta Risk hits five figures….imagine the value of your portfolio dropping by $10,000 should the SPYders move against your position by one point! And yet this was no big deal to this player. And there are folks with $5000 accounts who have very small delta thresholds, understandably. So there is no “one size fits all” number that works for everyone. It depends on your sense of risk/reward as well as your account size.

A true personal Delta Threshold comes to you with time and experience. It took me several years to develop my own thresholds and I’m very comfortable with them at this point, so it’s all very mechanical to me now. I will share these Threshold numbers with you and encourage you to develop your own metrics over time that better fit your personality and sense of risk/reward.

Keep this in mind….most beginners start with very small Delta thresholds. What this means is that they are adjusting the risk parameters of their trade with only modest moves against their position. What they will find, in time, is that small Delta thresholds in relation to their account size lead to many adjusting positions, oftentimes unnecessary ones that end up losing money.

And those with more tolerance for risk and reward end up with larger Delta thresholds as a percentage of their position size. They will not adjust very often, ignoring the typical market “noise”…..however when a very large move comes along, they will be “behind the curve” and adjusting far too late to keep their risk contained.

So let’s start out with a relatively simple threshold that I find works well to help dynamically manage risk:

• Set your Delta Threshold to a value equal to one-half of the credit of the position that you are protecting.

To put numbers to this, let’s say I entered an Iron Condor position and both of the credit spreads (bear call spread and bull put spread) earned $600 of credit apiece for a total $1200 maximum credit. I would set the Delta Threshold to +/-300, which would represent half of the value of an attacked position, since both positions cannot be attacked at once.

In time, you will develop your own Delta Thresholds that will be fine-tuned to not only your trading style, but also your position size and sense of risk/ reward. The above threshold number also represents the threshold that I use for the “High Probability” Iron Condors which are typically sold at .10 Delta levels, or a 90% probability of success. I use far different Delta Thresholds for the “Low Probability” Iron Condors which will be covered in a later chapter of this program.
How Much of a Hedge Do I Use at First?

When your first Delta threshold has been reached, I normally remove about one-third to one-half of my position Delta, depending on the granularity of the adjustment. As an example, let’s say that the underlying price was running to the upside and your call spreads were starting to manufacture a lot of negative Deltas, reaching your Delta threshold of -300. At this point you would add a positive Delta hedge to remove 1/3 of those Deltas by adding a +100 Delta hedge. This can be done by using any of the Long Delta hedge instruments outlined above. The simplest of these would just be to buy 100 shares of the underlying stock, which would add 100 Long Deltas.

I was originally taught (the “Chicago Way”) to take off 2/3 of my Deltas when my risk threshold was exceeded, however I find that I am much more comfortable with making smaller, more incremental adjustments to trades vs. taking a sledgehammer to it with a larger adjustment like 2/3.

The important thing that I need to keep reminding you about here....is that adjusting trades is not a magic panacea to turn a bad trade into a profitable one. It is merely a controlled, measured technique for transferring risk from one position to another. If you overreact when you adjust, then you actually INCREASE your position risk instead of managing it. In the Active Risk Management section of this program, we'll show how to adjust a position by taking positions away, and not adding them.

As an example to illustrate “over-adjustment”, let’s use the previous example of the $600 credit position with a -300 Delta Threshold. If I add +300 Deltas to that position by buying 300 shares of stock....to immediately neutralize all of the upside risk for the next point higher.....what happens if the price goes down? I have now created more risk to the position than I originally had.

Analogy time; we all use thermostats at home. They utilize a concept called “hysteresis” in the system to handle the same problem. You set a temperature on the thermostat that you want your home to be kept at. (similar to Delta Threshold) In the winter, if the temperature falls by more than a couple of degrees below that level, the heater kicks on and will normally overrun that temperature level by a degree or so. The temperature drifts back down to a couple of degrees below the thermostat level again over time, and then the heater kicks on again, overrunning the thermostat level by a degree. This cycle repeats until the Spring shows up. The “hysteresis” is the width of the cycle that allows the temperature to fall below the desired temperature by a couple of degrees...and then allows it to rise above the desired temperature by a degree.
If the thermostat did NOT work like that and tried to keep the temperature at a fixed, constant temperature.....the confounded unit would be forever turning on and off, creating an enormous racket.

Think of how this would apply to your trading; setting a Delta Threshold that is too small, and then applying too much of a hedge when your threshold is hit.....means that you will be generating a lot of trades and potentially increasing your risk instead of effectively managing it.

**How Long Do I Keep This Hedge?**

Without a doubt, this is the most difficult time in a hedge's life - those first few hours or days that you employ the hedge. If the price keeps going in the previous direction, then great...the hedge is doing its job and is helping keep you more “neutral”. In that case you keep the hedge, and maybe even add to it, as we’ll discuss in a minute.

But what if the price immediately falls away? This is an illustration that there is no such thing as a risk-less trade; any time that you hedge a position, you are simply trading one risk for another, in order to re-gain your edge. You must be willing to risk part of the value of this hedge, especially if you are using stock or futures to hedge the position. Again, think of it as insurance.

I will usually risk the same value as the original Delta Threshold. As an example, if I put on a Long Delta hedge when my Delta reached the -300 threshold, then I am willing to lose $300 on that hedge should the price reverse. That would also put me back to a “neutral” Delta setting, so really you can think of that as $300 spent as insurance against a continued move.

If the price does continue to move in the original direction of the “attack”, then you would certainly keep the hedge position, and potentially add to it. What you can also do to minimize whipsaw risk is to place a stop under the hedge position that would sell it off should the price go back to break-even on the hedge, assuming that the price movement back would put your aggregate position under your Delta Threshold.

**What if the Price Continues to Whipsaw?**

This is the toughest situation to evaluate, as you can literally chew your account to pieces getting in and out of hedge positions if the price repeatedly rises to your Delta threshold and you hedge your Deltas.... and then falls back to neutral.

If you anticipate a situation like this, or if price has been very “whippy”, then you can choose to use another credit spread as your Delta hedge. If you needed to apply a Long Delta hedge, then a Bull Put spread of the correct position size
would add the necessary Long Deltas. Again, you are trading one risk for another, as this put spread is now closer to the money and open to whipsaw risk.

Don’t forget that continued choppy price action is very normal in Markets and does nothing but waste time, which is your edge with a Long Theta position like credit spreads.

You might also want to re-evaluate your Delta Threshold value; lots of hedge trade entries/exits is a sure sign that you have a small threshold and is creating unnecessary activity.

What if the Price Continues to Attack My Original Credit Spread?

Your hedge that you applied at the -300 Delta level is working, but only for so long. You removed 1/3 of the Deltas by applying a +100 Delta hedge, bringing the Delta risk down to +200. But the price continues to move against your original call spread position and you’re back at your max Delta threshold. Now what? There are two methods that you can use to decide when to adjust your Delta:

• **Apply the Next Hedge at a Standard Time Interval** - Pick a standard time interval and make a decision whether or not to adjust your hedge position based on your maximum Delta threshold. For most retail traders, it would make the most sense for this interval to occur daily. Since the professionals close the Market, it would also make the most sense to apply this method in the last half hour of the cash market....so every day at the same time, you would evaluate your aggregate position Delta and adjust your hedge so that your position Delta did not exceed your maximum Delta threshold.

  The benefit of this method is that you don’t get whipped around by strong intraday moves, most of which end up being fake-outs anyway. The challenge with this method is that it takes discipline to follow, and strong intraday moves that do “stick” will put you behind the curve at the end of the day in adjusting your Delta.

• **Apply the Next Hedge Based on Delta Threshold** - you can just keep using that original Delta Threshold value that you used to set up the original hedge...so as the Delta raises (or drops to) your Delta threshold, you take off 1/3 of your Deltas again.

  The benefit of this method is that you can more accurately respond to strong moves...i.e. hedging at a standard time interval might mean that you have to hedge much more than your maximum Delta threshold. The challenge with this method is that you could get whipsawed by intraday
moves, potentially adding and removing hedge positions several times a
day, especially near the end of the expiration month as Gamma starts to
rise and become more of a factor influencing the movement of Delta.

The point here is that you need to choose a method of how you will adjust your
Delta and stick to it. It won’t help if you decide to follow the “end of day”
adjustment method, and impulsively decide to adjust mid-day on a strong
move.

**When Would I Finally Remove the Total Hedge?**

You have many alternatives here. From a perspective of capital preservation,
employing a hedge ties up a lot of capital and represents risk. I generally
remove my hedge under one of these conditions:

- The original credit spread that I am protecting has been closed and the
  hedge is no longer needed. I will close down the hedge in its entirety
  unless the hedge position is also needed for the back month position,
  and there is enough time-to-expiration left in the hedge.

- The price has come back to the point where the entire Iron Condor is
  within my Delta threshold and the position is “neutral” again.

- If I have used another credit spread to create the hedging Deltas, I will
  either let it expire/close it early depending on my strategy, or just leave
  it in place if it’s a back month credit spread.

**Delta Hedging works best with the overall Trend**

When we’re in a Bull Market, we will see lower volatility and continual,
grinding uptrends that press higher day after day. Any movement to the
downside will be a brief and extremely violent correction. It’s not unusual to
see 10 - 15% corrections show up out of nowhere that are finished within a
couple of weeks.

Using straight Delta hedging to help offset an upside move that’s moving
further than expected works very well. For example, if your Bear Call Spread is
under attack, as long as you set up your Delta Threshold such that the Hedge
trade has plenty of “room” to work...then the hedge should gain significant
value on the vertical attack against your Call Spread before you would need to
take action to close it down. This gives the trader many different alternatives
as to how they can proceed. In addition, your beleaguered call spread is being
assisted by the “volatility crush” which typically does not affect a true neutral
hedge like stock, futures, or synthetics.
During a Bull Market, trying to use a downside hedge to help protect a Bull Put spread during a quick correction can be tricky and will generally lead to the trader losing more capital through mis-management of the hedge trade than if they’d just left the Bull Put spread alone to “defend” itself. These corrections are usually very fast on the way down, meaning that it’s unlikely that you’ll put the hedge on early enough...and they end very quickly, meaning that the chances are pretty strong that you’ll be closing it for a loss as the relief rally starts the short squeeze higher. Notice in Figure 10 how the corrections that keep the Bull Market in play are very short and sharp.

Conversely, Bear Markets are much less orderly and don’t last as long. Periods of near-vertical downside price action are interspersed with very strong rallies that can last for weeks until one of them “sticks” and turns the Bear into a Bull again.

During a Bear Market, using straight Delta hedging to help adjust Bull Put spreads can be a viable tactic, especially if the price has broken down through an established support level and is in free-fall. Notice this characteristic in figure 11, how the declines drag on for some time and exhibit “waterfall” drops.
While rallies during Bear Markets can be relatively sharp, they are mostly strong at the bottom of the move and can be Delta Hedged near the top of a move just like a Bull market rally.

Is it worth Delta Hedging?

Many times we get so caught up on executing a plan that we don’t stop to look at the “common sense” of our actions. When you hedge a position, you’re trying to reduce the risk of a loss on a specific position. Adding a hedge position can actually INCREASE your risk because you’re employing more risk capital, so let’s make sure that the position is actually worth the risk. How can we tell if the position is worth hedging?

- **Risk/Reward** - if you execute the hedge trade, do you know what the potential reward would be on the position? Based on the earlier rules, we already know what the risk of the hedge position would be. We should always insist on a minimum of a 1:1 risk/reward ratio before executing the hedge.
- **It is Necessary?** - let’s say that we’re currently in a Bear Call spread position and the Market turns upward. What is the current profit/loss on
the position? If the call spread is underwater, there is a lot of time left in the month, and there is plenty of room left on the chart before you determine that you’d have to close down the call spread, then perhaps hedging the position would be a good idea. On the other hand, if there is little time left in the month and the call spread is already showing a profit, then it just doesn’t make sense to pursue a hedge position. In that case it makes a lot more common sense to just close down the call spread for a profit and focus on the next monthly cycle.

• **Is the position large enough?** - As a rule I don’t think that small “training” positions in the High Probability Condor spreads merit hedging. It’s not because they’re not as important as larger positions that you’ll trade some day...no, in many ways they are MORE important because that’s where you learn your skills. Let’s use common sense here, however. If you have a 5 contract call spread position that you’ve set up, you’re hoping to earn a modest $75 credit minus commissions. What if your Delta Threshold is reached, which in this case would be about -40? To bring your Deltas back down in your acceptable range, you’re going to buy 15 shares of the SPYders let’s say for $120/apiece. If you’re only trading 5 contracts there’s a good chance that you’re going to find that the $1800 capital cost of the SPY shares will eat up a big chunk of your account.

**Delta Hedging with Credit Spreads**

In this section we pointed out that one of the vehicles for adding Long Deltas was to use Bull Put Spreads, and likewise a vehicle for adding Short Deltas to a position was to use Bear Call spreads. When would we want to use these positions to add Deltas, and when would we want to AVOID using these positions?

If you think about the construction of an Iron Condor, you have Short Deltas added by the call spreads balanced by Long Deltas from the put spreads. If we start the construction of an Iron Condor by establishing the call spread position, then we will have a definite Short Delta position which we can balance out by adding Long Deltas via the put spreads, and vice versa.....so in their underlying form, we are using credit spreads to hedge the other “side” of the Iron Condor to begin with.

Now when would we want to use additional credit spreads beyond the initial “pair” to add or subtract Deltas? The most common application for adding additional credit spreads in my trades is at the very beginning of an offensive cycle, where I want to increase the “weight” of one side of the Iron Condor. I will increase the size of the put spread position if I’m particularly Bullish, or I will increase the call spread position with additional spread trades if I’m Bearish. As a means for spreading out the risk, I will typically play these additional credit spreads in different indices than my
“Cornerstone” Iron Condor. In other words, if my Cornerstone trade is a SPY Iron Condor that is relatively balanced and I am Bullish on the cycle, then I will add an additional IWM put spread and Beta-Weight the entire position against the SPY. The key here is that the additional credit spreads are added at or near the beginning of the offensive cycle.

Something that I have learned NOT to do over the years is to add additional credit spreads as a defensive measure. In other words, if I have call spreads being attacked on a SPY Iron Condor, I do not add additional put spreads deep into the cycle to help neutralize the Deltas. I believe that by doing this, you open up your trade to the whipsaw. Most of the time your attacks on High Probability credit spreads are coming at the end of a long run in price, and these runs can often end poorly with a strong reversal as the sentiment flips over. And there you are, with a defensive credit spread that is set up much closer than the original Cornerstone trade on that side. You don’t want to be in a position where you now have to defend the hedge trade that you just added; it’s a quick way to churn your account up.

In theory, adding another credit spread to hedge your Deltas adds another “Long Theta” position which could help us actually increase our profits, however you do so by adding additional Gamma & Vega risks which in my mind do not outweigh the Long Theta advantage.


**Delta Position Management Examples**

Let's use a couple of different examples to show how we can use our Delta hedging techniques to manage a couple of common positions: Long Stock and a High Probability Iron Condor.

**Delta Risk Management of Long Stock**

Odds are pretty good if you’re reading this that you have some long stock shares in one or many different accounts. We’ve all been encouraged not to “time the market” by the large Fund Managers that don’t want you pulling your capital out of their pool. But maybe there are other reasons why you are holding those shares for the “long term”; perhaps they have been in your account for years and you don’t want to create a capital gains tax event. In any case, your desire is to see the share values accumulate over time.

Or is that really the case? Perhaps a more accurate way to say it is that you’d like to see the account value grow over time, however that happens.

So maybe by this point in the program, you’ve grasped the concept that long stock positions are very risky! If you have 1000 shares of AAPL stock, you also have a position that is sitting at +1000 Deltas! Are you willing to lose $1000 from your portfolio’s value with every point move to the downside that AAPL makes? If the answer is “no”, then wouldn’t it make sense to add some Short Deltas to the position to help hedge against a downside move?

Welcome back to the **Covered Call**, which was probably one of the first Options trades that you learned. Recall from the earlier chapters that a short call offered negative or “short” Deltas. So let’s say that we sold 10 front-month calls on AAPL with .20 delta Options...how would that change our Delta risk profile?

- 1000 shares of AAPL = +1000 Deltas
- (10 contracts of AAPL calls)x(-.20 Delta) = -200 Deltas
- The Delta of the combined position is now +800 Deltas.

So we’ve helped to neutralize our risk somewhat, but we only have as much downside protection as the initial credit that we sold for the front month. If we sold the Options for a $.80 credit, then there is only $800 worth of downside protection on a stock position that is worth $300,000. (but admittedly is unlikely to go to zero) We’ve made a good start to neutralize the risk of holding long stock, but it might not be enough.

After Google brought out their IPO in 2004, there were many employee millionaires made after they had exercised their stock Options. One of the
things that they had learned after the Internet Bubble burst in year 2000 was that paper wealth via stock options didn’t mean a thing unless it was protected through some type of delta hedge. How many IPO millionaires from the 90’s rode their paper fortune into the ground expecting a bounce? Probably countless numbers. And probably some of these were google employees that wanted not to make the same mistake twice. This is why many of them learned about and executed a Collar for their shares.

A Collar is simply the addition of a long put in conjunction with their short calls. This adds even more short Deltas because both of the options positions (short calls and long puts) add negative Deltas, or the ability to gain value as the price of the underlying shares goes down. Most of them bought long-term LEAPS puts and paid for it by selling front-month calls on a regular basis.

Because of the fact that owning stock does not have any “Long Theta” component to it, it’s best to hedge stock with positions that DO have long Theta, such as the aforementioned short calls. You can also use call spreads as well for more of an “uncovered” hedge that does not put assignment of your shares at risk.

This example is not meant to show all of the possible combinations of delta hedging long stock, however it is important that you use some form of delta risk management on any long stock that’s in your portfolio.

**Delta Risk Management of an Iron Condor**

For this example, I will set up a “High Probability” Iron Condor with about .10 delta short strikes (~90% probability of success) at about the 49 calendar day level. I will use the SPY ETF options, using $2 spreads, and employ 40 contracts per side.

After I receive my fill from the broker, here is the position that I have:

- **SPY 116/118 Call Vertical** x 40 contracts for a $.19 credit. This brought in a credit of $741 after commissions.

- **SPY 86/88 Put Vertical** x 40 contracts for an $.16 credit. This brought in a credit of $621 after commissions.

This position has brought in an initial credit of $1362, and my max risk is (40 contracts x 100 shares/contract x $2 spread - initial credit) or $6638. My return on risk is potentially $1362/$6638 or 20.5%.

For this example I will use the thinkorswim tool “thinkBack” which allows me to backtest strategies using end-of-day data.
What are my Delta Risk Parameters?

Since the max credit for the call spreads alone is about $740, I will use a “Delta Threshold” of about half of that, or -370 to determine if direct Delta hedging is required to protect that position. Similarly, since the max credit for the put spreads is about $620, I will use a Delta Threshold of half that value, or +310 to trigger hedging activities on a downside attack. (Delta will become increasingly negative on an attack against the call spreads, and it will become increasingly positive on an attack against the put spreads)

• If the price starts to drop and the position Deltas become more positive, I will look for the positional Delta value to meet or exceed +310 before I take any direct hedging action.
• If the price rises and the position Deltas become more negative, I will look for the positional Delta value to meet or exceed -370 before I take any direct hedging action.

Since I’m using an analyzer that uses end-of-day data, I will choose “end of day” evaluation of the Delta. I will show the other Greeks (Gamma, Theta, and Vega) however I will keep this example specific to Delta. We will cover a comprehensive example using all of the Greeks near the end of this program.

What Are the Greeks Telling Us Day One?

Let’s see what the current Greeks are showing, as a baseline for the position:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Qty Spread</th>
<th>Delta Type</th>
<th>Strike</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>+60 PUT</td>
<td>CREDIT</td>
<td>106.50</td>
<td>-166.43</td>
<td>-24.52</td>
<td>29.45</td>
<td>-92.02</td>
<td>$0.00</td>
</tr>
<tr>
<td></td>
<td>+60 CALL</td>
<td>CREDIT</td>
<td>106.50</td>
<td>-92.44</td>
<td>-166.43</td>
<td>-24.52</td>
<td>29.45</td>
<td>-92.02</td>
</tr>
<tr>
<td></td>
<td>-60 PUT</td>
<td>CREDIT</td>
<td>104.21</td>
<td>73.99</td>
<td>-7.29</td>
<td>8.13</td>
<td>-24.79</td>
<td>$0.00</td>
</tr>
<tr>
<td></td>
<td>-60 CALL</td>
<td>CREDIT</td>
<td>104.21</td>
<td>73.99</td>
<td>-7.29</td>
<td>8.13</td>
<td>-24.79</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

I have shown each credit spread trade separately so that you can see the Greeks that each position contributes to the overall, aggregate position. Note that the Bull Put spreads contribute Long Deltas….and that the Bear Call spreads contribute Short Deltas.

