PROFITING with PIVOT-BASED MOVING AVERAGES

FRANK OCHOA

PivotBoss.com

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INTRODUCTION

Pivot-based indicators are the essence of PivotBoss.com. If you are an indicator-based trader, you must consider using price-based, market generated indicators, like Floor Pivots, the Camarilla Equation, and Market Profile levels. These are leading edge indicators that reveal a mountain of information about price, which allows you to make informed trading decisions ahead of the crowd. These indicators give you a true edge. As they say in trading, an edge is all you need to make money in this game.

In this e-book, I will explore how I use pivot-based moving averages to profit in the market. It is often said that the most robust trading strategies are oftentimes the simplest to understand. Moving averages have been around a long time, but it continues to amaze me how many traders, investors, and professional money managers still rely heavily on these indicators. What is not always common knowledge to those outside of large trading firms is the fact that many fund managers use moving averages when deciding to deploy large baskets of capital. I would even go so far as to say that a healthy percentage of managed funds incorporate moving average systems when putting their money to work.

Why? Because moving averages work. Moving averages are extremely versatile. They allow you to easily decipher the trend, anticipate a change in trend, identify overvalued and undervalued price levels, and anticipate breakout opportunities – all with an indicator that is easily understood by all. Moreover, additional indicators can be created using the inputs from moving averages, thereby giving you different ways to view related information. It's easy to see why moving averages have stood the test of time.

The problem, however, is that many traders do not know how to properly use moving averages. There are certain tendencies and nuances to using moving averages to profit in the market. In the sections ahead, I will show you powerful money-making setups using pivot-based moving averages. Setups like the PEMA Pull-Back, the PEMA Breakout, and the PEMA Crossover have been a mainstay in my trading and analysis. Whether you are an intraday trader, swing trader, position trader, or investor, the concepts in this e-book can help you make money in any market with a pulse, from stocks to foreign exchange.

Before we move on, however, let's first discuss the pivot point and why I use it as the centerpiece for the pivot-based setups that we will explore.

WHAT'S THE PIVOT POINT?

The *pivot point* has been called the heartbeat of the Floor Pivots indicator. This price level is used by many professional traders to forecast potential price movement for the upcoming session and to trigger entries and exits in the market. The pivot point, also called the pivot or the central pivot point, is derived by taking the average of the high, low, and close prices of a period of time. See below:

$$P = (H + L + C) / 3$$

To calculate the pivot point for the upcoming month of trading, you would take the high, low, and close prices of the current month and divide the sum by three. For example, you would use the high, low, and close prices of June to calculate the monthly pivot point for July. As a matter of fact, this formula can be used to calculate the daily, weekly, monthly, and yearly pivot points, so you can focus on the timeframe that suits your trading style.

Why is this important? At any given time the pivot point can be support or resistance. It can give professionals a feel for market direction and market sentiment. It exposes price when it is overvalued and undervalued. Simply put, the pivot point is the compass of the market. Regardless of the timeframe you are using to

trade, knowing the price of the pivot allows you to keep your finger on the pulse of the market.

Now that we understand the pivot point and its importance, let's see how it's used in pivot-based moving averages.

PIVOT-BASED MOVING AVERAGES

The moving average offers perhaps the easiest method for deciphering a market's trend. The most common moving average is the *simple moving average (SMA)*, which totals the close price over a certain number of periods and then divides this total by the number of periods, essentially calculating the arithmetic mean. Therefore, a 10-period simple moving average would total the closing prices over the last ten periods and then divide the sum by ten. When a new data point enters the string, the oldest data point is released. This provides a smooth line of price movement that eliminates the noise of a chart, thereby allowing you to identify the trend of a market in a clean and easy fashion.

A *pivot-based moving average* is exactly like a your traditional moving average, except the key input is the pivot point, which as you may recall is the average of the high, low, and close prices. While a typical moving average is based on the close price (or in some cases the high, low, or open price), we can build a moving average that is based on the central pivot point, which has much more merit and relevance in our charts. Therefore, a 10-period pivot-based moving average would total the pivot points over the last ten bars and then divide the sum by ten.

The pivot point directs the flow of traffic in most charts and can be easily used to gain a bullish or bearish bias on a particular trading instrument. Why not also use it to analyze a market's trend via a pivot-based moving average? After all, the central pivot point is the compass of the market. Using this approach allows you to gauge the value of the market in a more precise manner than your typical moving average.

Pivot-based moving averages gauge the market's value better than standard moving averages because the data points hold more significance.