On day one with the SPY price at 104.21, my position Delta is showing a slight negative bias at (+73.99) +(-166.43) = -92.44. That means that for the first point that the SPY price rises, my position will lose $92 of value. That’s fairly neutral for right now, and the slight downward bias is common. The position Delta is definitely within my Threshold value of +310/-370, so no action needs to be taken.
**Time Step One - Two Weeks Later**

A couple of weeks have gone by and there are now 32 calendar days left to trade. Let’s see how our position is doing:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Strike Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY 83</td>
<td>PUT</td>
<td>155.29</td>
<td>37.05</td>
<td>-6.45</td>
<td>11.16</td>
<td>-22.53</td>
<td>$420.00</td>
</tr>
<tr>
<td>SPY 88</td>
<td>PUT</td>
<td></td>
<td>CREDIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPY 118</td>
<td>CALL</td>
<td>19.94</td>
<td>-172.58</td>
<td>-63.87</td>
<td>25.24</td>
<td>-86.94</td>
<td>$320.00</td>
</tr>
</tbody>
</table>

The price of the SPY is now 107.29, which means that the S&P500 has rallied about 31 points higher and undoubtedly the Implied Volatility has dropped. Note how the position has gained $740 in value already! The Delta value of the combined position is now -135.53, which means that the price is starting to “attack” our call spreads and they are starting to “manufacture” negative Deltas.

Since we have a Delta Threshold of -370, we do not need to do anything just yet. The Gamma value is about -50, which means that if the SPY rises one more point, the Delta value will be about (-136)+(-50) or about -186; this is still well below our threshold value of -370 so we know that we can absorb another 10 point move higher without having to act.

There is something else to consider which we’ll cover in the “Active Risk Management” chapter; the position is now showing a potential profit of $740, or over 50% of the potential max profit of $1362. Is it worth staying in the position and enduring the risk of further movement against one or both positions for the next 32 calendar days just to have a chance to earn that final $622 of credit that you collected? For the purposes of this example we’ll forge on.

**Time Step Two - Six Days Later**

Almost a month has passed since our trade entry, and the SPY is now trading at 110.41 with 26 calendar days left until expiration; the S&P500 has rallied about 62 points since our trade entry. Let’s see what our position Delta is:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Strike Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY 83</td>
<td>PUT</td>
<td>155.29</td>
<td>15.31</td>
<td>-3.29</td>
<td>6.01</td>
<td>-10.06</td>
<td>$540.00</td>
</tr>
<tr>
<td>SPY 88</td>
<td>PUT</td>
<td></td>
<td>CREDIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPY 118</td>
<td>CALL</td>
<td>19.94</td>
<td>-332.87</td>
<td>-65.17</td>
<td>42.39</td>
<td>-116.23</td>
<td>($340.00)</td>
</tr>
</tbody>
</table>
Delta is starting to grow with a cumulative -317.56 value; although it’s still well below our threshold value of -370, if we look at what Gamma (currently -68.46) will do to the next 1 point move higher in the underlying SPY, we see that the Delta will read (-317.56) +(-68.46) = -386.02. This means that we might have to add some Long hedging Deltas if the S&P500 moves another 10 points higher, or one point in the SPYders! This shows the importance of using Gamma to be proactive, and not let the risk “sneak up” on us. No action needs to be taken yet, but we need to be prepared to act.

**Time Step Three - One Day Later**

There are now 25 calendar days left in the expiration month and the SPY is currently trading at the 111.56 level, so the S&P500 has rallied 11.5 points higher in one day. Our calculation of Delta after applying Gamma showed us that another 10 point S&P move higher would trigger our Delta Threshold. Let’s see what our position looks like now:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Strike Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY 88</td>
<td>PUT</td>
<td>155.46</td>
<td>10.72</td>
<td>-2.48</td>
<td>4.82</td>
<td>-7.54</td>
<td>$580.00</td>
</tr>
<tr>
<td>SPY 88</td>
<td>CALL</td>
<td>19.02</td>
<td>-394.86</td>
<td>-77.98</td>
<td>42.67</td>
<td>-123.85</td>
<td>($460.00)</td>
</tr>
</tbody>
</table>

The Delta of the entire position is now (-394.86) + (10.72) = -384.14, so this is beyond our Delta Threshold of -370 and it’s time to adjust the position by adding some Long Deltas.

Let’s start by adding +100 Deltas, which is roughly one-third of our Delta threshold. We can either add 100 long shares of the SPY, or we can use a Synthetic Long position using the current month Options...which is what we’ll do. Let’s see what adding this position does to our Greeks:

<table>
<thead>
<tr>
<th>Spread</th>
<th>Qty</th>
<th>Symbol</th>
<th>Strike Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>-40</td>
<td>SPY</td>
<td>PUT</td>
<td>155.46</td>
<td>10.72</td>
<td>-2.48</td>
<td>4.82</td>
<td>-7.54</td>
<td>$580.00</td>
</tr>
<tr>
<td>SPY</td>
<td>40</td>
<td>SPY</td>
<td>PUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPY</td>
<td>125</td>
<td>SPY</td>
<td>CALL</td>
<td>19.02</td>
<td>-394.86</td>
<td>-77.98</td>
<td>42.67</td>
<td>-123.85</td>
<td>($460.00)</td>
</tr>
<tr>
<td>SPY</td>
<td>100</td>
<td>SPY</td>
<td>CALL</td>
<td>100.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We added a synthetic position by selling a put at the 109 strike, and buying a call at the same strike. This keeps the short put OTM to avoid any potential assignment problems through the life of the hedge.

We can see that the aggregate position delta is now (-394.86) + (10.72) + (100.02) = -284.12. This is now back inside of our Delta Risk Threshold of -370.
Notice that Gamma is starting to creep up as we get further into the expiration month, and the price gets closer to the short call option. Gamma and Delta are telling us that a 1 point move higher in the SPY will raise our position Delta to \((-284)+(-80.46) = -364\). This tells us that another 10 point move higher in the S&P500 will cause us to have to add more positive Deltas to the position to manage our upside risk. This “acceleration” effect of Gamma tends to intensify the further that we get into the expiration month, and the closer that the price gets to a short strike of a credit spread. This is why it’s more difficult to defend a position as you get deeper into the expiration month.

How will we manage the new Synthetic Long position?

- If the price continues to rise, we will keep the Synthetic Long position as long as we stay in the call spreads. If our trading rules require us to close them at a maximum debit or a specific short strike Delta value, then we will close down the synthetic long position for a profit at the same time.
- If the price falls away, I am willing to risk as much on the hedge position as the Delta Threshold; in other words, I will put a stop loss on the Synthetic Long position equal to \(-$370\). This would equate to a 37 point drop in the S&P500, and would very likely mean that the move is over and we would no longer need to hedge the position.
- If the price stays at the same level, I would close down the Synthetic Long position at or before expiration, assuming that I was no longer defending the call spreads.

**Time Step Four - Eight Days Later**

The S&P500 continues higher - the SPY is now 112.76 with 18 calendar days left to trade, which means that the SPX has rallied over 85 points since we entered the trade. Let’s see what the Greeks read:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Strike Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>88 PUT</td>
<td>155.4</td>
<td>6.72</td>
<td>-1.71</td>
<td>4.40</td>
<td>-4.30</td>
<td>$586.00</td>
</tr>
<tr>
<td>SPY</td>
<td>88 PUT</td>
<td>CREDIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPY</td>
<td>113 CALL</td>
<td>192</td>
<td>-502.20</td>
<td>-111.72</td>
<td>58.02</td>
<td>-127.70</td>
<td>($580.00)</td>
</tr>
<tr>
<td>SPY</td>
<td>113 CALL</td>
<td>CREDIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPY</td>
<td>109 CALL</td>
<td>246.4</td>
<td>100.18</td>
<td>.03</td>
<td>-.04</td>
<td>-.05</td>
<td>$123.00</td>
</tr>
<tr>
<td>SPY</td>
<td>109 PUT</td>
<td>DEBIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Delta of the aggregate position now reads \((-502.2) + (6.72) + (100.18) = -395.3\). The position has exceeded its Delta Threshold again and we will need to add more Long Deltas if we intend to keep our call spreads. Note that the Iron Condor positions are essentially at break-even for the month, however our
original Synthetic Long position has gained value with this attack. Let’s add another +100 Deltas with an additional synthetic hedge position:

By adding another +100 Deltas, our combined Delta value of the entire position is now -295.3. The Gamma value tells us that another 10 point move higher in the S&P500 will put the Delta value above our -370 Delta threshold again, so we need to be vigilant. Something that we also need to keep in mind at this point is...how much room do we have before we have to outright exit the call spreads? If we calculate that we’ll have an exit condition on the call spreads in just a few more points, then there may be no point in adding additional hedge positions above the two that we’ve added already. Fortunately for this position, the call spreads are still not that close to an exit condition yet.

**Time Step Five – One Week Later**

There are now only 10 calendar days left to expiration, with the SPY at the 112.38 level, down just a couple of points from the previous week’s checkpoint. Let’s see what has happened to our Greeks:

The aggregate Delta value of the entire position is now (-352) + (3) + (98) + (99) = -152. Enough time value (Theta) has burned off to significantly help against further upside attacks, and the price has dropped off slightly which is also helping. More importantly, notice that the position is showing a combined profit of $858, which is about two-thirds of the potential profit in this position.

Keep in mind that any time you hedge a position, it is not a “Holy Grail” trade which is meant to turn a losing position into a winner; all we are doing is to
manage our positional risk by shifting it in a different direction. In this case we shifted our upside risk to a couple of long hedge positions. Never forget, however, that THOSE positions add their own risks as well! We have to be constantly vigilant about the fact that these new positions can add new, unwanted risks to the position if we don’t manage them proactively. In this case, we now have the equivalent of 200 shares of long stock, which will lose value significantly if the price drops from here.

Let’s show this dramatically by staying in the position one day longer than we should have.

**Time Step Six - One Day Later**

There are now nine calendar days left to expiration, and the price of the SPY has dropped to 109.3 - a full 30 point move lower in the S&P500. Recall that I mentioned earlier about how adding hedge positions just transfers risk to a different position...let’s see the effect of this risk to our combined position:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Strike</th>
<th>Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L/Expired</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY 88</td>
<td>PUT</td>
<td></td>
<td>155</td>
<td>3.40</td>
<td>-1.38</td>
<td>1.79</td>
<td>-1.58</td>
<td>$800.00</td>
</tr>
<tr>
<td>SPY 86</td>
<td>PUT</td>
<td></td>
<td></td>
<td>1.97</td>
<td>-92.31</td>
<td>-49.09</td>
<td>26.92</td>
<td>$440.00</td>
</tr>
<tr>
<td>SPY 85</td>
<td>CALL</td>
<td></td>
<td>1.97</td>
<td>-92.31</td>
<td>-49.09</td>
<td>26.92</td>
<td>-30.71</td>
<td>$440.00</td>
</tr>
<tr>
<td>SPY 10</td>
<td>CALL</td>
<td></td>
<td>2.46</td>
<td>-99.94</td>
<td>-0.4</td>
<td>-32</td>
<td>0.0</td>
<td>($243.00)</td>
</tr>
<tr>
<td>SPY 10</td>
<td>PUT</td>
<td></td>
<td>2.695</td>
<td>100.03</td>
<td>-0.9</td>
<td>-3.8</td>
<td>0.0</td>
<td>($366.00)</td>
</tr>
</tbody>
</table>

Our combined Delta is now (-92) + (3) + (100) + (100) = +111 Deltas. The aggregate Delta value is now telling us that the price needs to go UP for the position to gain value! Note also that the Options profit of the two original credit spreads is now +$1240, showing almost full possible profit....however the two long hedges have lost $609 of value....oops. Our combined profit for the position is now $631, which shows that we’ve lost $227 in position value since the previous day. Think about it this way.....with the price rallying for weeks in one direction, that “rubber band” will keep stretching, and when it snaps back it will do so in a hurry.

**Conclusion**

Note that we could have used many different methods of hedging off the call spread; we could have also used another Bull Put credit spread to add Long Deltas, however if that position is added near the end of the expiration month, then you’re adding those Deltas with a great deal of Gamma risk, as the trade will be much closer to the money than your original put spread. The advantage
to this type of hedge, of course, is that it’s yet another Long Theta position so it continues to make money if the price goes nowhere.

Something that doesn’t get talked about much when you hedge a position like this is the mental aspect of trading. There’s nothing quite like the mental gymnastics that you perform while in a credit spread that’s being attacked. It can be quite painful, feeling like a bug flying in the fast lane of an interstate highway….just waiting to get run over. Being in a position that is making money while your existing position is being attacked has a way of neutralizing YOU as well. It’s a peaceful, neutral feeling that simply must be experienced to understand.

I want to emphasize that this above example is just ONE POSSIBLE WAY to monitor and manage Deltas in a position! Each of the Iron Condor strategies outlined in this program all use different forms of defense, however the way that you track Delta, anticipate moves with Gamma, and hedge positions will not change with the strategy chosen.

KEY LEARNING CONCEPTS FOR THIS SECTION

**DELTA RISK** shows how much the next point move of the underlying instrument will affect the value of that position.

Determining a **DELTA THRESHOLD** based on position size and personal risk/reward criteria will allow you to set an objective trigger point to adjust.

Once your Delta Threshold has been exceeded, you will add Long or Short Deltas to bring the overall position back within your Delta Risk threshold.

There are many different alternatives for adding Long or Short Deltas, and each comes with their own advantages/disadvantages.

**SYNTHETIC STOCK** is a viable alternative to buying/selling the underlying shares to add Long/Short Deltas.

**TEST YOUR UNDERSTANDING!**

Watch the Overview Video and take the online quizzes for the “Delta Risk” topic at:

My hope is that by this point in the program, you’re starting to make some real connections on how to apply these principles towards your own trades! We’ve covered a very important topic, on how to actually manage the Delta Risk of your trades. What you’ve learned in this chapter alone will put you well ahead of most Options traders in managing your trade risk.

Let’s not stop here...let’s continue by seeing how we can manage one more element of our Risk with Gamma.
Managing Gamma Risk

Unfortunately, Options are not two-dimensional objects like Stocks. Buy low, sell high. With Options you have a multi-dimensional Rubik’s Cube to manage, constantly changing with price, time, and volatility.

If all you’re able to grasp as you go through this program is to manage your Delta risk through the principles discussed in the previous chapter, then you’re ahead of the other 90% of Retail traders that don’t know the keys to risk management. As you progress as a trader, however, you’re going to want to keep adding risk management skills; one of those is to manage your Gamma Risk.

Recall how we defined Gamma Risk:

The Gamma of a position shows us how much Delta will change after the next point move of the underlying stock. If the underlying stock moves one more point towards our position, will it increase or decrease the value of the position, and by how much? As the price gets closer and closer to a short Options position, the Delta Risk can increase exponentially. And we also know that this effect increases as we get closer in time to Options Expiration. These two dimensions show us our Gamma Risk.

Let’s try to put Gamma into a visual context that most of us can understand: sliding down a ski slope. In the following diagrams, we’re going to use a Normal Distribution Curve to simulate this ski slope, because it will help to illustrate how Gamma makes gains or losses accelerate in a short Options position like credit spreads.

Refer to Figure 12; at the top of a hill, the slope is flat or very gradual, and your skis are at rest….so it takes a lot of effort to get moving. This is similar to an Iron Condor position being “Delta Neutral” with very little Delta Risk in either direction. Gamma is currently having very little effect on your trade.
As we start to move down the hill in Figure 13, we start to pick up speed; we are no longer at a fixed velocity...we are starting to accelerate. In terms of your Short Options trade, you are starting to see your Delta value get larger; in fact, it is also accelerating.

As you continue skiing down the hill, you continue to accelerate and pick up speed. In Figure 14, the effects of Gamma is starting to really pile up Delta Risk on your trade. (i.e. the next point move will remove “x” amount from the value of your position) The closer that you get to your Short Option position, the faster that the Deltas pile up.
And when you get near the bottom of the ski slope as in Figure 15, you are still going fast but you’re noticing that you’re not accelerating any more. As this pertains to Options trading, traders will notice a curious thing; as the price finally pierces through their Short Option, the Delta Risk is no longer piling up at an astronomical rate. In fact, everything slows down when your Short Option is “in the money”.

If you understand the definition of Delta, then that makes sense; the next point move in that direction is not causing any more loss to the position. The damage has already been done.
And let’s not forget the variable of Time; as we already showed in the previous chapter, Gamma tends to increase the closer that we get to Expiration. The way you can think of this is....when you have a long time before Expiration on your Short Option, then the hill that you are skiing down is very gradual; you’re on the Bunny Hill. Conversely, when you have very little time before expiration such as the last couple of days of the cycle, then the hill that you’ve chosen to ski down is now the 120M hill at Lillehammer.

Figure 16

Let’s summarize the two main effects of Gamma that we are going to concern ourselves with:

- The closer that we come to Options Expiration, the greater the effect of Gamma as prices closes in on your short option position.
- If we’re selling an Options position, then we’ll have a Negative Gamma number. This means that the closer that the price comes towards our position, the faster that losses will accelerate.

Let’s address these one by one:

**Gamma Risk near Options Expiration**

A little visual reference might help explain this one. When I learned to drive, there were no minivans; families owned these huge “land yachts” also known as “station wagons”. They were all V8-powered, rear-wheel drive, and felt like they were about 30 feet long. Now mix in a healthy dose of upper Midwestern snow and ice in the winter, and you can imagine how difficult these beasts were to drive.
The most common error that newer drivers had to deal with when learning to drive these boats was overcorrecting when the rear end would slip out, which happened often with the huge engines and rear wheel drive. The rear end would slide out to one side, and you were taught to correct by steering in the direction of the skid. In those days of over-assisted power steering, more often than not the driver would overcorrect and the back end would swing around to the other side. It wasn’t long before this cycle of overcorrection would result in a complete spin.

And it’s the same thing with Gamma near Expiration! When your position was far out of the money and had 30 days left to trade, the Gamma value was very small and a move towards your position - even a big one - didn’t change your Delta value very much.

When you get near Options Expiration, however, and the price is near your position....you will see HUGE swings in the Delta value caused by this Gamma effect, which of course is going to cause equally large swings in your current P/L of the position. Pretty soon your position is spinning like a top, just like that 1972 Plymouth Fury Sport Suburban did.

So how can you tame this beast, this bucking bronco?

Get out of the position before Gamma becomes a problem. Seriously, it’s that simple. Close down the position no later than the week before OpEx. The reason why most people are still hanging in close positions near Options Expiration is that they are HOPING for a miracle which is no strategy at all...or they are professionals that know exactly what they are doing, and are using these OpEx week Gamma moves to their advantage. If you’re still underwater on the position, then shut down the old one and “roll it” or move it to a new position in the back month Options.

Hedging Short Gamma

How on earth does one “Hedge Short Gamma”? Even the term sounds intimidating. Isn’t it enough that we tortured you with the “Delta” stuff and now you want us to “Hedge Gamma”? It sounds like a plot from one of those bad Japanese monster movies from the 60’s.

Fear not, citizen, we come in peace to simplify this stuff! Let’s define a Short Gamma position: one that loses value as the price closes in on the short strike price. This is the way that our credit spreads behave; they absolutely HATE having the price get anywhere close to the spread, and the closer that the price gets, the faster that your losses accelerate.

Now remember how we Delta Hedged a position? A Short Delta position like a Bear Call Spread (which wants the price to always go DOWN) was hedged with a
Long Delta position like long stock, or a long futures contract, etc....something that wanted the price to go UP.

So would it surprise you that we can hedge a Short Gamma position like a credit spread by applying a Long Gamma position to it? (if that statement doesn’t make sense, you might want to go back and re-read a few pages)

Now what on earth is a Long Gamma position? **One that gains value as the price closes in on the short strike price.** What kind of Options positions can be characterized as having “Long Gamma”? A couple of the simpler ones are:

- Long Butterflies
- Debit Vertical Spreads

There are certainly many other types of Options positions that provide “Long” or Positive Gamma, however I’m trying to simplify this for you so we’ll focus on these trades.

Debit spreads are philosophically different from Credit Spreads in that:

- Credit Spreads give you maximum credit on day one and you carry that obligation until trade closure or expiration. Losses that are not risk-managed can be staggering. These are typically set up so that the price must do nothing, or at least move AWAY from the spread in order to profit.
- Debit Spreads require cash to set up on day one however your maximum risk is normally limited to your initial investment. Profits can be several times what your initial investment was. These are usually set up so that the price must MOVE for you to profit.

So these trades are polar opposites of each other yet the marriage of these two trades can be enormously useful if their attributes are used in a complementary fashion for their greater good, kind of like finding the right spouse.

When it comes to debit spreads, what I’ve found over time - and this is a HUGE generalization - is that the simpler the trade is to set up, then the more difficult it is to profit from. Everything that works for you as a Credit Spread trader is working AGAINST you as a debit spread trader.

Let’s consider the simple Bull Call Spread trade, also known as a Vertical Debit Call Spread. You are bullish on the underlying instrument, so you buy a front month Call option that is slightly in the money....and to help reduce your cost basis, you sell a front month Call option somewhat out of the money. Sounds easy in practice. Now you are fighting the Theta of the long Call and the price
MUST go higher to profit. What you find is that when the price goes higher, the implied volatility drops and reduces the value of the long Call option, since this is a Long Vega trade. So even though a simple debit spread like a Bull Call spread or a Call Calendar spread seems like a simple Long Gamma hedge trade, there are easier ways to accomplish hedging our Short Gamma Iron Condors. (I will actually show how to use a Long Debit Call spread for this purpose in the Low Probability Iron Condor section)

What I’ve found to help fill this need is the wonderful “Butterfly” trade. These trades offer Long Gamma to help hedge our “Short” Gamma credit spreads, and they are exceedingly benign and easy to manage.
Using Butterflies to Neutralize Gamma

A standard debit Butterfly is built from three different strike prices, usually set up out of the money. The Butterfly is built from Call Options to establish a position above the current price, and is built from put Options to establish a position below the current price.

In Figure 17, you can see that the long strikes at 70 and 74 are equidistant from the center strike. This trade almost always requires a debit to set up the trade. As such, it’s a limited risk trade with the max loss limited to the out-of-pocket debit that it cost to set up the trade.

If you take a moment to see how the Butterfly is actually built, you’ll see that it is comprised of a Credit Spread (the short option at 72 and the long option at 74) intertwined with a Debit Spread (the long option at 70 and the short option at 72) so we have found a use for the simple call debit spread after all!

![Figure 17](image)

A standard Butterfly trade like this costs us money to set up - a debit. The profit potential is large, if the price settles at the center strike of the Butterfly trade, as Figure 18 shows. The debit is shown as the cost below the thin black “zero” line in the diagram, which will be incurred at expiration if the underlying price at Expiration/Settlement is either below the 70 level, or above the 74 level.
The max profit of this trade is a function of the number of contracts used for this trade, and the “width” of the spread. If the Butterfly is $2 “wide” as the above example shows (width between short center strike and either long strike) then the max profit will be (Butterfly width x number of contracts) minus the initial debit. If we used 10 contracts for this trade and paid a debit of $.20 per contract to set up, then our maximum profit on this trade would be ($2 width x 100 shares/contract x 10 contracts) = $2000, minus the $200 initial debit, or about an $1800 max profit potential. It’s this “profit spike” that we’ll put to good use to help hedge our Credit Spreads.

The max loss of the Standard Butterfly is simply the initial debit that you spent to set up the trade; in this example, it would be $200. I hope the wheels in your head are starting to turn; for a fairly inexpensive price, we can set up a trade to “capture” the price and potentially score a large profit at expiration. Better yet, this is a “positive Gamma” trade that gains value as the price moves towards the center strike. We’ll see how this will help us later.

**Combining Credit Spreads with Butterflies**

As we saw in the “Greeks” section, credit spreads are always “Negative” or “Short” Gamma” positions - this feature of Gamma works against the position as price gets closer to your short strike. The closer that price gets to an established credit spread, the more heat the position feels. Negative Gamma positions always operate in this manner. Positive Gamma positions gain value as the price moves towards your position; these are normally debit spreads, meaning that you have to pay money out of pocket to set up the trade.

So let’s understand some characteristics about Butterflies and understand how we can use them in Conjunction with Credit Spreads to hedge them:
• **Cost vs. Distance OTM:** the further the center of the Butterfly is from the current price, the less expensive it is to buy.

• **Cost vs. Width:** the wider the “wings” are from the center of the Butterfly, the more expensive it is.

• **Cost vs. Time to Expiration:** the cost of a Butterfly will stay relatively constant until the very last couple of weeks, as the relationship of its short-theta Options stays consistent with its long-theta Options.

• **Effectiveness as a Gamma Hedge vs. Time:** this is very important...the effectiveness of the Butterfly is inversely proportional to how much time is left in the expiration cycle. It is extremely effective during expiration week, and is almost useless several weeks out.

Depending on where your trade is in relation to the price, however, you might want to place a Butterfly trade a little closer to the price so that you’re not “stepping on” your existing credit spread strikes. This is especially important for those using brokers who will not let you intermingle your positions.

A technique that I’ve adopted as the volatility came back into the Market in 2007 is to add a defensive Butterfly in addition to my Credit Spread position, as sort of a “moat” around my castle. It is a completely Defensive position; in other words, I set these positions up to protect my credit spreads, which are my main profit-generating engines. I don’t expect to profit from them, so I consider them to be more like “insurance”, but there are the occasional instances where the price settles inside the Butterfly at expiration, creating a large profit potential. It’s similar to a linebacker intercepting a pass and scoring a touchdown; you don’t expect it, but it’s a bonus when it happens.

One reason why these trades work out nicely is because they are Long Gamma trades; the value of the Butterfly increases as price moves towards it. Something to keep in mind, however, is that these Butterfly positions are most helpful if the attack on your credit spread comes very late in the month. By the nature of probabilities, this is usually the case and something that used to frustrate me when I was just trading credit spreads...you would nurture a position (like a hen sitting on an egg) for weeks to allow the time value to bleed off, and a late OpEx week attack would boot you out of the position for a loss. Using Butterfly positions as an active defense, a late attack can actually benefit you.

If there is an early attack on your credit spread right after you open the position, then the defensive Butterfly trade will not help much; it’s really best as a late-month defense. There are direct hedging tactics that we’ll discuss later which are more effective towards a strong early move against your position.
In Figure 19 below, you can see pictorially how these Butterflies can act as an “advance guard” in front of your credit spread positions.

In fact, they produce an interesting effect on the Profit/Loss curve of the entire position, resembling “Batman Ears”, as shown in Figure 20:
Now that we’ve shown how to combine these Butterfly trades with Credit Spreads to form a defensive “wall” in front of the credit spread, let’s discuss some basic rules that I use to enter and manage these trades:

**Time - When do you Start?**

Timing is not that critical with these trades. After I get a fill on the Credit Spread trade, I will frequently look for a bounce or retracement away from the Credit Spread to be able to fill the Butterfly for a cheaper price. Remember, the Butterfly doesn’t do much good against an early attack; you just need it in place before a late attack that happens prior to expiration.

**Distance - Where Should the Positions Be Placed?**

I try to place the Butterfly as close to the vertical spread as possible. By doing so, I pay less cash for it upfront, and I ensure that it functions better on an attack that occurs late in the expiration month. For example, if my Credit Spread is a Put Vertical at IWM 57/59 with IWM 59 being the sold strike, then I will set up my first long strike at IWM 60, and build it “above” there. If that is too expensive (see below) then I will need to push the Butterfly a little further out; perhaps the short strike will be one strike price closer to the money than the short strike of my credit spread. It really is not that critical.
**Width - How “Wide” Should the Butterfly Be?**

Here is where compromises occur. The wider the Butterfly, the better. This is because it increases your profit range, and your maximum profit,. however the wider the Butterfly is, the more expensive that it is. I will frequently set up the Butterfly width to match the amount of “room” that I have. I commonly have more “downside” room on my Iron Condor, so my ETF-based Butterflies are usually 3 strikes wide on the downside, and only 2 strikes wide on the upside.

For example, my downside Put Butterfly from the example above might use strikes at IWM 60/63/66 (or “3 wide”) while my topside Call Butterfly, having a little less room to work with, would be “2 wide” at IWM 74/76/78.

If you are using traditional index Options such as the SPX or RUT, then your Butterfly should be $10 wide, such as 710/720/730, etc.

**Debit - How Much Should You Pay For?**

Think of the Defensive Butterfly as insurance - which is exactly what it is. The more insurance that I pay for, the more protected that I am. There’s a point of diminishing returns, however, where the insurance starts killing your bottom line if you don’t claim against it very often. For this reason, I will usually pay about 10% of the value of the credit that I am protecting to set up a Defensive Butterfly.

As an example, if I receive a $1000 credit from a Credit Spread and I’m trying to protect that credit against a late-month attack, then I’ll look to spend somewhere around $100 on “insurance” against that trade.

I have found that a $.20 debit works well with ETFs (such as the IWM and SPY) to nestle a Defensive Butterfly up against my Credit Spread. This is just an approximation, and you may have to adjust this number to account for current Market conditions. The price you pay for the Butterfly will be affected by width, distance OTM, and Implied Volatility, among other things.

So if you know how “wide” the Butterfly will be and what strikes you will use, and you know your max debit that you will pay, then the only variable left is how many contracts to trade. Use your “10% of the credit” figure to calculate this. As in the example above, if my max “insurance” cost is $100, then I’ll look to trade about 4 contracts of the Butterfly spread, or 4/-8/4 contracts at each strike. This will also cost me about $16 in commissions at $1/contract, so my total debit would be $96.
Should I Enter the Trade All at Once or Leg In?

With most brokers, it’s much easier to just enter the trade as one composite order set for your limit price, and then forget about it until the Market fills you at your price.

How Do I Manage This Trade?

There is one simple rule to managing the Defensive Butterfly trade: don’t let the price close beyond the short strike. Once the price closes beyond the short or “center” strike, then you’re past the point of diminishing returns for the position. The Profit/Loss diagrams above show the Butterfly as a “pyramid” for a reason; that center strike is where your max profits will occur.

Another reason not to let the price go beyond the short strike is that you may be playing American-settled Options, in which case your short strike is now in-the-money and subject to assignment risk. Traditional index ETFs like the IWM and SPY use American settlement, thus have this risk. With this said, however, early exercise appears much more frequently on individual equities vs. index ETFs. It’s just one more factor to consider as you evaluate your risk.

Those that are using Euro-settled Options such as the RUT, SPX, or mini XSP do not have the same early assignment risk so you can give the trade a little more leeway should you feel that the price has a good probability of bouncing back.

When Should I Exit the Trade Before Expiration?

There are really three occasions where you should exit the Butterfly trade early:

1. **Defense Not Needed** - there will be times where the price just runs completely away from your Credit Spread and there is next to zero probability of being attacked on that “side”. In this case, then I will see if I can close down the Butterfly trade for any value at all. In many cases the furthest OTM long strike will have no value, so I will focus on closing down the short strikes and the nearest long strike for whatever I can negotiate. Make sure that the cost of closing down these trades does not exceed the value of what they’re worth. In other words, if I spend $100 to initially set up the Defensive Butterfly, then I don’t want to spend another dollar more than that just to close down the trade. Remember, there is no risk with the trade in this position so I’m just trying to harvest whatever value that I can from it at this point.

2. **Price Inside the Butterfly During OpEx Week** - Eureka! You should be sitting on a nice profit with the trade. Now comes the game of chicken - can you mentally hold out until OpEx day to realize your largest
potential from this trade, or do you feel that the price might bounce outside of the Butterfly and cost you profits? That judgment always comes with experience. In any case, if you are using American-settled Options and your long strike is ITM, then you have to close it down to realize value, you can’t just let it expire like cash-settled Options. In these cases, I will always close down the entire trade early, especially the ITM long strike and ATM short strike Options. The OTM long Butterfly strike usually gets a limit order to ensure that if it gains in value, I can at least cover commissions on the trade plus some.....but there are many times where that option will just expire OTM worthless.

3. **Price Beyond the Short Strike** - As discussed above, your profits will start to diminish - or your losses mount - if the price blows through the short strike and keeps moving, so in those cases I will close down the short and ITM long strikes, and evaluate whether or not to close down the OTM long strike. There have been instances where this move came so early in the month that closing down the Butterfly early would have resulted in a loss, so there may be times where I will just let the Butterfly “hang out” to see if a bounce back through the Butterfly will give me a profit. Sort of a “trap”, if you will. Usually by this time I have had to exit/roll out the offensive Credit Spread anyway, so the Butterfly’s role on Defense has been obviated. I don’t spend much on these trades in the first place, so if the Butterfly has no defensive role anymore, it’s probably better to just leave it out there (as long as there is no assignment risk) to see if it can hit a home run for you.

In summary, I have found that using these Defensive Butterfly trades has really helped add another level of protection against major Market moves by helping me manage Gamma.
We're now about half-way through learning how to apply the Options Greeks towards managing our Risk.

Let's keep on rolling by learning how to apply these principles to manage our Volatility risk!

KEY LEARNING CONCEPTS FOR THIS SECTION

The **GAMMA RISK** of your position shows how much the next point move of the underlying instrument will affect the **DELTA** of that position.

The risks of Gamma increase as the time gets closer to Options Expiration, and as the price gets closer to any Short Strikes.

To combat the unwanted effects of **SHORT GAMMA**, we can add hedging positions that feature **LONG GAMMA** characteristics.

Trades that features **LONG GAMMA** are generally debit spreads such as **Vertical Debit spreads** and **Butterflies**.

Butterfly Spreads are simple to manage yet do not provide maximum benefit until **Expiration Week**.

TEST YOUR UNDERSTANDING!

Watch the Overview Video and take the online quizzes for the “Gamma Risk” topic at:

http://www.optionslinebacker.com/dn/quiz.html
Managing Vega Risk

The title of this chapter might have special meaning to you if you happened to own Chevrolet’s failed attempt at the “small car” market in the 1970’s. I participated in this great automotive experiment; after only five years of ownership, it was rusted through and got 13 mpg out of a four cylinder engine that had lost compression after only 40,000 miles. I received early exposure to Vega risk well before I understood what it meant.

In our context, however, it refers to one of the least-understood risks of Options trading. Before this chapter is done, we’ll explore not only the risks of Vega that we need to manage, but also the little-understood opportunities that Vega can provide to Options traders.

While we’re here, let’s once again define Vega so we can frame the topics: Vega is the measure of the change in an option’s value with respect to a one-percent change in volatility.

**What are the Risks of Vega?**

First of all, Credit Spreads are Negative, or “Short” Vega positions by definition. This means that they do not like to see Implied Volatility rise AFTER you have entered the position; they will lose value. Implied Volatility up = loss of value on your credit spread. This makes sense, because a rise in Implied Volatility means that price might now have the “reach” to stretch out and smack your credit spread position. A low Implied Volatility number means that expected price excursions are very low in the near future.

Therefore, Vega Risk means the risk of volatility increasing and attacking one of your credit spread positions, ESPECIALLY if you have entered those credit spread positions in a low-volatility environment.

**What are the Opportunities that Vega creates?**

Everything about this whole program to this point has focused on being very defensive and managing risk, looking over your shoulder to anticipate unforeseen risks like Chicken Little. If you ever want a lesson at how serious professional traders are about risk management, take a visit to the CBOE some time and watch traders walk by during a break. You’ll see them lost in concentration with the “thousand yard stare”, eyes constantly on the move. This is not a trusting bunch, and for good reason.

So what do I mean by “Vega Opportunities”? There are a few, and we need to know them intimately because they afford us terrific “edge” when we can take advantage of them:
• **Vega Defense** - this comes into play when we have sold Bear Call spreads above the current price. Uptrends tend to be drawn-out, grinding affairs which lulls participants to sleep and causes complacency. This, in turn, tends to “crush” the Implied Volatility. Since our credit spreads are Short Vega, they respond positively to a drop in Implied Volatility. In this manner, even though the price keeps driving higher in an uptrend, this characteristic of Vega tends to “blunt” the effect of higher price against Bear Call Spreads and allows us to defend a direct attack much longer.

• **Volatility Spikes and Bull Put Spreads** - from time to time we have deep, scary corrections in the Market which catch traders off guard and create huge spikes of “fear” in the VIX and Implied Volatility in the Options chains. The implication in these spikes is that price could move much, much lower and the move is usually surrounded by a lot of negative press and FUD - fear, uncertainty, and doubt. Traders that are willing to take a contrarian stand in the face of these events being “overblown” can potentially participate in one of the most incredible Options trades possible; the high Implied Volatility allows a trader to sell positions at a great distance out of the money to begin with, and due to the fact that these trades are “Short Vega”, they will become instantly profitable on any rebound as the price runs away from the trade AND the Implied Volatility drops back to normal.

• **Volatility Spikes and Back Month Options** - recall the definition of Vega from the earlier chapters, and we showed how the effects of Vega shrunk as time approached Expiration. The effects of the Volatility Spike can be magnified if one is willing to use Back Month Options, or selling further dated Options.

• **Low Volatility Put Hedges** - uptrends tend to go on and on - until they stop. I know that sounds ridiculous but if you go through a few of them you’ll understand what I mean. We’ve seen this behavior for the past several years and you just wonder if the chart will ever pull back. Fortunately, there is an interesting edge that we can participate in when this is happening - long put hedges. Volatility will be so low that OTM puts will be dirt cheap and worth the speculation for the eventual correction that will catch everyone off guard.

**What are the Risks that Vega creates?**

The main risk that we need to guard against is when we enter short put spreads during low-volatility conditions. This always occurs after a long, grinding uptrend that breeds complacency amongst traders, and usually crushes the $VIX down to the teens or even single-digit values as we saw in early 2007. These are conditions where being an option seller are starting to move against you, as the very low value of implied volatility is providing very little “distance” to your credit spreads.
We can see how this resolved itself in February of 2007 as the SPX dropped over 50 points in one day, and the VIX rose from a value of 11.15 to 18.31, a 64% rise. Figure 21 shows the price chart for that period:

Figure 21
Figure 22 shows the corresponding chart of the Volatility Index during that time; notice the huge spike in fear:

![Figure 22](image)

In our case, SPX 1375/1385 Bull Put spreads that we had entered at the end of January and were showing a 97.9% probability of success on February 26th….were forced to exit on the 27th from our defined static risk exits. This is the risk of Vega stepping on a position that was entered in a low-volatility environment, and transitions into a higher-volatility environment. The end of a rally can lull you to sleep as all of the news is “good” and the market seems to drift higher every single day. The Retail trader feels in control of their investments and they are starting to increase their directional bets.

The professional, however, is starting to get nervous. The Smart Money is looking for a “liquidity event” to sell into so that they can lock in gains and thin out their holdings. If you watch carefully you will typically see the VIX diverging higher right before these sell-offs occur, as someone either knows “something” or because the professionals have seen this movie before many times over the years.
What Can We Do to Hedge Vega Risk?

Now that we’ve identified the conditions that we’re likely to see Vega Risk crop up in, how can we guard against a Volatility event like this? Let’s discuss mitigation techniques from a Timing and Instrument basis...

We will get more aggressive hedging Vega Risk if we see the following conditions arise:

• **Low VIX** - whenever the VIX has been falling for a period of time and has gotten below the value of 20, a greater risk for a Volatility Event exists. This risk is even greater if the VIX hits single digits.

• **VIX Technicals** - watching for known leading indicators on the Volatility Index such as the VIX value being beneath its lower Bollinger Bands, or seeing the price rise but also seeing the VIX diverge by rising as well....are indications that the Volatility Event may be imminent.

• **Price Action** - Vega Risk is particularly high when the VIX is low and traders are complacent, however we can still prepare ourselves against a risk event if a rally appears to be stalling with a prominent “lower high” in place.

What types of new positions will we add to help us hedge Vega risk? Let’s recall from the Vega chapter what types of positions will add positive or “Long” Vega:

• **Long Options** - puts and calls that we buy will gain value as the Implied Volatility increases. Since we’re mostly concerned with a quick drop in prices, puts are what we’d like to use here. Another advantage of puts is that they can be purchased OTM to reduce their initial cost, since the rise in Implied Volatility will make them literally explode in value as the price approaches the strike price of the puts.

• **Debit Spreads** - an option spread that we pay money for will display a “long Vega” characteristic as well, so using a Bear Put Spread or a Put Calendar Spread will help hedge Vega. These trades have more elements to manage than a simple long put, as we are including a short option in the spreads....so there are some more risks to factor in.

For the purposes of this program, long puts make a very effective Vega hedge to guard against the Vega Risk of a quick, deep downdraft. They are simple to place and manage. Let’s discuss a few rules that we can use to manage these positions as a Vega hedge:

• **Entry Timing** - the most important consideration here is that the long puts MUST be entered BEFORE they are needed! This can be a daunting prospect to the novice trader, however this skill will come with experience and will improve as soon as you turn OFF the news and start
making all of your decisions from the charts and not the pundits. We covered the essential conditions above for identifying when the hedge should be considered.