Take a look at Figure 1, which is a weekly chart of Apple, Inc. ($AAPL) with a 10-period pivot-based SMA plotted. The pivot-based moving average looks and smells just like a normal moving average, but we have more confidence in its validity knowing that it is based on the central pivot point, and not just an arbitrary data point. Taking a look at the chart for Apple, you'll notice the 10-period pivot-based SMA clearly illuminates three types of markets over an 18-month period of time – a bearish market, a neutral market, and a bullish market. While this concept is straight forward, understanding these types of markets is an important part of the pivot-based setups that we will cover.
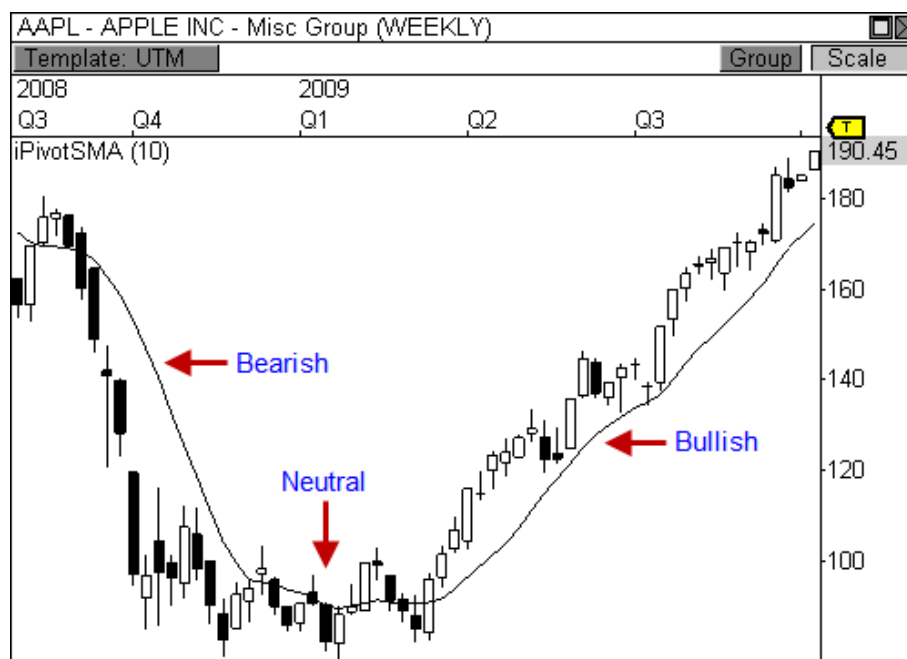
FIGURE 1: A pivot-based SMA offers an easy method for identifying the trend.

Simple moving averages are the most commonly used type of moving average. However, there are many types of moving averages that are used today, like weighted, triangular, and adaptive versions. Personally, I prefer *exponential moving averages (EMA)*, which put more weight on the most recent price data when calculating the moving average. This allows the moving average to react quicker to price movement than a simple moving average, thereby allowing you to react to price change before the crowd. Throughout the rest of this

e-book, I will be using *pivot-based exponential moving averages (PEMA)*, which can be used to find powerful (and profitable!) setups across all markets and timeframes.

As a resource, I have included the scripts of every indicator, system, and stop discussed in this e-book in the Appendix. There are a total of nine scripts that can be used to help you find and trade the same setups that I will cover in the following sections. Enjoy!

MULTIPLE PIVOT MOVING AVERAGES

A single moving average gives you the general trend of price movement.   However, professionals typically use two or more moving averages to gain a better feel for consensus direction and to trigger more precise entries or exits in the market. For example, a fund manager may use two moving averages to decipher when a major change in trend is likely to occur. Or, professionals may use a trio of pivot moving averages to monitor the short, medium, and long term trends of a market, which sheds light on a trend's intensity from multiple timeframes.

Figure 2 shows a daily chart of Apple with the *PEMA 3* indicator (file name: iPEMA3) plotted, which displays three pivot-based exponential moving averages: the 13-, 34-, and 55-period averages. Why these three? Each periodicity offers insight into a specific time frame in the chart. In turn, each time frame represents a certain type of trader (day, swing, position), which allows me to keep my finger on the pulse of the market. A 13-period EMA gives me the short term trend, while the 34- and 55-period EMA's give me the medium and long term trends, respectively. Of course, this is my preference. Any number of periodicity combinations can be used, depending on the types of setups you are looking for and the timeframes you are trading, as you'll see later on.