• **Option Month** - in the Vega chapter, we saw how a “back month” option was much more sensitive to Vega than a front month option. In theory, this would make a slightly longer-term option a better Vega hedge. The downside is expense, however; you are paying for another month of time value. For this reason, I generally stick with purchasing the same month Options as those in the main position that I’m trying to protect.

• **Option Strike** - we want our puts to be OTM as that’s where we’re going to find our best bang for the buck with the explosion in option value due to Vega. Many times I find that the best location for these long puts is right on top of the existing long Options for the credit spread. In this manner they won’t interfere with any Butterfly spreads that we place as well. And you don’t want to “sell yourself an option” by buying the Options at your credit spread short strike. If I believe that the current credit spread puts are too far OTM to be effective with the amount of time left in the month, then I might pick a closer strike price that aligns with where I would expect the price to find support on any quick downdraft.

• **Option Cost** - how many puts should we buy? I tend to go by the same guidelines as those that we determine for the Gamma hedges, which is putting about a 10% cap on the expenses for the hedge. In other words, if I’m protecting a bull put spread position that earned me $600 in credit, then I will select a quantity of puts at the strike price discussed above...which limits my cost to about $60, or about 10% of the credit of the original “money-making” trade.

• **Exits** - when would we remove the hedge? Most of the time the biggest risk to these trades is that traders do not remove them when they’re showing an exceptional profit. The most obvious time to remove this type of hedge is if you are forced to remove/roll/reposition your original put spread trade. You don’t want to change your strategy from being a neutral spread trader into a hyper-aggressive directional trader with front month OTM puts! The second exit condition would occur if your downside price target is hit.

Remember, downside moves are very fast and aggressive and can be over within minutes if institutional money steps in and considers the sell-off price “attractive”. We have seen dozens of moves like this over the past few years and only during a TRUE Bear Market move does the price keep going lower. Your purpose of Vega Hedging a trade is to just mitigate the risk and not necessarily to turn what would normally be a losing trade into a winner.
**Vega Position Hedging Example**

I’m not a big fan of the usual trade examples that are given in trading education workshops that show “obvious” trade examples working out perfectly, and it just looks.....SO....EASY... that you find your way to the back of the room and sign up for something that you probably will never use. In reality, trading the hard right edge of the chart...where the future lies.....is the most difficult thing that you will do as a trader and a risk manager. In effect, that is what this program is all about - coming up with an unbiased, objective way to set up trades that put the probabilities in your favor and then proactively managing the varied elements of risk that come with the income opportunity.

And one of the reasons why the Hard Right Edge is difficult is because emotions and bias are so difficult to overcome as you are bombarded from every angle by opinions, pundits, and media telling you what to think. It’s no wonder that professional traders do well if they understand how the Herd thinks and they have the resources to do something about it.

So with that said, I would like to offer up somewhat of an extreme example as it relates to Vega hedging. In no way is the following trade typical, however it perfectly illustrates the potential of a Vega hedge trade.

By April 22nd, 2010 the S&P 500 had rallied about 171 points off of a recent bottom and had become very extended, including the tell-tale parabolic rise near the end of the run as the price broke above ascending channels. This was obviously a runaway market, but many times these moves end poorly. A newsletter subscriber asked me how we could hedge against a downdraft if it did end poorly, similar to the pyrotechnics that occurred in February of 2007 after the S&P had rallied for 9 straight months.

Figure 23 below shows the look of the price action at this time.
In addition, the $VIX had flatlined around the “20” level for months. A couple of things were clear:

- The charts probably would not be able to sustain the rally.
- Due to the low $VIX, puts were relatively cheap.

My trade that I was “defending” at the time was a SPY 105/107 Bull Put Spread, with the 107 strike being short. By late April the trade was showing a 94.7% Probability of Success and I could have closed the trade down for about $.04 debit on an original $.15 credit; not a bad return, although the transaction costs of closing down the trade would have heavily eaten into the profits.

Being that the trade was still about 140 SPX points OTM, I didn’t want to outright close down the trade and incur all of those transaction costs....so I felt that a Vega Hedge was appropriate. I picked a strike just above the short strike of the put spread - SPY 108 - thinking that if the price got all the way down to that level I would have to remove the put spread anyway. The cost of the Vega Hedge puts was only $.21; I bought three of them for a total net cost of $66 to
protect two put spreads that had brought in about $660 of credit, so I had paid about 10% of the credits towards “Vega Risk” insurance.

As I placed the trade, I had defined an exit condition for the position that I would close the position if the price dropped to the point where an exit was required on one or both of the put spreads; this would require a drop in the SPX of at least 100 points.

By May 5th, the S&P500 had topped out with a “lower high” and was definitely becoming unstable as shown in Figure 24.

In addition, the VIX had risen about 50% from its April 22 level of 16.47. We could see this by way of our SPY 108 Vega hedge puts, which had already more than doubled in value at $.44 vs. our cost basis of $.21. It was still not too late to add a Vega hedge at this point, however we had a better edge as we had been proactive and bought our volatility insurance near the top when the price was cheap.
The following day, the Market finally crashed, dropping from a high of 1167.58 to a low of 1065.79 - over 100 SPX points and almost 9% of its total value - before recovering 62 points by the close to finish at 1128.15. Most of the damage was done in minutes in an epic “waterfall” decline, as we can see below in Figure 25.

**Figure 25**

Not only did the price crash, but the $VIX spiked up to a 40.71 level during the day, a 247% increase from our Vega Hedge trade entry. These were truly once-in-a-decade conditions for owning a Vega hedge trade.

So how did the trade work out for us? How well did it protect the SPY 105/107 Bull Put spread? First of all, the Options chains were so “wide” during the move lower.....and the exchanges were so far behind that obtaining valid quotes on an Options spread were literally impossible to obtain. This was one of those rare times where the only thing to do on my credit spread defense....was *nothing*. By the time that the Markets recovered that afternoon, the position was not at our maximum exit metrics so we did nothing with the trade that day.
The SPY 108 puts Vega Hedge trade was another story. Recall that we mentioned earlier about pre-defining exits, and that there was usually a very limited opportunity to secure a profitable exit on these trades since bottoms could be so volatile. The price was only around the SPY 108 strike for a couple of minutes and I knew that I had to act quickly to harvest as much value as possible from the trade before it likely would bounce. I was able to sell the puts for a credit of $4.20 apiece, which turned by initial $66 investment into almost a $1200 gain, an 1800% return on initial capital.

Sure, these are the trades of dreams but all this trade did was to smooth out what otherwise would have been a rough month as some of my put spreads were eventually exited defensively. That is the entire point of these trades - to manage your risk proactively. Hedging Vega requires knowing WHEN your portfolio is most at risk for a volatility event, and then being able to tune out the drumbeat of positive news to not let yourself get caught being complacent. It also requires what might be a few months of spending some insurance dollars in order to ensure that you are protected when the eventual correction comes.

**KEY LEARNING CONCEPTS FOR THIS SECTION**

The **VEGA RISK** of your position shows how much the next percentage point move in the implied volatility will affect the **value** of that position.

**VEGA RISK** is generally associated with quick moves **lower** in price that inflate the Implied Volatility.

Quick moves higher in price generally crush the Implied Volatility and generally helps to self-defend a Bear Call Spread or other Short Vega position.

**LONG VEGA** positions such as Debit Spreads and Long Puts can be effective hedging instruments to help mitigate **VEGA RISK**.

Managing **VEGA RISK** generally calls for proactive measures to be taken **BEFORE** a strong downtrend is detected.

**TEST YOUR UNDERSTANDING!**

Watch the Overview Video and take the online quizzes for the “Vega Risk” topic at:

After understanding the material in this chapter, you will be well ahead of the vast majority of other Options traders in managing your Risk. I’ve found that for me, this has translated into much better trading performance because I’m much less emotionally vested in the outcome of my original trade. We have now covered all the material necessary to begin to apply Greeks-based Risk Management to your trades.

Let’s kick it up a notch by applying some trading savvy to our Greeks skills with Active Risk Management.
Active Risk Management Techniques

What is “Active Risk Management”? I view it as a more sophisticated and agile form of defense than “Static Risk Management”, better able to handle the dynamic changes in risk that frequently come in volatile markets.

To answer that, we have to first start by discussing some “Static Risk Management” techniques that we already use:

- **Fixed Maximum Debits** - for the “High Probability” Iron Condors, we limit our risk on the trade to approximately 3 times the initial credit received, or normally about a $.45 net debit. For the “Low Probability” Iron Condors, we pursue a 1:1 risk/reward ratio right up front which statically defines our maximum risk from day one.
- **Position Sizing** - at all times, we size positions so that no one trade has the capacity to cause more than a 2% hit to our trading capital.
- **Volatility Sizing** - when Markets are more volatile and likely to trend strongly, we reduce the size of our short Options positions and may increase the size of our Swing Trade positions.

It doesn’t matter whether we are trading Iron Condor spreads or Swing trades, we begin every trade with these Static Risk Management parameters. We begin every trade with as many “Edges” as we can, however there are just going to be trades that don’t work out no matter which way you had looked at it beforehand. Static Risk Management keeps you in the game and makes sure that no one trade will take you out of business.

**Active Risk Management is a dynamic way of controlling risk that allows you to “adjust” trades while they’re in play.** A good analogy would be the TOW Missile; this is a guided anti-tank missile that’s been used since the 1960’s. When launched, the missile fires its rockets and heads in the general direction of the target, trailing behind some very fine wires. These wires allow the operator to physically adjust the path of the missile, making small corrections in altitude and azimuth until it hits the target.

And what we do to our trades using Active Risk Management is similar; we are constantly evaluating the trajectory of each trade and evaluating its risk along the path to expiration or target.

How is Active Risk Management different from using the Greeks alone to manage risk on the trade? The Greeks are tremendously powerful tools, but if we apply a little bit of common sense and perhaps a little chart reading, we can increase our agility and trading profitability. You will notice that I do use charts in this section to help illustrate some of the Active Risk Management concepts regarding price levels; this is not a misplaced section on Technical
Analysis. I find it much more intuitive to communicate decisions concerning price levels with a simple chart.

Let’s begin by breaking down the components of Active Risk Management:

**Credits do not equal Profits**

As the heading suggests, just because you collected $1000 of credit on that Options spread trade doesn’t mean that it’s yours….until you’ve relieved your obligations. Owning a short Options position means that you are OBLIGATED to either supply stock to someone at that strike price (short calls), or you will buy stock from someone else at the strike price. (short puts) The vast majority of the time our Options are “out of the money”, meaning that your obligation is on hold.

But traders tend to get “attached” to that initial credit that they received. It looks nice in your account. You might have already spent it mentally. This is very dangerous, because mentally attaching yourself to that credit means that you will be very subjective when it comes to defending your position…and defending a position usually requires capital. “Hope” is not a valid defense.

The point here is that if you have entered a short Options position, be prepared to use some of that received credit to help defend your position. If you drive a car, you are required by law to buy insurance in most states. Trading should be done in the same manner.

**How much return is Enough?**

If you’ve traded Options for long enough, then you’re certainly familiar with the concept of the “whipsaw”; your trade is working out perfectly with a month to Expiration, and you figure that there’s no point in closing down the trade for a few cents so that you can attain maximum profits, and save transaction costs.

And then it happens….the Whipsaw in price suddenly attacks your trade, and you are forced into an expensive defensive exit on your previously profitable trade. Boy, does that hurt! It’s like being on the opponent’s goal line, about to score…when your quarterback throws an interception and the Cornerback runs it back 100 yards for a touchdown. In football, that’s usually a 14 point swing. In trading, that’s a punch in the gut and if you’re at all human, it will affect your confidence going forward.

With that example in mind, I never want to see a winning trade turn into a losing one. If one of my trades is profitable by a significant amount…say 75% of maximum profit, then I do NOT want to take my chances with the probabilities of the trade by letting the position go underwater again.
Is it worth the Risk for the Reward?

I find myself using this decision point prior to big economic announcements like the FOMC Policy release, or other condition-sensitive announcement like GDP or Non-Farm Payrolls. You KNOW that the price is coiling up and will explode in one direction or another after the announcement. Ask yourself if it’s worth the risk to increase your reward. For instance, if I have a very wide HP Iron Condor in play and the price is right in the center of the “range” of the trade, then I would perceive very little risk of the price moving enough after the announcement to cause me to make a defensive action. The positional Delta value (probably small) will tell me that the risk is worth the increased reward of letting more time value burn off.

On the other hand, if I am showing a good profit so far on the month (likely because the price has stalled out for the past week awaiting the announcement!) I have a lot of risk if the price is a small distance from my short strike with two weeks to trade. The risk is NOT worth the reward of trying to increase my profits.

This decision point is more important as we get near the end of a cycle, and especially if we’re showing a profit. As my trades get to this “mature” point in the cycle and they are in the Black, I want to make sure that I am risking less than $1 to improve the profitability by $1; in otherwords, keeping better than a 1:1 risk/reward ratio to stay in the trade.

To put this into numbers, if an adverse price move against my position after the announcement would realistically cause a stop loss of $1000…and a favorable move in price would just simply increase my profits from $500 to $600 with two weeks until Expiration….you can see that my Risk-to-Reward is almost 10-to-1, or very unfavorable. I would be taking an unreasonable risk to stay in the position just to squeeze out another hundred bucks. Active Risk Management principles would dictate an early, profitable close of the positions.

P/L Slope Decision

Study Figure 26 below; for this Profit/Loss curve for a typical Options trade, think of our “ski hill” example that we discussed earlier. When you’re at the summit, the slope of the hill is effectively “zero” so it’s difficult to build up any momentum. Once you start down one of the slopes, then your losses will accelerate (or your profits will decline exponentially!).

The point here is that when you find your position at the “summit” of a P/L curve like this, and you have met your initial profit objectives on the trade, then this is an open invitation to close down the trade and GET OUT with your profits! You will be able to recognize this condition because your position Delta will be next to zero. This makes sense because what Delta tells you is that the
next one point move of the underlying is not having much effect on the
profitability of your position.

The closer that you get to the cycle expiration, the lower the green horizontal
line will sink, “exposing” more profit and making this an easier choice to
remove your positions and lock in your profits. Conversely, if your positions still
have a lot of time left in the cycle, the P/L peak might be just above the green
line and it would not be worth taking your positions off early.

The key here is to always watch your position P/L curve, and have an early
figure in mind as far as minimum profit levels that will let you close down the
trade.

Figure 26

[Diagram: The Slope of the P/L Curve]

Thin out your Risk

Is there a written law that says that you have to carry the full position into
expiration? Of course not, you can be creative with the management of any
position. I have found this technique of Active Risk Management EXTREMELY
useful for those long, grinding attacks on rallies.

With any “Neutral” position like an Iron Condor, there is always a point during
the month where a dominant trend kicks into gear and starts to attack one of
your “sides”. Recall in this chapter that we already mentioned that the Credit
that you received is not yours….not just yet. Don’t get attached to it.
If your Call spreads are being attacked by a slow rally, then you will start to see a lot of negative Deltas start to pile up. We could certainly hedge the position by adding positive Deltas to the trade, but what if the call spreads are showing a profit or at least break-even? Adding a lot of positive Deltas as a hedge might just work against you if the price drops suddenly....remember, we don’t want to just shift risk around needlessly. So if my “attacked” spread is showing a small profit or at least break-even, I will “thin out” my credit spread by taking off perhaps 25% of the contracts. That will make a noticeable difference in your Delta risk. Even if the trade is not currently showing a profit, I might be able to “work” a break-even exit by submitting a GTC limit order to close down those 25% of the contracts should there be an intraday dip in price.

This technique can work in either direction...uptrends or downtrends...although the general “grinding” speed of an uptrend generally gives a position more time to allow you to “thin it out”.

Yes, you will drop your potential profits for the cycle, however my preference is to ALWAYS lead by removing positions first as opposed to adding hedge positions. Remember, it’s not what you collect, it’s what you are allowed to KEEP. The key here is that the positions that you’re removing should be either profitable or close to break-even. If not, then not enough time value has passed by and you’ll probably need to utilize direct hedging of your Deltas.

**Expansion leads to Contraction**

One of the things that I learned from one of my mentors is that price tends to contract in range for a period of time....coiling and gathering energy...before it breaks out of this range and trends like mad for a period of time. Once you have followed charts for a while, you can see this “breathing” in action....charts will trend like crazy for a while, then walk sideways for a period of time to “catch their breath”. And then the cycle repeats.

You can see this in action on any timeframe. A great example for a longer timeframe is the rally out of the Tech Bubble recession that started in the spring of 2003 and lasted until the end of that year; that “expansion” led to an extended “contraction” which lasted through almost the whole year of 2004.

This characteristic of price action is particularly hard on the newer Options trader. They might find a “flat” market for a while and sell non-directional Options trades on it for a number of months, successfully...and the last month where they confidently increase their position size is the very month that prices break out of the range and cause max losses to the trader.

The point here for Active Risk Management is that you should be aggressive with non-directional spread trades at the very end of a trending move...and
you should be very, very cautious if the price has been going sideways for a number of months. Contraction leads to expansion.

Notice that these recommendations are “contrarian”, thus are going against the conventional wisdom of the current day. This can be very difficult for a newer trader to learn and judge until they’ve been through a few years worth of these expansion/contraction cycles.

**Technical “Squeeze” Levels**

We quite often find important price levels on the index charts that act as support or resistance. Once those levels are violated/exceeded, the price will tend to accelerate past those levels as all of the traders that held stops beyond that level must admit that they’re wrong and cover their positions. This mass act of covering their positions tends to cause this acceleration in price movement.

How can we use this information to our advantage? We need to know when the price is on the “wrong side” of one of these breakout levels, and become very aggressive in looking for opportunities to close down/thin out the spread positions that will likely become attacked.

The first example that we’ll show comes up fairly frequently due to the overall nature of index charts to “rally” over time. I had to learn the hard way early in my career that previous swing highs don’t make impregnable resistance points. Figure 27 shows the SPX on April 13, 2007 as it approaches a previous swing high resistance point at SPX 1461.57. To the eye, this looks like a great place to sell a call spread as the price comes up to test it again, or perhaps you’ve already sold a call spread during the late March swing high that’s already been “taken out”.
Unfortunately, the chart has other ideas in mind as it continues to rally for the next two months, and would run through any “High Probability” call spreads that were supposedly “protected” by that overhead resistance level, as you can see in Figure 28 below:
Figure 28

Note that when the price broke through that resistance level shown by the red line, it did so with velocity with that large white candle...and then the price never really did “re-test” the former resistance level as support. You got a day or two to decide to take action, and then it resumed its torrid pace to the upside. This chart is from 2007 but the price action has not changed at all since then.

The second example is of a downtrend, and a particularly violent one at that. During July of 2008 a significant downside “pivot” was put in around SPX 1200; this was now strong support, and a break below that level would be very bearish, as shown in Figure 29:
As you can see from the next chart in Figure 30, the price knifed through that level, then came back with one dying gasp (this was due to the SEC enforcing a naked short ban on financial stocks thus forcing shorts to temporarily cover), and then it was all to the downside from there.
If you had OTM put spreads in play for anything beyond the September 2008 cycle, you had one shot in mid-September to clear out or thin down your positional risk before the carnage began. Admittedly this was an extreme example that led to one of the worst sustained crashes in market history, however the example is valid.

Both examples illustrate this element of Active Risk Management; if an important price level is penetrated, then the Market is trying to tell you of its commitment to that direction, and you should consider reducing your risk in that direction very quickly.
We now have a full toolkit of techniques to Manage Risk in our trades.

Now that we know how to apply them to our High Probability Iron Condor trades, let’s learn a different style of Iron Condor which can further help to dial down our trading risk, the Low Probability Iron Condor.

**KEY LEARNING CONCEPTS FOR THIS SECTION**

**STATIC RISK MANAGEMENT** defines exit decisions determined before the trade is placed.

**ACTIVE RISK MANAGEMENT** defines position management decisions determined while the trade is in play.

Credits do not equal Profits until your Obligations have been cleared.

Understand your Position Risk before seeking additional Reward, and ensure that it’s at least 1:1 or better.

A small Delta prior to Options Expiration means that the P/L curve has peaked; if there is still elevated Risk present, then close the position.

Be aware that quiet periods in charts lead to Expansion moves, especially around known levels of Support and Resistance.

**TEST YOUR UNDERSTANDING!**

Watch the Overview Video and take the online quizzes for the “Active Risk Management” topic at:

Lower Probability Iron Condors

The majority of this program has been focused on techniques directed towards High Probability Iron Condors; these are “way out of the money” Iron Condors that are commonly played by retail traders who use technical analysis to help enter and manage the trades. The reason that these trades are so popular with retail Options traders is because the majority of the time, they are low-maintenance trades, and give the individual trader a high degree of confidence that the trade will expire out of the money. This is the bread-and-butter trade that we have used with the OptionsLinebacker Iron Condor newsletter for years, and it has been a highly successful trade for us over some extreme Market conditions. They key to success always has been, and always will be...DEFENSE.

The problem with this type of Iron Condor is that the risk/reward is horrible - you are risking potentially ten times your maximum profit for that ease of trade management. If you mis-manage your defense, one bad month can wipe out a year’s worth of profits. This is why we have so many defensive techniques that we apply with the High Probability Condors; it’s a terrific strategy for bringing in consistent profits, but you cannot blink or freeze up when it’s time to defend or adjust the trade.... or you’re in deep yogurt.

The other problem with the HP Iron Condors is that with a lower rate of return...you also have much higher maintenance requirements. I define “maintenance” as the maximum possible loss that your Iron Condor could take if you allowed the price to blow through and expire beyond one of the credit spreads. This is the amount of trading capital that your broker will set aside, or “maintain”....in case you allow this to happen. Since the Low Probability Iron Condor maintains a 1:1 risk/reward ratio, your maintenance per contract is much, much lower with a LP Condor than with the same number of contracts employed for a HP Condor. What this means is that the Low Probability Iron Condor can be a very effective strategy for those trading smaller accounts.

If you talk to professional Options traders, notably those from Chicago who work in the CBOE or with proprietary trading firms, they are all about managing risk and abhor strategies that do not handle the “fat tails” of probability risk very well. They generally avoid the High Probability trades; they know that sooner or later, the risk of those trades combined with Murphy’s Law will conspire to eradicate hard-earned profits. Want proof? Just think about the events that we’ve seen over the past few years:

- Quiet Markets on FOMC Day, October 2007: on this FOMC policy release day, the market effectively stopped trading 15 minutes prior to the policy release, which allowed traders to “pry open” the Options chain and hit my stops which were over 100 points OTM.
• **October 2008**: the Average Trading Range (ATR) of the S&P500 was 76 points/day at its peak. We saw days with >100 points of range on the S&P, and >1000 Dow points. Few short Options positions survived, which were established during much lower Implied Volatility levels in September.

• **May 6, 2010**: Another 100 point range day on the S&P500, 1000 points on the Dow. Most of the range occurred within a 30 minute period.

• **2007 and 2008 Settlement Gaps** - the FOMC decided to release market-moving news premarket on the Friday of Options Expiration week a few times during this period, perhaps as a way to punish Bears and prop markets higher. During these instances, the SPX cash-settled several points higher than the prior day’s close and wreaked havoc with Options traders that held short calls that were well out of the money the previous day.

This is just a list over the past few years that has made trading short Options a challenge, and I’m sure there will be more unexpected “events” like this in the future. The point here is that we’re now seeing these “Black Swan” events with more regularity, including some mammoth upside days thrown in for balance.

Managing your risk through a Black Swan event with high-risk, High Probability short Options positions is extremely difficult and many traders do not have full-time market access during the day to effectively handle one of these days. Worse yet, even if you do have full-time access it can be extremely difficult to deal with a day like this regardless. Options chains widen out and give strange bid/ask spreads, charting programs lock up, and data feeds puke out.

To reliably, consistently and effectively manage your risk with short Options positions, you have to design the position from day one with risk management in mind. Many professionals refuse to go below a 1:1 risk/reward ratio on any position, so that they are not risking anything more that what they hope to earn. No one trade will take them out of business, and it’s hard to argue with a professional Risk Manager.
The basic shape of the Low Probability Iron Condor is shown below in Figure 31; note how the potential profit at expiration (green) is equal to the potential loss at expiration (red). As long as price expires/settles within the vertical lines, the trader will receive maximum potential profits.

Figure 31

This is somewhat of an over-simplification due to the fact that something less than max profit...and something more that max loss....will be received if the price settles between the long and short strikes of each credit spread. Since we almost never allow these trades to live to expiration, however, this diagram will suffice to at least show the 1:1 risk/reward concept that is possible.

The main point here is that we are STARTING the trade with a 1:1 risk/reward ratio so we have applied Static Risk Management from day one! Compare this with the P/L diagram of the High Probability Iron Condor in Figure 32 below:
Notice how the potential profit (green) is so much smaller than the potential loss (red), yet the “wings” are wider apart...indicating that there is a much wider potential profit range. The point here, however, is that the risk/reward ratio is nowhere close to 1:1, and typically runs somewhere on the order of 9:1, where you are risking $9 to make $1. If that probability is the extent of your Static Risk Management, then you can expect to see approximately 9 winning trades for every losing trade...but that losing trade will wipe out all previous profits. This is why I use much more conservative Static Risk Management metrics when defending these trades, as well as all of the Active Risk Management techniques that I can bring to bear.

The problem is that there is no statistical law of the Universe saying that 9 straight wins will follow a losing month. There will be outliers such as those seen in the fall of 2008 where three or four straight losing months in a row might appear. It is nearly impossible from an emotional and a financial point of view to recover from a pummeling like that.

Perhaps you can see why the professionals like their chances better over time with a 1:1 risk/reward ratio!

**But the Problem is....**

Yeah, there’s a small problem with these trades....a small problem called the PROFITABILITY RANGE. It’s much, much smaller than with a High Probability Condor. In fact, the 1:1 risk/reward ratio tells us through probability analysis that the trade only has a 50% chance of winning out of the gate. Doesn’t this sound like there will be only one winner in this strategy over time - your broker?

Well, that is absolutely true if we manage these in a “Fire and Forget” mode, letting each trade run to expiration. This is why we have to be a little bit more agile with these trades, and look to make calculated defensive actions as well as take profits when they’re available.

**Offensive Criteria**

Let’s discuss the Offense behind these trades - how/when/where do we enter these Iron Condors? Let’s look at our selection criteria:

- **Instruments** - What instruments are we going to play? The very first requirement is that they be “European” or cash-settled Options, like the SPX or RUT with full-sized index Options...or mini-Options like the MNX, DJX, or RMN. These are played instead of American-settled Options like the SPY, IWM, DJI, etc. The reason for this is that the price is FREQUENTLY outside of the “range” of the Iron Condor with Low-
Probability spreads, which means that the short option is “in the money”. This condition can open your short option up to early assignment with American-settled Options. This is unlikely unless the position is deeply ITM, however it’s still a risk that you can avoid by playing the European-settled instruments. My preference is to play the XSP which is 1/10 the size of the SPX and is traded at the CBOE.

• **Time to Expiration** - since you’re playing closer to the money, you can establish these trades a little closer in time to expiration than the HP trades, and still be able to hit your credit targets. I normally start these trades at about 30 “trading days” to expiration, or about six calendar weeks. During periods of lower implied volatility, such as when the VIX is in the teens, I may have to start a few days earlier than that to ensure that I can get at least a $1 credit using my target strike prices.

• **Leg-in Entries** - I never “leg in” to the Condor like I do with the HP spreads; the trade is always placed with a limit order asking for a minimum of a $1 credit with credit spreads that are 2 strikes apart between short and long Options. For example, I will submit a limit order for an Iron Condor that uses the 118/120 strikes for the put spreads (118 long, 120 short) and 126/128 strikes for the call spreads. (126 short, 128 long)

• **Price vs. Volatility Entries** - You want to enter these trades at the top of a price range, and not from the bottom of an expected price range; this is because of volatility skew…the max p/l of the trade early in its life will be much closer to the bottom of the range and will slowly creep up through the cycle. At the same time, these trades are VERY Vega-sensitive so you would want to enter at the time of maximum implied volatility, which is normally at the very bottom of a price run. These requirements are 180 degrees from each other, as the implied volatility at the very top of a rally is at its lowest, and the price at the time of a volatility spike is at its lowest as well. What I will do depends on the price action at the time; during a rally, I will establish the trade as far up in price as possible and just live with the consequences of a narrowed range due to a low implied volatility entry. During a corrective or bearish move, I will look for a spike in implied volatility that corresponds with a “capitulation” event and then establish the Iron Condor a couple of days after that when the price has rebounded but the implied volatility has not shrunk too much yet.

• **Strike Price Selection** - In theory, selecting a .30 delta strike for each short option of the Iron Condor will result in a 1:1 risk/reward ratio trade. In practice, it might be slightly more difficult depending on how low the implied volatility level is. I will start by looking to see if I can secure at least a $1 credit for the entire condor using “2-wide” spread strikes at the .30 delta level on the short calls and puts. If I cannot get at least a $1.00 fill, then I might have to move one or both legs closer to the money to secure the fill, at the expense of profit range. If I have a
bullish bias overall, I can secure a slightly higher delta than .30 on the short put leg, while leaving the short call at .30 or better.

- **Market Conditions** - If the Market is in the middle of a huge run, or appears just about ready to explode, then you may exercise your discretion to just step aside during that period of time. The LP Condor trade does not perform well during times where the chart is really moving. This trade performs exceptionally well during times where the market has just finished making a big move and then consolidates sideways for a few weeks. Try to identify opportunities like this and be very cautious about entering this trade when the market has been walking sideways for a few weeks. Contraction leads to expansion.

- **The Two Percent Rule** - I make sure that one bad month in this strategy won’t take me out of the game. I set aside a certain chunk of my trading account for this strategy, and I will risk no more than 2% of that account partition on any one trade.

As I’ve said in other forums, entering a trade is really the easy part. Defending and exiting the trade is where the money is made. Let’s look at the Defense for one of these trades:

**Defensive Criteria**

In this section I’ll lay out my defensive rules for these trades. In the next section of this program, you’ll find an example that illustrates how to use these rules.

- **Delta Risk Threshold** - I’ve found that I cannot use the same metrics that I use for the High Probability trades concerning a Delta Threshold. Again, a Delta Threshold is a highly personal decision that only you will determine over time and multiple cycles of trades. Set the threshold too high and the price will run through your position before you get a chance to do anything about it. Set the threshold too low, and you will be hedging every time that the market sneezes. The number that I’ve found to work for me with “2-wide” XSP Condors is 17 Deltas per 2 contracts. This means that for a 2 contract Iron Condor using XSP Options, I will hedge the position on the call side when the Delta reaches -17, or hedge the position on the put side when the position Delta reaches +17. I always trade in multiples of 2 for these trades, for reasons which will become more clear in a minute. So for a 4 contract trade, my Delta Threshold will be +/-34, or a multiple of 17 for every 2 contracts added above that. There is no secret formula to determining this, just years of trading and using this threshold comfortably. If the market dynamics change I may find that I have to alter this value to stay proactive and hedge risk. I will know that the number needs to be altered if moves are occurring too quickly for the threshold to “fire”.

109
• **Hedging Trades** - we could obviously devote a whole book to defending this style of trade alone, but my favorite adjusting trade is to “Butterfly off” one of the credit spreads by adding a Debit spread to the credit spread to turn that leg of the Iron Condor into a Butterfly hybrid. Recall that a Butterfly is a positive Gamma trade, which gains value as the price goes towards it. Adding a Debit spread also adds positive Deltas (calls) or negative Deltas (.puts) depending on which side you add it to. The net result is that it’s a very versatile trade which can dramatically reduce the risk of a runaway move in the direction that you’re concerned about. A couple of pictures here will help illustrate the value.

**Figure 33**

In Figure 33, this is how the trade’s P/L would look like near day one with about six weeks left to trade. The puts are at the XSP 118/120 strikes, and the calls are at the 126/128 strikes. The thick red line is the shape of the P/L curve at expiration, the thin vertical red line shows the current price, and the thin blue line is the current P/L. This trade is using 4 contracts and we’re risking $400 to make $400.
Now let’s see the same trade a few weeks later with the call spreads under attack:

**Figure 34**

Now the price has risen about 20 points on the S&P500, and is starting to “attack” the short calls with the Delta now reading -34; this is our Delta Threshold and the point at which the losses of the next point higher in the XSP. It is time to adjust the position to make sure that a continued move higher can be accommodated without causing us a max loss. Adding two contracts of a debit call spread at the strikes 124/126 - buying two contracts of calls at the 124 strike and selling two at the 126 strike - will now give us the following P/L curve:

**Figure 35**

Although the scale of the graph has changed somewhat, notice that the risk of a continued move higher has been halved, from $400 max loss to $200 now. Note that there is also a characteristic “Butterfly Peak” at the XSP 126 strike now, so there are two distinct benefits to our trade should the price continue to go higher. Every adjustment is a compromise, however....the max profit below the Butterfly peak is now half of what it
was before the adjustment, and the risk of a price move below the 118 strike is now $200 higher than the original risk of $400. There is no free lunch in adjusting positions; the risk that is removed from one side is added to the other.

In practice, it has only been a rare month when I’ve had to first hedge the call spreads, and then turn around and hedge the put spreads, putting “Batman Ears” on the original Condor. My preference is just to close the trade for meager profits rather than to perform a double Butterfly adjustment on the trade.

- **Hedging Activity** - I’ve found that it rarely pays to continue hedging in the same direction after the initial hedge trade is added. For example, say that we Butterfly a call spread as in the example again, yet the price continues to run higher. Should we hedge the trade back to Neutral again? You certainly can, however what I’ve generally found is that with the exception of the strongest moves, most of the time you’ll see a “reversion to the mean” which is a fancy way of saying that charts will generally pull back or go sideways after such a strong move. It’s very likely that a pullback will put the price right back inside of your Condor profit range again. Remember, hedging a position just means that you’re moving the risk from one place to another, kind of like a “shell game”. If you continue to hedge upside risk and you see a meaningful pullback, you will have hedged yourself out of a profit. Don’t forget, as well, that we used Static Risk Management up front to set the initial risk of the trade. This is why I only hedge Low Probability trades once per “direction”.

**Exit Criteria**

I mentioned earlier that it’s easy to enter these trades and considerably more difficult to secure profits. The key with the Low Probability trade is that you have to be more attentive and nimble in securing advantageous exits when you have the edge. Compared to the High Probability trades where you are lobbing artillery shells from a great distance away and are generally insulated from contact with the enemy...with the Low Probability trades you are sometimes in the trenches in hand-hand combat with the price to defend your positions. This, of course, increases dramatically near expiration as the fearsome Gamma spike raises its effects on the profitability of your trade.

Remember, when you opened this trade you only had a 50/50 chance of making any money on it. This means that we need to execute and take profits when we have an edge. Let’s discuss some ways in which you can take profits off the table and surgically close your trade in a favorable manner:

- **Define a Reasonable Profit Target** - think about this...if you are fortunate enough to secure a max profit on this trade, you are earning a
ONE HUNDRED PERCENT return on risk! In the world of selling Options, that’s a very high return percentage. Most of the time when I’m selling High Probability Condors, I’m shooting to earn 10% return on risk. The point here is that 100% return on risk is a big number and thus should be considered difficult to achieve. And believe me, it is. So let’s get more reasonable with a return…what percentage is good enough for you? This is an individual decision as some are more comfortable with risk than others. Myself, I target a 25% return on risk for the trade. This means that if I can earn $100 on a four contract trade, I’ve hit that target. 25% return on risk is a great return if you can achieve it consistently.

- **Have “Runner” Contracts** - If a month is working out particularly well…in other words, if I have nailed the entry point concerning price and volatility….then the trade will become profitable within days and I will be at my initial 25% return on risk target. I will take off a portion of my position for that 25% return on risk and leave some contracts in play as “runners”, with the intent on increasing that return beyond 25% for the remaining contracts. Frankly, most of the time this tactic does not work out, with these runner contracts earning less than 25% return on risk, but you have to keep trying to score the higher return months where the price just flattens out and the implied volatility falls off the cliff. You have to be in it to win it.

- **Use Limit Orders for Intraday Exits** - once again, we have a very narrow field of play with this strategy. The price might consolidate for two weeks inside the Condor and you relax and get complacent, counting your future profits. That consolidation leads to a big breakout and all of your paper profits evaporate. If the price is still not completely outside of the Condor strikes by now, you can still secure a modest profit if you’re near Expiration by defining a debit limit order to fire should the price move enough intraday to allow you an advantageous exit. You have to be very proactive with these, otherwise you might find yourself slapping yourself in the forehead at the end of the month, staring at a max loss and seeing that pullback in the chart that offered you an advantageous exit. If the price is near one of your short strikes then you should assume that you’ve lost the edge on the trade and you should find a clean way to preserve your capital and look to enter the next month. You will frequently be wrong while playing this trade; always look for that convenient dangling vine that can help extricate you from that quicksand pit. Get out, save your capital, and nimbly move on to the next cycle.

- **Active Risk Management** - the techniques that we discussed in the Active Risk Management section of this program apply to these trades as well, although some of the techniques might be slightly different. I try to follow Malkiel’s “Random Walk” philosophy regarding these trades, which is to acknowledge that I really don’t know which way price will go in the future. Therefore, I tend to disregard Technical Analysis signals during risk management decisions for this strategy. (while I do quite the
(opposite with the HP strategy) This is not saying that you have to as well, I am just trying to stay true to the proven principles of professional risk managers in Chicago who do quite well just following risk numbers and not that of lines on a chart.

Even though they do turn up their nose to price charts, something that these Chicago traders will do is to understand the sensitivity to price levels; they don’t need a chart to determine that.

As it relates to this strategy, the most important element of Active Risk Management is to understand the current slope of the P/L curve, also known as Delta. If this is a very small value...in other words if the price is right on top of that P/L “hill” that we’ve shown in previous graphs....then the numbers are trying to tell you that this might be a good time to take profits or reduce risk.

• Settlement Risk - something that we haven’t spent much time talking about to this point is the extremely dangerous Settlement process that European-settled Options undergo every month. The European-settled Options such as the RUT, SPX, or XSP stop trading at 1615p ET on the Thursday of OpEx week. Many traders mistakenly believe that the closing price of that Thursday marks the “finish line” of their trade...the price that determines whether their option finished in the money, or out of the money. They couldn’t be more wrong.

The actual Settlement price is determined on Friday morning, based on the “Opening Print” of where all of the stocks in that index actually open, whenever they actually start trading. Some begin at 0930a ET, others a couple of minutes later. Should there be some kind of market-moving news that morning, then the actual Settlement price can be several points different from the actual closing price.

For example, the closing price of the SPX on Thursday, September 18, 2008 was 1206.51. The SEC enforced a “no naked short stock” ban effective immediately the next morning, causing a huge short squeeze. The S&P500 had a Settlement price of 1279.31 that month - over a 70 point gap between the closing price on Thursday and the monthly Settlement price!

Obviously this is an extreme example that occurred right on the verge of a generational crash, but there have been other Settlement events over the past few years that have done damage on a milder scale. The point here is to NOT mess with the Settlement process and make sure that any short Options that you’re holding that do not have at least a 100 SPX point equivalent “cushion” be closed prior to expiration.
We now have a whole new skill set to manage our trades, plus a new style of Iron Condor to use.

It’s time to see if we’ve really learned this material! Let’s apply everything that we’ve learned with some real-world exercises.
Putting it All Together - Examples

In this section we’ll go over some examples of how you can use all of the preceding Risk/Trade Management techniques to evaluate and defend some High Probability and Low Probability Iron Condors. In each of the preceding chapters, we focused on one Greek at a time and discussed how to protect our trades against the effects of a large move in that category.

In practice, however, what I tend to focus most of my attention on is DELTA. The other Greeks are equally important to Delta, however to keep things simple I tend to reactively focus on the Delta risk because it’s the easiest Greek to “reactively” manage the risk curve on. Gamma, for example, is a second derivative that moves in two dimensions with proximity and time. Vega also changes with Implied Volatility, proximity, and time. It can be very confusing to actively manage Gamma and Vega, even if you understand these Greeks well and have a good working knowledge of how to subdue their effects.

So in a way, Delta can be managed in a “tactical” or reactive manner, while Gamma and Vega should be managed in a more “strategic” or proactive manner. We are still proactive in how we lay out a Delta Threshold, but we are “reactive” to Delta moving.....if it moves above our threshold, we react.

Gamma and Vega can be much more insidious, however....by the time you find yourself in trouble with those Greeks, it’s too late to do anything and you end up adding MORE risk to the trade trying to offset those effects. Here are a couple of examples:

• **Gamma** - this Greek “accelerates” changes in Delta depending on proximity of the price to the option, as well as time to expiration. If you try to ride a “tight” short Options position too close to expiration, you might find your P/L whipsawing uncontrollably, and you will be powerless to stop it by then.