Looking back at the chart of Apple, notice how price pushed above the three EMA's in early March and traded steadily higher until the beginning of May, staying above the 13-period EMA the entire time. The fact that all three EMA's were trending higher at forty-five degree angles during the advance was very bullish. This is what professionals call "*Stacked and Sloped*", meaning all three moving

averages are in agreement with strong trend consensus. Apple eventually broke below the 13-period EMA, which signaled short-term weakness, but bounced off the 34-period EMA several times before resuming the uptrend, thereby confirming the stock's medium and long term strength. Until the stock violates the 55-period EMA, the bullish trend will remain intact.
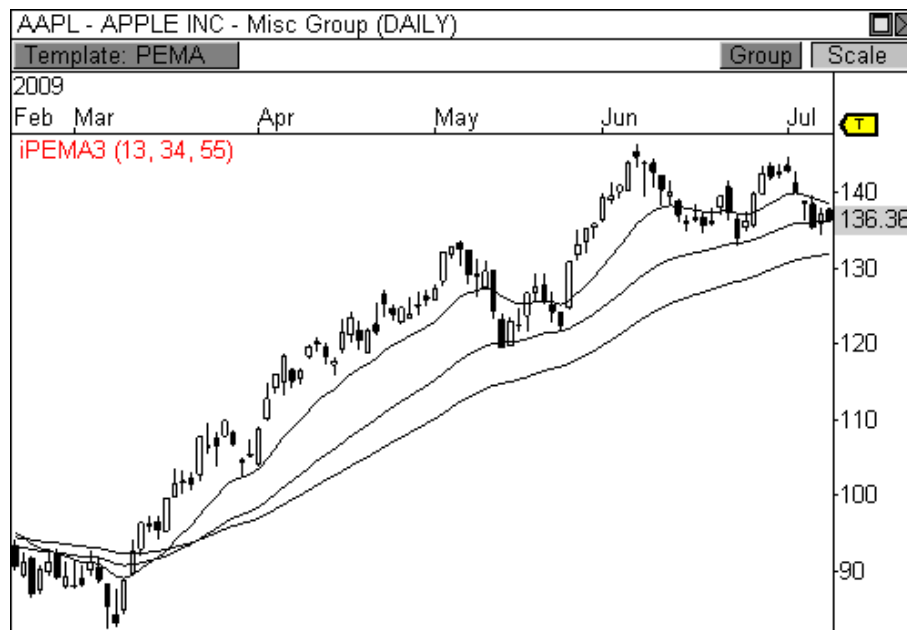
FIGURE 2: Multiple moving averages help determine trend direction and intensity.

Now that you have a feel for pivot-based moving averages and understand why using multiple moving averages can be beneficial, let's delve into some money-making setups! In the following sections, I will reveal several indicators, systems, and setups that I use daily in my trading and analysis, including the PEMA Pull-Back, the PEMA Breakout, the PEMA Crossover, and the Modified PEMA Crossover. Collectively, these tools and techniques are what I call the *PEMA Method*. Let's take a look at the first setup of the PEMA Method – the PEMA Pull-Back!
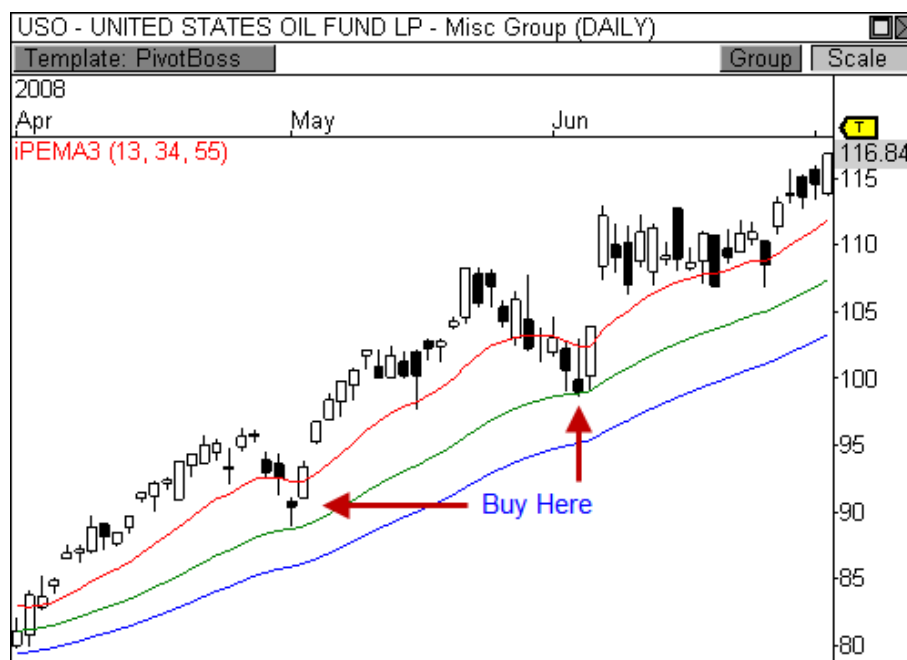
THE PEMA PULL-BACK

The PEMA Method is great for identifying consensus market direction and offering a variety of setups to play different market environments. Perhaps the most trader-friendly PEMA setup is the *PEMA Pull-Back*, because it forces you to trade in the direction of an established trend. In this section, I will show you how I use the PEMA Pull-Back to pinpoint fantastic undervalued and overvalued entries into established trends.