• **Vega** - this Greek shows the change in the position’s P/L depending on changes in Implied Volatility. If the IV jumps up unexpectedly, you will be “behind the curve” in fighting off the effects of that change with your position that was assembled under much lower vol conditions. Every attempt to combat this change after the fact will only add more risk to the position.

Keep in mind that these Gamma and Vega “risks” can actually become “edges” in the hands of a professional. Many pro Options traders use “Gamma Scalping” techniques to earn daily income, and many pit traders concentrate on long or short Vega techniques as well. One trader’s weakness is another trader’s edge, however those techniques are best left to later after you have completely mastered their characteristics.
So when I talk of being “strategic” with Gamma and Vega risk, I mean being “proactive” and expecting adverse changes against your position before they occur. Yes, it will require you to be somewhat contrarian - to expect to see a downdraft in the middle of a rally, and a bounce higher in the midst of a sell-off, but that’s typically how markets operate anyway. Over time you will improve your “feel” for the market and will find yourself anticipating risk conditions well before they appear.

So to summarize, here’s how I manage all of these Greeks at once:

• Delta - the primary “reactive” Greek that we can manage on a day-by-day basis by setting our Threshold and adjustment interval, and then add /subtract adjusting Deltas as necessary.
• Gamma - be proactive by noticing how much the price has to run before we’ll encounter our next Delta hedge condition, as well as noticing if we’ll encounter too much risk to Delta hedge if we’re close to expiration.
• Vega - when IV is especially high, look for opportunities to sell this volatility and enjoy quick profits on the resulting “crush”. Likewise, when the IV is abnormally low, guard against quick downdrafts in price and spikes in IV BEFORE you need it when the protection is cheap.
High Probability Iron Condor Example

In this example trade we will show the major decisions necessary to enter, defend, and use Active Risk Management techniques to help defend a trade against what turned out to be a very strong attack. This was a similar trade to one that was taken in the OptionsLinebacker Daily newsletter; some changes have been made to provide a better example, because we only have end-of-day data available on our analyzer.

Trade Entry - February 25

After being in an uptrend for the better part of a year with very muted pullbacks, mid-January gave a very nice, deep, wave-based pullback which did not break trend. There was a lot of fear evident in the Market since charts had come a long way off of the March 2009 bottom, however the longer-term trend had not been broken.

On February 18, the price broke above the prior swing high that had been printed on February 2nd; the reversal was on. We now looked to take the first real pullback down to a Fibonacci level of support, around SPX 1090, as shown in Figure 36:

Figure 36
As the price dipped down to that level, we filled a SPY 96/98 Bull Put Spread for $.16 credit with 40 contracts. Here is how the current position looks like at this point:

<table>
<thead>
<tr>
<th>Spread</th>
<th>Stock Symbol</th>
<th>Strike Type</th>
<th>Strike</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>Fill Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>-149 SPY</td>
<td>PUT</td>
<td>149</td>
<td>96.46</td>
<td>-24.11</td>
<td>19.20</td>
<td>-31.07</td>
<td>$120.00</td>
<td></td>
</tr>
</tbody>
</table>

We got a good entry on this put spread, as the trade has already gone profitable due to the price running away from the trade, as well as the Implied Volatility dropping by the end of the day. We are running +90 Deltas on the trade; my Delta Threshold on this trade will be +/- 320, as it corresponds to 50% of the credit that we received on this trade ($640).

We now need to add a Bear Call Spread position to complete the High Probability Iron Condor position.

**Trade Entry - March 2**

I let the price rally higher until it hit a resistance level at SPX 1120. This gave us a fill on the call spreads 30 points higher than if we had just accepted a call spread fill down at SPX 1090. I set a limit order for $.16 credit for the SPY 119/121 Bear Call Spread and was filled as the price rallied up to the 1120 level, as shown below in Figure 37.
After the Bear Call Spread fill, we now have a full Iron Condor in play with the SPY at the 112.2 level. Let’s see what the Greeks tell us about the position:

- **Delta:** -173.31 (This means that the price will lose $173 for the next point move higher in the SPY)
- **Gamma:** -64.25 (This means that the Gamma will add another -64.25 Deltas after that point move higher, or the Delta will be -237.56 if the SPY rises to the 113.2 level)
- **Theta:** 28.09 (time value is burning away to our benefit of $28/day)
- **Vega:** -161.24 (if the Implied Volatility drops by 1%, our position will gain $161 in value)

OK, what do we do with all of those numbers? First of all, the Delta value of -173 is within our Delta Risk Threshold of +/-320, so we don’t have to do any direct Delta Hedging yet. The Gamma shows us that if the S&P’s rise 10 more points - one point in the SPY - then our Delta value will then read about -237.
That’s starting to get a little high but still not to a level where we’d have to do something directly about it. Lastly the Vega value is negative as we’d expect and warns us that we’d see a negative impact to the position P/L should the VIX begin to rise.

Looking at the chart, we notice that the price is starting to show a fairly defined uptrend. Just to be proactive, we will add a Gamma Hedge to the upside - or the call spreads. A typical Gamma hedge for call spreads is a “2-wide” Butterfly, with the short strike of the Butterfly one strike closer to the money than the short strike of the Bear Call spreads. In our case, that means that we’ll add a SPY 116/118/120 Butterfly tomorrow.

**Trade Entry - March 3**

The SPY is now at the 112.3 level. Since the call spreads brought in around $600 of credit, I’m willing to spend approximately 10% of my credit as “Gamma Insurance”, or $60. Looking at the SPY 116/118/120 Call Butterfly, it will cost about $.20 debit, so I will buy three contracts of this trade. I will go long 3 call contracts at the SPY 116 strike, go short 6 call contracts at the 118 strike, and long another 3 contracts at the SPY 120 strike. Let’s see what our Greeks look like after this trade:

<table>
<thead>
<tr>
<th>Spread</th>
<th>Qty Symbol</th>
<th>Strike Type</th>
<th>Value</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L/Op</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VERTICAL</td>
<td>+40</td>
<td>SPY**</td>
<td>PUT</td>
<td>16.06</td>
<td>60.36</td>
<td>-11.59</td>
<td>9.63</td>
<td>-50.65</td>
</tr>
<tr>
<td></td>
<td>+10</td>
<td>SPY</td>
<td>PUT</td>
<td>90.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VERTICAL</td>
<td>+40</td>
<td>SPY</td>
<td>CALL</td>
<td>18.39</td>
<td>-234.34</td>
<td>-84.41</td>
<td>19.22</td>
<td>-120.89</td>
</tr>
<tr>
<td>BUTTERFLY</td>
<td>+20</td>
<td>SPY</td>
<td>CALL</td>
<td>116.00</td>
<td>9.96</td>
<td>-63</td>
<td>-18</td>
<td>-20</td>
</tr>
<tr>
<td></td>
<td>-6</td>
<td>SPY</td>
<td>CALL</td>
<td>DEBIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+3</td>
<td>SPY</td>
<td>CALL</td>
<td>DEBIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Delta**: -164.02 (This means that the price will lose $164 for the next point move higher in the SPY)
- **Gamma**: -66.57 (This means that the Gamma will add another -66.57 Deltas after that point move higher, or the Delta will be -230.59 if the SPY rises to the 113.3 level)
- **Theta**: 27.67 (time value is burning away to our benefit of $28/day)
- **Vega**: -159.24 (if the Implied Volatility drops by 1%, our position will gain $159 in value)

Note that the overall Greeks have not changed very much with the addition of this Butterfly trade. That’s the nature of Butterfly trades; they are very inert at first, and don’t really “blossom” until the time gets closer to expiration. Our Delta Risk Threshold is still at -320 which the trade is nowhere near, and the Gamma shows us that we can easily withstand another 10 point S&P move higher, or one point in the SPY. Let’s go to the next checkpoint....
Checkpoint - March 5

Only two days later it’s apparent that we’ve stepped in front of a very strong uptrend. The price of the SPY is now 114.25 and there is only one major line of resistance overhead at SPX 1150, as shown in Figure 38.

Figure 38

Let’s see how the Greeks are evaluating our risk at this point:

<table>
<thead>
<tr>
<th>Strike</th>
<th>Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>96</td>
<td>PUT</td>
<td>-62</td>
<td>35.18</td>
<td>-7.92</td>
<td>5.60</td>
<td>-25.42</td>
<td>$190.00</td>
</tr>
<tr>
<td>96</td>
<td>PUT</td>
<td>-62</td>
<td>35.18</td>
<td>-7.92</td>
<td>5.60</td>
<td>-25.42</td>
<td>$190.00</td>
</tr>
<tr>
<td>119</td>
<td>CALL</td>
<td>-355.43</td>
<td>-66.11</td>
<td>23.59</td>
<td>-142.90</td>
<td>($360.00)</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>CALL</td>
<td>-355.43</td>
<td>-66.11</td>
<td>23.59</td>
<td>-142.90</td>
<td>($360.00)</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>CALL</td>
<td>20</td>
<td>7.97</td>
<td>-2.09</td>
<td>.33</td>
<td>-5.30</td>
<td>$21.00</td>
</tr>
<tr>
<td>118</td>
<td>CALL</td>
<td>20</td>
<td>7.97</td>
<td>-2.09</td>
<td>.33</td>
<td>-5.30</td>
<td>$21.00</td>
</tr>
<tr>
<td>120</td>
<td>CALL</td>
<td>20</td>
<td>7.97</td>
<td>-2.09</td>
<td>.33</td>
<td>-5.30</td>
<td>$21.00</td>
</tr>
</tbody>
</table>
• **Delta:** -312.28 (This means that the price will lose $312 for the next point move higher in the SPY)
• **Gamma:** -76.12 (This means that the Gamma will add another -76 Deltas after that point move higher, or the Delta will be -388.40 if the SPY rises to the 115.25 level)
• **Theta:** 29.52 (time value is burning away to our benefit of $30/day)
• **Vega:** -171.62 (if the Implied Volatility drops by 1%, our position will gain $172 in value)

These values tell us that 1) the Delta Risk is almost at the level where we need to take direct action to manage risk in the trade (our Delta Threshold of -320), and 2) that the Delta Risk will be about -388 if the SPY moves another point higher, which is WELL beyond our risk numbers. We need to be prepared to act quickly.

**Checkpoint - March 9**

There are still 38 calendar days left in the April expiration cycle and the S&P500 is still tearing to the upside although is still below strong resistance at SPX 1150; the SPY has closed trading for the day at the 114.16 value. Figure 39 below shows the current price chart.
The trade at risk is the SPY 119/121 Bear Call Spread for April. We still have that major level of resistance overhead at SPX 1150 but what if it does not hold? Let's see how the Greeks evaluate our risks at this point:

- **Delta**: -332.08 (This means that the price will lose $332 for the next point move higher in the SPY)
- **Gamma**: -75.36 (This means that the Gamma will add another -75 Deltas after that point move higher, or the Delta will be -407 if the SPY rises to the 115.16 level)
- **Theta**: 32.76 (time value is burning away to our benefit of $33/day)
**Vega:** -163.71 (if the Implied Volatility drops by 1%, our position will gain $163 in value)

Our Delta Risk Threshold has now been exceeded; it is time to add a direct hedge. If we wait to see whether that SPX 1150 resistance level will “hold”, the risk level will be much higher than our current Delta Threshold of -320.

I will add +100 Deltas to help bring the Deltas back inside of my Threshold value. I can add 100 shares of SPY stock for a cost of $11,416 or I can add a Synthetic Long hedge which is built from a long SPY call and a short SPY put at the same strike. I will choose the strike price to be about 4 SPY points below the current level to make sure that my short put always stays OTM in case the price dips back lower. I will choose the April SPY 111 Synthetic Long; let’s see how this affects the Greeks:

<table>
<thead>
<tr>
<th>Strike</th>
<th>Delta</th>
<th>Theta</th>
<th>Gamma</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy SPY 111 CALL</td>
<td>10.30</td>
<td>-0.90</td>
<td>-0.09</td>
<td>0.97</td>
</tr>
<tr>
<td>Sell SPY 111 PUT</td>
<td>-10.30</td>
<td>0.90</td>
<td>0.09</td>
<td>-0.97</td>
</tr>
</tbody>
</table>

Without going through the analysis of every Greek here, note that the Synthetic Combo trade (last trade on the bottom) adds about +100 Deltas, and does not really add any additional Gamma/Theta/Vega risk to the trade; it’s almost identical to adding 100 shares of stock. We just have to ensure that we close the trade prior to April expiration.

This now gives us a Delta risk value of the entire position of (-332) + (+100) = -232. This is back within our Delta Risk Threshold and we have helped assist our trade against a continued move higher.

**Active Risk Management Thoughts - March 9**

Let’s step back for a second and think about what we’re doing in this trade. We entered a Bull Put Spread for April on February 25th at support, and then we entered a Bear Call Spread for April on March 2nd at what we thought to be resistance at the time. Iron Condor trades are wonderful during sideways markets….and this could still end up being a sideways market which is trapped underneath SPX 1150 which looms just overhead on the chart.

Since the entry, the price has exploded to the upside. We’ve added a Gamma Hedge Butterfly, but as you can see from the March 9th checkpoint, it’s only gained $21 in value, hardly enough to pay for the commissions on the trade. We knew in advance that our Butterfly is a “late bloomer” and only helps to
defend our call spreads if the price gets near the center strike during OpEx week.

We have also added a direct Delta hedge to the upside; what happens if the price drops from here? We will hold onto it until the value of the hedge drops $320 in value, which would be just over 3 SPY points lower than the current price of 114.46.

What happens if the price exceeds SPX 1150? We don’t want to assume that a horizontal price level will “do” anything for us. It certainly should delay any advance over that price due to probable overhead supply, but we can’t count on that. I would think that there would be a greater possibility of a continued rally if the price were to exceed SPX 1150, one that would probably put maximum “heat” on the SPY 119/121 call spreads.

The problem that we find ourselves in at this time, however, is that the P/L of the call spreads is underwater to the tune of wiping out our paper profits on the put spreads. We simply need to burn off more time value and continue to defend the call spreads in an active manner to give ourselves a chance to make a profit on the month. At the same time, however, if the price does vault over SPX 1150, we should look for a pullback to potentially vacate the bearish positions and their hedges.

**Checkpoint - March 15**

With 32 calendar days left before April Options expiration, the rally is not slowing down and is once again putting pressure on the call spreads with the price of the SPY rising to the 115.49 level. As shown in Figure 40 below, the price has almost, but not quite broken above the SPX 1150 level just yet. Those that are relying on straight Technical Analysis resistance levels alone to defend their call spreads might be getting nervous by this point.
Something else that is not helping our call spreads much is the fact that the VIX has only dropped from the 20 level to the 18 level after rallying from 1090; there is still a lot of skepticism about this rally and we’re not seeing the usual “Volatility Crush” that would help defend our call spreads. Let’s see what the Greeks are showing for our position risk:

<table>
<thead>
<tr>
<th>Strike</th>
<th>Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L (Open)</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>PUT</td>
<td>.16</td>
<td>30.16</td>
<td>-6.84</td>
<td>7.70</td>
<td>-20.80</td>
<td>$500.00</td>
</tr>
<tr>
<td>96</td>
<td>PUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>119</td>
<td>CALL</td>
<td>.16</td>
<td>-459.49</td>
<td>-73.97</td>
<td>32.63</td>
<td>-138.38</td>
<td>($740.00)</td>
</tr>
<tr>
<td>121</td>
<td>CALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>116</td>
<td>CALL</td>
<td>.20</td>
<td>5.55</td>
<td>-3.37</td>
<td>.87</td>
<td>-5.02</td>
<td>$34.50</td>
</tr>
<tr>
<td>116</td>
<td>CALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>CALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111</td>
<td>CALL</td>
<td>3.05</td>
<td>100.21</td>
<td>.02</td>
<td>-.04</td>
<td>-.06</td>
<td>$90.50</td>
</tr>
<tr>
<td>111</td>
<td>PUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 40**

[Image of a stock chart]
• **Delta:** -323.57 (This means that the price will lose $324 for the next point move higher in the SPY)

• **Gamma:** -84.16 (This means that the Gamma will add another -84 Deltas after that point move higher, or the Delta will be -408 if the SPY rises to the 116.49 level)

• **Theta:** 41.16 (time value is burning away to our benefit of $41/day)

• **Vega:** -164.37 (if the Implied Volatility drops by 1%, our position will gain $164 in value)

Once again, our Delta Risk is outside of our -320 Delta Risk threshold so we need to add another +100 Deltas to the position. I will do so by adding a 112/112 Synthetic Long position by selling one April SPY 112 put and simultaneously buying one April SPY 112 call for a debit.

Notice also that the Gamma value is starting to rise as we get deeper into the expiration month, and closer to one of the short Options....in this case the SPY 119 call. The Butterfly Gamma hedge is starting to pick up some value but will not realize all of its value for a few weeks yet. The SPY 111/111 Delta hedge that we added on March 9th has added $98 of positive hedging value to the position, so it’s doing its job....however as we’re seeing, there’s only so much that a +100 static Delta hedge will help against a continual move higher.

After we add the 112/112 hedge position, let’s see what our Greeks are showing:

<table>
<thead>
<tr>
<th>Option</th>
<th>Strike</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>Fair Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>PUT</td>
<td>16.16</td>
<td>30.16</td>
<td>6.04</td>
<td>7.70</td>
<td>-20.99</td>
</tr>
<tr>
<td>112</td>
<td>CALL</td>
<td></td>
<td>-58.49</td>
<td>-73.97</td>
<td>32.63</td>
<td>-150.59</td>
</tr>
<tr>
<td>BUTTERFLY 110/110</td>
<td>CALL</td>
<td></td>
<td>16.55</td>
<td>2.37</td>
<td>0.97</td>
<td>-5.82</td>
</tr>
<tr>
<td>112</td>
<td>CALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>CALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASHED</td>
<td>110</td>
<td></td>
<td>100.21</td>
<td>0.2</td>
<td>-0.94</td>
<td>-0.08</td>
</tr>
<tr>
<td>111</td>
<td>CALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASHED</td>
<td>111</td>
<td></td>
<td>100.11</td>
<td>0.2</td>
<td>-0.96</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

Notice that we have essentially the same Greeks values for Gamma, Theta, and Vega...however the cumulative Delta value now reads -223.36...back within our Delta Risk threshold of -320.

**Checkpoint - March 16**

Recall that we did a quick “sanity check” on the overall position on March 9th; one of the conclusions that we came up with was that if the price were to break out above SPX 1150, that it might just keep going higher as stops were cleared out and shorts had to cover their bearish bets. Thus, if the price broke out above SPX 1150, then we should look for any kind of re-test of that level from above as a signal to close down the call spreads and Delta hedges.
It didn’t take long; on March 16th, the price had broken above that level, now reading 116.41 on the SPY, as shown in Figure 41:

![Figure 41](image)

Let’s do a quick check on the position risk via the Greeks:

<table>
<thead>
<tr>
<th>Strike</th>
<th>Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>PUT</td>
<td>.16</td>
<td>23.45</td>
<td>-5.51</td>
<td>5.96</td>
<td>-16.39</td>
<td>$540.00</td>
</tr>
<tr>
<td>99</td>
<td>PUT</td>
<td>.16</td>
<td>-53.04</td>
<td>-71.32</td>
<td>31.37</td>
<td>-131.41</td>
<td>($1,100.00)</td>
</tr>
<tr>
<td>121</td>
<td>CALL</td>
<td>-5</td>
<td>2.58</td>
<td>-4.22</td>
<td>1.12</td>
<td>-6.20</td>
<td>$46.50</td>
</tr>
<tr>
<td>116</td>
<td>CALL</td>
<td>-1.05</td>
<td>100.42</td>
<td>.02</td>
<td>.01</td>
<td>-.16</td>
<td>$193.50</td>
</tr>
<tr>
<td>112</td>
<td>CALL</td>
<td>.02</td>
<td>100.60</td>
<td>.06</td>
<td>.04</td>
<td>-.10</td>
<td>$92.00</td>
</tr>
</tbody>
</table>

- **Delta:** -307.99 (This means that the price will lose $308 for the next point move higher in the SPY)
• **Gamma:** -80.97 (This means that the Gamma will add another -81 Deltas after that point move higher, or the Delta will be -389 if the SPY rises to the 117.41 level)
• **Theta:** +38.99 (time value is burning away to our benefit of $39/day)
• **Vega:** -154.34 (if the Implied Volatility drops by 1%, our position will gain $154 in value)

The position is still within its Delta Risk threshold of -320 so no immediate hedging is required, however the price is now above the SPX 1150 level so the call spreads are in immediate danger of being run by from a short squeeze. It is no longer worth trying to incrementally hedge Delta by continuing to add more positive Delta positions; by the time that the price gets up to the SPX 1170 level, it will probably be time to remove/roll out the call spreads due to our Static Risk Management trading rules of a $.61 maximum debit. Overall, the entire position is showing that it’s underwater by $228. We have done well to keep up with the risk of an extreme move higher, however properly done hedging is never meant to turn losing trades into winners. You must take too much risk, or completely flip your position strategy to do that. (i.e. the terrible strategy of buying back a short option from a spread position and allowing the long option to “run”)

Our mandate is clear at this point; look for an opportunity for the price to re-test the SPX 1150 level from above and clear out the Bear Call spreads as well as the Delta Hedge positions. We’ll discuss what we’ll do with the Butterfly position in a minute.

**Checkpoint - March 22**

The SPX executed a half-hearted attempt to re-test the 1150 level from above, and is rallying higher again. There are 25 calendar days left in the April cycle with the SPY at the 116.59 level. Figure 42 shows the current price chart.
Figure 42

Since this shows all of the hallmarks of a typical “retest” of a support line, we closed down the SPY 119/121 Bear Call Spreads as well as the SPY 111/111 and SPY 112/112 synthetic hedge trades. Let’s see what the numbers show for P/L as well as remaining Greeks risk:

<table>
<thead>
<tr>
<th>Strike</th>
<th>Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>PUT</td>
<td>.16</td>
<td>18.83</td>
<td>-4.81</td>
<td>6.19</td>
<td>-12.51</td>
<td>$580.00</td>
</tr>
<tr>
<td>96</td>
<td>PUT</td>
<td>CREDIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>119</td>
<td>CALL</td>
<td>.16</td>
<td>-586.62</td>
<td>-113.49</td>
<td>39.39</td>
<td>-149.50</td>
<td>($1,060.00)</td>
</tr>
<tr>
<td>121</td>
<td>CALL</td>
<td>CREDIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>116</td>
<td>CALL</td>
<td>.20</td>
<td>3.26</td>
<td>-7.15</td>
<td>1.63</td>
<td>-7.95</td>
<td>$66.00</td>
</tr>
<tr>
<td>116</td>
<td>CALL</td>
<td>DEBIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>CALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111</td>
<td>CALL</td>
<td>3.05</td>
<td>99.40</td>
<td>.01</td>
<td>-.20</td>
<td>.17</td>
<td>$259.00</td>
</tr>
<tr>
<td>111</td>
<td>PUT</td>
<td>DEBIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>CALL</td>
<td>3.06</td>
<td>99.69</td>
<td>-.01</td>
<td>-.14</td>
<td>.06</td>
<td>$161.00</td>
</tr>
<tr>
<td>112</td>
<td>PUT</td>
<td>DEBIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The total P/L for the SPY 119/121 Bear Call Spreads as well as the two hedge trades was (-$1060) + ($259) + ($161) = -$640. That debit will be covered by the
SPY 96/98 put spread which will have a max profit of $640 when it expires OTM in a few weeks.

So is that it? So far what we’ve shown you is an extreme trend example, and we saw how Delta Hedging the attacked position helps to keep the losses in check. Remember, it’s unrealistic to make a profit every single month, there will be outliers that come along where all you want to do is to make sure that you minimize your losses to the extent that they don’t take away more than a typical month’s profits. We’ll show how dramatic that can be in just a minute.

But wait….we had the good sense to proactively set up a SPY 116/118/120 Call Butterfly as a precaution against an extended attack late in the month. The attack came too early in the month for this trade to be of much use, but there’s really no reason for us to close this trade down just yet, since it was relatively inexpensive to begin with. (about $60) So let’s just allow this trade to work as long as the price is going higher, and we’ll make sure that we remove it either 1) if the price gets up to/past the short strikes at SPY 118, or 2) if there is value left in the trade prior to expiration.
Checkpoint - April 5

And the rally keeps on going as we can see in Figure 43.

Figure 43

If we had stayed in the SPY 119/121 Bear Call Spread position, the price would almost be at the short strike at SPY 119. As it is, the price of the SPY is now at the 118.76 level so it’s time for us to close down our SPY 116/118/120 Call Butterfly; we don’t want a potential assignment problem on our hands, which is always the case when you have a short American-settled option in the money. In addition, Butterflies tend to show diminishing returns as the price gets past the short strike and keeps rallying; best to close it for a profit as the price hits the center strike of the trade. Our profit from the Butterfly turned out to be $91.50.
Note how the trend in Figure 44 never really stopped:

**Figure 44**

With one day left before expiration, there’s nothing left for us to do on our remaining open trade, which is the SPY 96/98 Bull Put Spread that has never taken any heat since the minute that the trade was entered. We will just let it expire worthless tomorrow and keep our original $640 credit minus the original commissions to establish it. The paper profits for this month were around $90 which weren’t much, and were far less than our original credits of $1280 for the entire Iron Condor.

But what WAS important was that we MANAGED OUR RISK and we didn’t let a trend that moved over 124 SPX points....an 11% move over the course of 6 weeks....make us take an unrecoverable loss. Again, this was somewhat of an extreme example however we are going to continue to see these kinds of moves throughout the foreseeable future.
To give some perspective, let’s assume that we did NOT use all of our Active Risk Management techniques to hedge off our risk and proactively contain these moves. In fact, let’s assume that we don’t even use our Static Risk Management metrics to close down a trade at $.45 net debit, or in this case a max $.61 debit. What kind of loss would we have been looking at prior to April expiration?

<table>
<thead>
<tr>
<th>Strike</th>
<th>Type</th>
<th>Price</th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>PUT</td>
<td>.16</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>$643.00</td>
</tr>
<tr>
<td>95</td>
<td>PUT</td>
<td>.16</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>$.61 debit</td>
</tr>
<tr>
<td>119</td>
<td>CALL</td>
<td>-1220.22</td>
<td>934.66</td>
<td>-153.12</td>
<td>76.06</td>
<td>($6,320.00)</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>CALL</td>
<td>-1220.22</td>
<td>934.66</td>
<td>-153.12</td>
<td>76.06</td>
<td>($6,320.00)</td>
<td></td>
</tr>
</tbody>
</table>

With one day left to trade, we’d be staring at a net $5680 loss, and I’ll bet that we wouldn’t have been sleeping much during the week prior to this, or this night. Using Active Risk Management allows you to use your knowledge of the Greeks....as well as some common sense around price levels....to harness control over the outcome of your trade.
**Low Probability Iron Condor Example**

For this example we will use a 4 contract Iron Condor that was introduced in the “Low Probability Condor” section. This is a January XSP 118/120*126/128 Iron Condor position, comprised of bull put spreads at XSP 118/120 and bear call spreads at XSP 126/128. The credit received on this trade was $1.00, so without factoring commissions into this trade we are risking $400 in order to make $400. My initial goal is to make a 25% return on risk profit from this trade, or keep at least $100 of the initial credit that we received. If the trade goes well, then we will look to take off half of the position at a 25% return on risk, and then see if we can improve the return on the last two contracts.

For this example I am using the thinkorwim position analyzer to show the P/L curves and the position Greeks.

**Trade Entry - December 9**

With 29 trading days left in the cycle and the XSP at the 123.3 level, we entered the position and received a $1.00 credit. Let’s see how this position looks on the P/L graph as well as what the Greeks read:

![Figure 45](image)

<table>
<thead>
<tr>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>-16.96</td>
<td>-7.28</td>
<td>3.38</td>
<td>-19.68</td>
<td>($18.16)</td>
</tr>
</tbody>
</table>

You can clearly see on the graph with the “current P/L” blue line that for the trade to gain value, the price (signified by the vertical red dotted line) needs
to drop somewhat. This is very typical on both HP as well as LP trades to see the initial Delta of the Iron Condor be somewhat negative; this is due to Volatility Skew.

The Greeks are showing us that we have:

- **Delta** - a negative Delta, telling us that the price needs to fall somewhat from this level to increase the current P/L. Delta is inside of our -34 threshold level.
- **Gamma** - a negative Gamma (because we have sold credit spreads and is telling us that it wants the price to stay away from our positions).
- **Theta** - a positive Theta number because we have sold more option value than we have bought.
- **Vega** - a short Vega value again because we have sold Options and we’d like to see the implied volatility drop from this point.

At this point the Delta is within our threshold level of -34 so no action needs to be taken.

**Checkpoint - December 16**

At the second checkpoint which is one week later, the price of the XSP has dropped down to 122.0, and there are 24 trading days left in the cycle.

**Figure 46**

<table>
<thead>
<tr>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>-5.34</td>
<td>-9.83</td>
<td>4.03</td>
<td>-21.14</td>
<td>$19.25</td>
</tr>
</tbody>
</table>
The Greeks are showing us that we have:

- **Delta** - Delta is still negative but has dropped significantly, and is near the peak of our current P/L slope. Delta is inside of our -34 threshold level.
- **Gamma** - showing us that a 1 point move in the underlying price will not lead to a Delta value higher than the threshold of -34.
- **Theta** - a positive Theta number showing that time is still on our side.
- **Vega** - we’d like to see the implied volatility drop from this point.

The current open profit has increased but not enough time value has burned off to consider closing any contracts early. We do nothing at this point.

**Checkpoint - December 23**
The price of the XSP has rallied 2 points since the last checkpoint, now reading 124.0 with 19 trading days left.

**Figure 47**

<table>
<thead>
<tr>
<th></th>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-25.93</td>
<td>-10.53</td>
<td>5.38</td>
<td>-20.46</td>
<td>$22.58</td>
</tr>
</tbody>
</table>

The Greeks are showing us that we have:

- **Delta** - Delta has grown much more negative, and is sliding down the forward slope of our P/L curve. Delta is inside of our -34 threshold level, but we might have to adjust the trade soon.
• **Gamma** - showing us that a 1 point move in the underlying price will lead to a Delta value higher than the threshold of -34, so we have to be on our toes here to potentially act.
• **Theta** - a positive Theta number showing that time is still on our side.
• **Vega** - we’d like to see the implied volatility drop from this point.

We still cannot take any contracts off early; after commissions we would still be underwater on the trade. Time to watch the trade carefully.

**Checkpoint - December 28**

Just a few trading days later the price of the XSP has rallied up to the 124.5 level with 17 trading days left in the cycle.

![Figure 48](image)

The Greeks are showing us that we have:

• **Delta** - Delta is now above our -34 threshold level, and we need to adjust the risk characteristics of the position if we want to stay in it.
• **Gamma** - showing us that a 1 point move in the underlying price will lead to a Delta value much higher than the threshold of -34, and will begin to accelerate our losses on the position.
• **Theta** - a positive Theta number showing that time is still on our side.
• **Vega** - we’d like to see the implied volatility drop from this point.

Our open P/L shows us that we can close down the entire trade for about break-even at this point after we consider all of the commission cost. Should we decided to stay in the position, however, we must adjust our Deltas.

We will do so by adding 2 contracts of the 124/126 debit vertical call spread, also known as a “Bull Call Spread”. This will provide an adjusting trade that offers Long Gamma, Long Delta, and Long Vega to help even out some of the risks of the current trade. Let’s see what our P/L and Greeks look like after adding this adjusting trade for a $.98 debit:

**Figure 49**

<table>
<thead>
<tr>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.64</td>
<td>-12.18</td>
<td>5.79</td>
<td>-18.89</td>
<td>$40.33</td>
</tr>
</tbody>
</table>

With the adjusting debit spread added, the Greeks are showing us that we have:

• **Delta** - Delta is now just about “flat” and is back to being well within our -34 threshold level. The price is back to being right near the center of our P/L curve after the adjustment.
• **Gamma** - showing us that a 1 point move in the underlying price in either direction will have very little effect on our positional Delta value
• **Theta** - a positive Theta number showing that time is still on our side.
• **Vega** - we’d like to see the implied volatility drop from this point, but the Vega risk has declined somewhat after adding the hedge trade.
The current P/L shows us that we still have to burn off some more time value in the next three weeks before we can secure our target profit of 25% return on risk. Just for a reference, the graph above has gone to a different vertical scale after the addition of the hedge trade. The max profit below the 124 strike is now $200, which is half of the max profit of the original Iron Condor. The max profit at the tip of the Butterfly is about $600. The downside risk should the price close above the 128 strike is -$200, and the downside risk should the price close below the 118 strike is -$600.

**Checkpoint - December 31**

A few trading days later the price of the XSP has rallied up to the 126 level with 14 trading days left in the cycle.

**Figure 50**

<table>
<thead>
<tr>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>-20.04</td>
<td>-10.19</td>
<td>5.73</td>
<td>-15.19</td>
<td>$42.32</td>
</tr>
</tbody>
</table>

The Greeks are showing us:

- **Delta** - Delta is rising on the negative side once again, as the price is above the peak of the P/L curve.
- **Gamma** - showing us that a 1 point move in the underlying price in either direction will not put the Delta above the risk threshold of -34.
- **Theta** - a positive Theta number showing that time is still on our side.
• **Vega** - we’d like to see the implied volatility drop from this point, but the Vega risk is continuing to decline.

If this was only expiration day! The price is currently right at the peak of max profits if this were expiration day, however we still need to burn a lot more time from our position before we can take profits at our goal level.

**Checkpoint - January 7**

A week after the last checkpoint, the price of the XSP has rallied up to the 128 level with 9 trading days left in the cycle. The price has now completely vacated the range of the original Iron Condor trade that we set up.

**Figure 51**

The Greeks are showing us:

• **Delta** - Delta is now completely beyond our risk threshold of -34!
• **Gamma** - showing us that a 1 point move in the underlying price in either direction will not put the Delta back below the risk threshold of -34. Notice how low the Gamma value is now that we’re “outside” of the strike prices of our positions. This is telling us that the price is so far outside of our short positions that a one point move in the underlying will have very little effect.
• **Theta** - a positive Theta number showing that time is still on our side, but notice how the Theta value has dropped.
• **Vega** - notice how the Vega risk is continuing to decline; it’s telling us that a big change in implied volatility isn’t going to affect this trade much at this point.

OK, so what do we do now? The price has rallied up and beyond the range of our original position, and the Delta is well beyond our threshold. Certainly adding the debit spread when we did has helped a lot, however if the price expires at this level, we will not secure a profit.

As we mentioned in the Low Probability Condor section, I do not hedge more than once in a specific direction. We have already hedged off the “upside”, so our Options are to either 1) exit the trade for the cost of commissions, or 2) hang in there and look for a reversion to the mean. (a pullback) I will choose the latter course of action for this example.

**Checkpoint - January 14**

One week later and the price of the XSP has slowly drifted back one point to the 127 level, with only four trading days left before January settlement.

**Figure 52**

<table>
<thead>
<tr>
<th>Delta</th>
<th>Gamma</th>
<th>Theta</th>
<th>Vega</th>
<th>P/L Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>-79.35</td>
<td>-13.41</td>
<td>8.55</td>
<td>-7.12</td>
<td>$102.90</td>
</tr>
</tbody>
</table>
The Greeks are showing us:

- **Delta** - Delta is still completely beyond our risk threshold of -34, but we had already decided not to hedge beyond our initial adjustment.
- **Gamma** - showing us that a 1 point move in the underlying price in either direction will have a relatively large effect on the Delta value; we are now getting close to expiration and the “Gamma Spike” around our short Options at XSP 126 is going to cause wild fluctuations in P/L as the price moves toward/away from that level.
- **Theta** - a positive Theta number showing that time is still on our side.
- **Vega** - this value is telling us that a big change in implied volatility isn’t going to affect this trade much at this point, certainly not as much as Delta is.

Let’s evaluate our alternatives at this point.....the price is tantalizingly close to that profit “spike” at XSP 126, which is only one point lower than the current price. A very aggressive move would be to stay in the trade and see if the price would drift lower into OpEx week. Looking at the Greeks, however, shows the problem with that potential course of action; the trade is right at an important inflection point where we could either score big or lose big on the month with only a small change in price either way. Looking at the risk/reward, we can see that a one point move lower would reward $600, while a one point move higher would risk $200. This is a 1:3 risk-to-reward, which is favorable.

At the same time, we have reached our original profit goal of 25% return on risk. The appropriate course of action appears to be 1) remove half of the position for a 25% return on risk, and then 2) leave the remaining half of the position in play to see if we can extract more profit from the “runners”.

From a practical perspective, in a situation like this where the price would have to outright crash to attack the put spreads, I will leave those to expire worthless over expiration, and only concentrate on managing the call spreads. To keep this example “clean”, however, I will thin out half of the entire trade.

**Checkpoint - January 20**

It is the day prior to Settlement/Expiration and we have no choice but to close the trade and avoid Settlement risk. The price is still at the XSP 127 level after dipping down to 126 the previous few days, and looks to be rallying again.
Once again we have a change in scale on the P/L graph; the peak at XSP 126 is $300 profit, the flat area below XSP 124 is $100 profit, the level above XSP 128 shows a $100 loss, and the level below XSP 118 shows a $300 loss.

Notice how the Delta is showing a huge swing in potential profit/loss now; one point higher or lower changes the P/L by $129. Gamma indicates that if the price drops even lower, that the P/L would become even more volatile. The trade is in a very unstable condition with P/L likely changing by the second in this state so close to expiration. It is definitely time to close the rest of the position.

**Results - January 21**

By no means was this an unrealistic setup and trade, although in all honesty making decisions to secure extra profits around Expiration week are particularly difficult, so the majority of the time the “runner” contracts do not earn more than the 25% return on risk of the initial contracts. For this trade, we earned approximately $51+$108 = $159 minus commissions, so realistically we would call this somewhere on the order of a 30% return on risk trade. Keeping the trade management simple, objective, and decisive is the key to success on these Low Probability Iron Condors.
Trading like a Professional Market Maker

As I went through my own educational development, I somehow got the impression that there was a single individual who held my fate in their hands on any single trade - the “Market Maker”. It was that evil scoundrel that I had to negotiate with, and who would not fill me when I most wanted to enter or exit a trade. I developed an adversarial relationship with this virtual individual, and blamed every woe with my trading on him. I wondered how this person slept at night.

After I spent some time in Chicago executing “Prop Trades”, I learned how Markets really get “made”. It turns out that I was fighting the Market, not some unscrupulous individual. I’ve since learned that it’s much more of a communal thing on how Options prices get set. In this section I’ll give you some insight on how you can navigate your way around an Options chain a little more effectively, so you can play the game with a little bit more of an edge. Sometimes that’s all we need to make a living from the Markets.

Scalping Options and Negotiating

When you first learned to trade Options, I guarantee that you were taught to:

- Sell Options at the “bid” (hitting the bid)
- Buy Options at the “ask” (lifting the offer)

In fact, you were probably taught that when you looked at a bid/ask spread on a particular Option, “which ever number that you’d like to buy at…pick the other one….and whichever number that you’d like to sell at….pick the other one”. The way that this was explained to you is that “the spread is the fee that the Market Maker gets”. (there’s that evil person again)

Has it ever occurred to you that YOU can be a “Market Maker” today? Let me explain....

Look at the Options chain below of the CFC Mar 08 calls, specifically the $6 calls outlined in red. Note that the “bid” for these Options is $.95, and the “ask” is $1.15. Newer Options traders will sell those Options for $.95 a contract, or will buy those Options for $1.15 a contract. If you’re reading this book, you probably already know not to do that, but did you ever wonder who was selling that option to the rookie for $1.15, or who was buying it from them at $.95?
Most traders will respond “The Market Maker!” but that’s not necessarily true. It could be another trader just like you and me! There is nothing preventing you from placing a limit order out there to sell the option at $1.15, or to place a limit order to buy it at $.95!

I know what you’re thinking…. “That would be silly! Who would buy it from me if I sold it for $1.15, or sell it to me if I bought it for $.95?”

YOU WOULD HAVE, WHEN YOU FIRST STARTED TRADING!!!!

Also, have you ever been in a panic while entering or exiting a position lately? Chasing a runaway trend? Trying to close down a spread that was going against you? Yes, even though we knew better, we’ve all been guilty of “hitting the bid” or “lifting the offer” during times of stress. The truth is that lots of Options orders are sold at the bid, or bought at the asking price.

And this is where you come in. If you have the patience for it, you can definitely create an edge for yourself by “buying at the bid” and “selling at the offer”. And there’s one more edge that you currently have - if you’re a retail trader, you’re at the front of the line. Your order goes in before a professional trader who has a seat on the exchange.
How can this apply to us spread traders? Well, for those who have the patience and the discipline for it, you can “build” your spreads in this manner by setting up your long strikes first, and legging in to your short strikes. There is some risk that the trade moves without you, but you can definitely set up Credit Spreads for a higher credit than you would otherwise, or purchase debit spreads like Butterflies for less than if we just submitted the whole order.

Note also that this “Options scalping” does not really work that well with chains that offer “penny wide” Options, but the point with this is that you have an edge, and you should use this edge whenever it makes sense to do so.

**Open Interest Targets**

No doubt you may have heard about all the “Options Expiration Games” that occur over the last couple of days before expiration. Again, we hear fantastic stories of evil cunning, how the “Market Maker pins strikes” to generate the maximum amount of pain to everyone involved in that stock. It sounds like a scene out of “Lord of the Rings” where a giant eye sees all and hunts down everything that moves. Hardly…again, it’s just the greater Market at work, doing what it does best.

In the Options chain shown below in Figure 55, we see a front-month example of the SPX. We’ll focus on the out-of-the-money Options, i.e. the puts below SPX 1350 and the calls above SPX 1350. The reason for this is because they’re more likely to be SOLD positions, and any time you have sold an Options position you have an obligation and risk. The institutional traders that are responsible for the bulk of the volume are not blind speculators, buying OTM calls or puts and hoping for a big move. Leave those trades to the new retail traders!

As we start to look at the OTM Options, notice the strike prices that have large open interest; these are strike prices where large Options positions exist. We don’t know if they are bought or sold Options, but we can most likely assume that large OTM positions have a short element to them.
And one thing that professionals do very well is to hedge their positions.

If you were a professional trader and had a call spread with sold strikes at SPX 1400, what would you do to hedge that position? First of all, since you’ve sold calls you likely have a negative Delta position. As the price approaches your sold strike, the position Delta gets more and more negative. What will you do? **Buy some stock or S&P futures to add some positive Deltas!** And if you and thousands of your friends who are also short that strike do the same thing, what do you think will happen to the underlying Market? It has no choice, it will move! So you and your friends become your own worst enemy…the fact that you are hedging the position with the underlying instrument only means that the price of that instrument will move right up to the point where you quit hedging the position by buying that instrument!

Similarly, if you had a put spread with short puts OTM, you have a positive Delta position and will hedge that to the downside by shorting the underlying, or selling futures. This tends to “drive down” the price of the underlying until the selling pressure subsides, which is typically where these large pockets of open interest reside.

In this manner, these “open interest targets” become temporary lines of support and resistance as large positions scale in and out of the underlying.
stock or futures contract. Markets can also snap back just as quickly as these hedges are unwound.

Almost-Free Exits on Index Spreads

With the fierce competition amongst online brokers lately, the world keeps getting better and better for the retail trader. One of the features that has been released over the last couple of years is “free” (or in some cases, reduced) commissions to close out your short option if you can do so for $.05 or less. Why would brokers give away trades for free? It’s brilliantly simple logic; if you as a trader do a better job of taking risk off of the table, and a free trade close encourages you to do so, then you’ll stay in the game longer, and they will have you as a customer for longer.

I have taken full advantage of this “feature” and it’s allowed me to pursue trade exits that are nearly free to close early. These are the same trades that I might have tried to “hang in there” past expiration simply because I didn’t want to incur the cost of closing down the trade. Now it makes even more sense to remove risk from the table and book profits early. It’s a fantastic feeling to close down a position early and take your profits.

I have found these exits to work particularly well on liquid index Options like the RUT and SPX. Let’s assume for an example that I have a 20 contract RUT 600/610 put vertical that I would like to close down. The 610 strike is short puts, and the 600 strike is long puts. It’s early in Options Expiration week. I would take the following steps:

1. **Close Down the Short Strike:** enter an order to close the short strike of the 610 puts with a Buy to Close order for $.05 limit GTC. This will cost me money to close the trade down, $.05 per share per contract. For the 20 contract trade being discussed, this would be $100 to close the trade.

2. **Sell Off the Long Strike:** as soon as the short strike has been bought back for $.05, immediately place an order to sell off the long strike for $.05. You wouldn’t think that anyone would want to buy this option from you, but think about it for a minute...didn’t you just buy back an OTM option? Someone else might have a sold strike where you placed your long strike. This transaction will generate the “missing” $100 to replace what you spent to close down your short strike, however commissions will be charged.

And that’s all there is to it. A couple of years ago, making this transaction would have cost me $100 to close 20 contracts down for $.05, plus $40 in commissions for a total outlay of $140. If I had originally received $1200 in
credit for this trade, that’s a 12% haircut off of my profits to remove risk. It was enough of a penalty to make you think hard about closing the trade early.

Using the “almost free close” technique, my total cash outlay to close the trade and secure profits was $20! That’s just the cost of commissions for selling off the long strike. That’s a 10% difference in closing costs. Like I said, the situation for the retail trader continues to improve.

This technique works better with the large Index Options such as the SPX and RUT. I have found this technique somewhat more difficult to employ this technique with ETF Options, since there are (apparently) fewer traders closing trades early to avoid settlement risk.

**Selling Volatility**

All professional Options traders understand the power of selling Options, as do many retail traders....but one of the edges that separates the professional from the amateur is their understanding of how to sell volatility. It’s just like price; you sell high, and buy low. In the world of Options, we’ll sell our Options before an event happens, and buy them back later after the event. There are a couple of ways that we can do this; before announcements, and before weekends/holidays:

- **Announcements** - the “vol”, or volatility of Options will increase prior to expected events, since the “implied” volatility is that price will make a large move after the event. These might include FOMC policy releases or other major announcements that could significantly move the Market. Lately, nothing moves the Markets like the Fed. With individual stocks, you have many more opportunities for event risk that you can sell. In these situations, your job as an Options seller is to enter a position prior to the announcement, or at least very quickly afterward if you’re concerned with directional risk. Like a week-old helium balloon, the volatility will quickly leave the Options chain and deflate the value of your position. If you originally entered a short Vega position like a credit spread, then your position will automatically benefit from this change.

- **Weekends/Holidays** - Options erode due to Theta 7 days a week, 365 days a year. Is it someone’s job to discount Options premium on Saturday and Sunday? Since Options don’t trade over the weekend or on holidays, then that premium is removed from Options chains on Friday, usually by noon exchange time. Because of this, I often try to get filled on positions shortly after the cash open on Fridays. I benefit from the “amateur hour” where newer traders are reaching for fills, hitting the bid and lifting the offer....as well as still having a weekend’s worth of
time value to sell. Similarly, if there’s a position that I would like to close early, I’ll wait until late Friday afternoon to close it down, meaning that I don’t have to deal with any weekend-induced event risk, and I’m already taking advantage of having a weekend’s worth of time removed from my Options.

KEY LEARNING CONCEPTS FOR THIS SECTION

To maximize your edge, sell Options at the Ask Price, and buy Options at the Bid Price.

When trading large Index Options, use the Broker’s offer to buy back short Options at a discount to remove Risk early and pursue greater edge on exits.

Use event and calendar timing to gain additional edge when entering and exiting positions.

Understand where large liabilities exist on the Options chain, and expect a potential move in that direction.
Final Thoughts

We’ve covered an awful lot of ground over these pages, so let’s review quickly what we’ve discussed:

• What the Greeks measure
• How to apply the Greeks
• Different ways to measure and manage risk based on the Greeks
• The different types of Iron Condor strategies and how to manage risk on these trades.
• How to gain a greater edge in the Options market

With any luck you can use this program to help find your niche in the Options market, and keep the heavy Options textbooks where they belong – as a reference or a doorstop. And after all, that's really what it's all about, finding your niche that will define your success as an Options trader.

And I want to reiterate that the material presented here are JUST THE BASICS and offer some simple applications towards one specific Options trading strategy, the Iron Condor. My hope is that you seize this moment to begin a far deeper and more concentrated study to developing your skills and broadening your edge in your chosen trading endeavors.

I hope this program brings you success!

Craig Severson
Appendix A - High Probability Iron Condor Rules

Through this program we’ve literally assembled the Greeks Defense and Active Risk Management trading rules for the High Probability Iron Condor. This section is meant as a reference for the trading rules. No one set of trading rules should be the same for all individuals; you will find that your best trading results come from those systems/rules that you develop yourself, because you will have a vested interest in being more disciplined in a system that you created.

And if the Markets of the past few years have taught us anything, it’s that Trading Rules must be dynamic and adapt to the times. So while these rules are what we’re currently employing in the Market, they may change at any time to provide us a better edge with the conditions at that time.

So let the following list be a starting point for your own journey.....

**Static Risk Management Rules**

These rules are derived from the [OptionsLinebacker Iron Condor Trading Guide](#) and comprise the basic entry/defense/exit rules to establish and defend these trades using simple Static rules.

**Static Entry Rules**

- Trading for the month begins at approximately 35 trading days left in the options cycle, and offensive trades cease once under 20 trading days. (a “trading day” is defined as a day where the exchanges are actually open)
- We will look for the price to come down to support for put spread entries, and back up to resistance for call spread entries. In this manner we make the chart spend as much energy as possible in that direction before I enter.
- The Market should be short term overbought or oversold before entering the first "Cornerstone" trade in that direction.
- If Overbought, we will place Bear Call spreads. Likewise, if oversold, we will place Bull Put Spreads as the "Cornerstone" trade
- After the Cornerstone trade has been entered, we will look for a significant retracement/bounce to the opposite side before entering the "other side" of the Iron Condor trade. Preferably this bounce will cause an opposite overbought/oversold reaction to the Cornerstone trade, but this rarely happens.
- We will always seek a approximately a 90% “Probability of Success” at entry for each specific spread, or about a .10 Delta for the spread’s short strike price.
We will never let an order fill immediately at the current price; we'll place our limit order such that the Market would have to travel some distance in the direction of my trade before filling my 90% probability order.

We will pyramid into my positions with "Confirmation" trades, never trading more than 40% of my account equity on either "side" of the trade. Most months, we only trade 5-10% of our account equity.

We will seek to use Confirmation trades on a different index so that we do not stack up too large of a position on one chart.

We will not use more than 10% of our trading capital on one position to stay within the "2% rule" for that trade.

We will never add a Confirmation trade "inside" of a Cornerstone trade on the same chart.

We will look for at least three lines of defense (support or resistance) between the current price and our potential sold strike price before entering a trade.

We will understand the seasonality of the Market and adjust our strategy accordingly so as to minimize risk.

Once we enter a trade, we'll know exactly where our exit is for that trade as outlined in the section below.

We will look for a minimum of $.15 credit in a $2 ETF-based spread, or $.60 in a $10 Index-based spread.

**Static Defensive Rules**

- We will monitor our trades' probability of success, sold strike delta, and net debit.
- We would like the probability of success to stay above 70%
- The sold strike delta should stay below .30
- Our trade’s Net Debit must stay below $1.80 on a $10 spread...or $.45 on a $2 spread...to stay in the trade (Net Debit is Gross Debit to exit trade minus your original credit)
- If we must close down our original trade for a net debit, we will attempt to roll to a new position further out of the money for that same month, (with double the contracts to make up for the Net Debit) however we will need to move that position to the back month if we are under 20 trading days.

**Static Exit Rules**

- When possible, we will let topside trades expire worthlessly out of the money. We will close downside trades early to avoid Black Swan risk unless they are effectively > 100 points OTM on the SPX.
- If we establish a Cornerstone trade that immediately goes in our favor, we will attempt to buy it back for a partial profit to be able to "recycle" our maintenance.
• If a trade meets all of our defensive exit criteria as outlined in the section above, we will shut down that trade and adjust it to a different strike price, further out of the money, and in the same month if possible. (roll out)
• If we are showing a profit in a trade, yet event risk is high (FOMC announcements, etc) between now and expiration, we will close down that trade for an early profit.
• We will close down all Large Index trades (European Settled Options) early to avoid Settlement risk.

**Active Risk Management & Greeks Management Rules**

These rules are pulled from the previous sections of this program and are singularly focused on “defensive” Risk Management.

• Based on the size of your position and the credits that you are defending, we’ll select an appropriate Delta Risk Threshold for an upside or downside attack.
• A good starting point is a Threshold of approximately one-half of the credit of the position that we are defending.
• If the price attacks that position and causes the position Delta to exceed your Threshold, we’ll add one-third to one-half of the opposite Deltas to bring the position Delta back inside of the Threshold.
• We’ll use Gamma Risk hedges like Butterflies or Debit spreads to help proactively defend a late-cycle attack against a position.
• We’ll use Vega Hedges primarily to protect “downside” positions against a large move in Implied Volatility, which almost always happens on corrections.
• Direct Delta hedging is most successful on steady uptrends, the occasional Bear Market, or deep Bull Market corrections. It is generally not successful trying to Delta Hedge a put spread position during a normal Bull Market pullback due to the fact that bottoms are printed so quickly.
• We will not let a trade that is showing 90+% potential profit go “underwater” for a loss.
• If our trade is showing at least 50% of its potential max profit, we will use a risk/reward decision to determine if the risk of staying in the trade is higher than the potential reward of increasing profits through holding it longer, particularly if there is a risk event on the horizon.
• If our trade is showing at least 50% of its potential max profit and the Delta value is very low, then the trade is showing its maximum potential profit at that time. We will determine if a risk event on the horizon makes it worth holding this trade further for a potential larger profit.
• We will pay attention to potential technical “squeeze” levels that will attract breakout/breakdown buyers and sellers, and cause stops to be run.
• If a position is being attacked but is below our Static Risk maximum level, we will look for opportunities to reduce the size of that position by using intraday pullbacks to “thin out” the position size at breakeven cost.
• We will understand that Contraction of the price range always leads to Expansion of the price range, and to be most cautious when the price range is tight and the volatility is quiet.
Appendix B - Low Probability Iron Condor Rules

For this style of trading, I will use many of the same rules as for the High Probability Iron Condors, yet in many ways the offense and defense are simpler because we’re focusing on the Greeks; rarely do we factor in Technical Analysis other than to use the occasional “price level” as a basis for establishing or removing a trade.

Entry Rules

• Trade offense is generally begun with 30 Trading Days to expiration.
• European-settled instruments like the SPX, RUT, or XSP are a necessity due to the frequency in which price excursions go outside of the Condor short strikes.
• Using mini-Options such as the XSP, we will secure no less than a $1 credit if the spread width of each credit spread is $2. Using full Index Options, we will secure no less than a $5 credit using a spread width of $10.
• We will size the position so that a maximum loss ($1 for minis or $5 for full size) does not cost us more than 2% of our trading capital.
• The short strikes of each credit spread that makes up the Iron Condor will have approximately .30 Delta values to create this 1:1 risk/reward trade.
• In the event of a major trend, we can bias the trade in one direction by using smaller Deltas for the spread in the expected direction, and larger Deltas for the spread in the opposite direction. For example, if we’re expecting an uptrend continuation, we’ll select a .35 to .40 Delta for the short put strike, and a .25 Delta for the short call strike.

Defensive Rules

• Determine a Delta Risk Threshold for the trade in which you will hedge the position. For example, we use a Delta Threshold of +/-17 for every two contracts of mini-XSP Options that we use with the $2-wide spreads.
• Determine if you will act on the Threshold intraday or end-of-day.
• If the Threshold is reached at our time decision point, then we’ll add offsetting Deltas to bring the trade back inside of the Delta Threshold.
• We will typically combine a Delta/Gamma hedge by adding a Debit Spread on top of the attacked spread to “Butterfly off” the credit spread.
• We will only make one Delta Risk adjustment per direction. Charts have a habit of Mean Reversion so unless we were unfortunate enough to start this trade at the very beginning of a major trend, we will usually get at least one opportunity to take profits before Expiration.
• All of the other Greeks Risks apply as well; i.e. to mitigate Vega Risk we can add some more Long puts onto our Put spreads.
• To Delta Hedge, additional credit spreads can be put on the “other side” of the Condor, however there must be a very strong trend present to not invite whipsaw risk.

**Exit Rules**

• We rarely, if ever, take the trade to Expiration due to the fact that the trading range of the LP Condor is not very wide, as well as the Settlement Risk.
• We will typically target an exit of half of the position for a nominal 25% return on risk exit. This would be a debit of $.75 on an XSP Condor that received $1 credit. We would then let the remaining set of contracts “run” to hopefully improve profits on them, but keep them on a tight leash so that they do not turn into a losing trade.
• If the price immediately runs outside of the Condor range and puts the trade under pressure early, then we will look for the first opportunity to take profits as the “mean reversion” takes place. We typically will look for an exit somewhat below 25% return on risk as we are just looking to cover costs and potentially make a small profit. Not every month will be a good setup for this trade so the trick to Risk Management is to get out at a scratch exit or better when the chart is against you.
• On any “runner” contracts, constantly eyeing the current P/L slope (Delta Slope!) will help us determine when the edge is in our favor vs. when the trade is starting to slip away as price range starts to expand again.
• On months when the price spends the majority of its time at one end of the Condor and the opposite credit spread is under no pressure, we will allow that position to expire at Settlement if there is at least a cushion of 70-80 SPX points available. By doing so we take on some small Settlement risk in exchange for lowering our transaction costs.
Glossary

**ATM** - abbreviation for “At The Money”, or the condition where the current price is very close to the strike price of the option.

**Bear Call Spread** - a vertical credit spread comprised of selling an OTM call option, and buying an insurance call option further OTM.

**Bull Put Spread** - a vertical credit spread comprised of selling an OTM put option, and buying an insurance put option further OTM.

**Call Vertical Spread** - an Options spread comprised of short and long Call Options at different strike prices. If the Call Vertical has the short option closer to the money than the long option, it is a Bear Call Spread. If the Call Vertical has the short option further OTM than the long option, it is a Bull Call Spread.

**Credit Spread** - an Options spread comprised of just Call Options or just Put Options, with the short option closer to the money than the long option, resulting in a credit received when you initiate the trade.

**Debit Spread** - an Options spread comprised of just Call Options or just Put Options, with the short option further out of the money than the long option, resulting in a debit paid to initiate the trade.

**Expiry** - the Options Expiration date of that cycle.

**High Probability** - an Options trade where there is a much higher probability of success at the onset. This higher probability of success is exchanged for a lower risk/reward.

**Iron Condor** - a combination Options spread comprised of an OTM Bear Call Spread and an OTM Bull Put Spread.

**ITM** - abbreviation of “In the Money”. For a call option, this would occur when the current price is above that of the strike price of the option. For a put option, this would occur when the current price is below that of the strike price of the option.

**Long Options** - an option that is bought to open the position.

**Low Probability** - an Options trade where there is a lower probability of success at the onset, typically 1:1. This lower probability of success is exchanged for a higher risk/reward.
OTM - abbreviation of “Out of the Money”; the condition where the current price is well below the strike price (for Calls) or well above the strike price (for Puts).

Put Vertical Spread - an Options spread comprised of short and long Put Options at different strike prices. If the Put Vertical has the short option closer to the money than the long option, it is a Bull Put Spread. If the Put Vertical has the short option further OTM than the long option, it is a Bear Put Spread.

Short Option - an option that is sold to open the position.

Underlying Instrument - the stock and its associated price that the Options chain is based on. Every derivative contract must have a basis, or “underlying instrument” whose price movements affect the value of the Option.

Vol - abbreviation for “Volatility”, usually the Implied Volatility of an Option.

Volatility Crush - a phrase that indicates how a rising market leads to falling Implied Volatility, which literally “crushes” the option values out of a chain.
About the Author

Craig has been investing in the Market since 1996, and has focused exclusively on Options and Futures since 2004. With a comprehensive background in Technical Analysis and Options Spread trades, he built a very objective, profitable Iron Condor strategy which provided consistent returns.

But Markets change and evolve over time, and as the Market began to change again mid-decade it became apparent that the trading edge from a purely Technical and Probability basis was not enough. He needed to understand Risk Management from the professionals, which was in Chicago at the CBOE and local prop trading firms. He learned professional Market Making there, but more importantly learned how professionals vigorously manage their risk down to the last penny to maintain their edge over time, not just cycle to cycle.

He “saw the light” as to one of the biggest advantages that professionals have over Retail traders; the typical Retail trader does not actively employ the Greeks to manage their risk. That “one bad month” always puts them back to square one, while the professional consistently grinds out monthly profits and never has a month bad enough to take them out of business.

This program is a result of the efforts of the past several years putting these concepts into use through simple language so that every Options trader can adopt the professional’s advantage of Risk Management.

Craig actively trades the system outlined in this program for a living, and provides trading commentary through his daily newsletter at www.optionslinebacker.com

He holds two degrees in Electrical Engineering, and an MBA. He spent 19 years in the Telecommunications field, and is an Adjunct Professor in Business and Economics; explaining difficult topics in a simple manner is his passion.

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