Professionals monitor the health of a stock or commodity in varying ways when choosing to enter the market. Many times, the goal is to find opportunities when price is considered overvalued or undervalued, as this presents excellent opportunities to "buy the dips, and sell the rips". That is, the pros are looking to buy dips in a bullish market, and sell rips in a bearish market. This tactic allows you to buy at a discount during an established bull run, and sell at a premium during a bear run. This technique can be a fabulous entry method for swing and position traders, since you can grab anywhere from a 3- to 10-bar move, or more. If you are trading with daily bars, this would be 3 to 10 day moves, or 3 to 10 week moves if using a weekly bar chart. Let's see how the PEMA Pull-Back helps us identify these prime opportunities!

The idea of the PEMA Pull-Back is to buy the market at a discount during an uptrend, and sell the market at a premium during a down trend.

The goal of the PEMA Pull-Back is to take advantage of situations when price is in an established trend, either bullish or bearish, and all three moving averages are stacked and sloped, as seen in Figure 3. When this occurs, the market has developed trend consensus among three important time frames. Any pull-back to the first or second pivot EMA offers a buying (or selling) opportunity back in the direction of the established trend.

This setup is powerful because it forces you to buy below value and sell above value, while keeping you disciplined to the existing trend. Let's take a look at the mechanics of the trade.

FIGURE 3: The PEMA Pull-Back identifies prime entry opportunities during a trending market.

ENTERING THE TRADE

There are three steps to playing the PEMA Pull-Back. The first step is to identify the current trend of the market. All three pivot EMA's must be trending in agreement in a bullish or bearish manner (stacked and sloped). Ideally, you would like to see all three EMA's trending at a 45-degree angle, which universally identifies a strong trend. However, any slope ranging from 30- to 60-degrees will work just fine. The second step involves waiting for the market to pull back to test either the 13- or 34-period pivot EMA. Price can close beyond the 13-period EMA, but you generally do not want price to close beyond the 34-period EMA, although it can put in a high or low price at this line. Once price tests either of the moving averages, the third step calls for closing price confirmation. The entry is triggered when price closes back in the direction of the current trend, beyond the 13-period EMA.

I have summarized the entry requirements for a bullish PEMA Pull-Back (reverse for shorts):

1. All three pivot EMA's are stacked and sloped, moving higher at a 45-degree angle.
2. A low price occurs below the 13- or 34-period EMA's, but closes above the 34-day average.
3. The entry is triggered when price closes back above the 13-period moving average, usually within the next bar or two.

MANAGING THE TRADE

There are many exit methodologies that can be used for the PEMA Pull-Back. To select the type of exit strategy you should use, you must first do a little self-discovery. Are you a swing trader looking for 3- to 10-bar moves? Are you a position trader, looking to take advantage of a multi-month move? What are your expectations for the trade? Do you see the trade as a quick winner, or a long term mover? Answering these questions, and more, can help you determine how you should manage the trade. With that in mind, here are a few methods you can use:

- Use a traditional trailing profit stop.
- Use a single moving average crossover exit.
- Use a two-moving average crossover exit.
- Use a fixed profit target.
- Use Fibonacci Extensions as targets.
- Use pivot-based support and resistance levels as targets.
- Use visual support and resistance levels as targets

Now that some of the logistics are out of the way, let's take a look at some examples! Figure 4 is a daily chart of United States Oil Fund ($USO), which you saw at the beginning of the section. This chart illustrates a perfect example of choosing a stock during an established trend. Notice that all three EMA's are trending higher at 45-degree angles, which is important because this is a measurement of trend intensity. Trading in the direction of an established trend increases your chances for a profitable outcome. This axiom is the foundation of this setup, as it forces you to trade with the wind at your back.

Now that direction has been established, we look for price to break back below the 13-day EMA in order to set the stage for a "buy the dip" scenario. Once price dips below the fast EMA, we look for price to close back above the 13-period average in order to trigger a long position, which occurred several times in this chart. Depending on your exit methodology, you can take every PEMA Pull-back entry in the chart for short term gains, or you can choose any signal and stay in the position as long as you can using the 34- or 55-period EMA as your trailing stop, which works quite well for long term-oriented traders and investors.
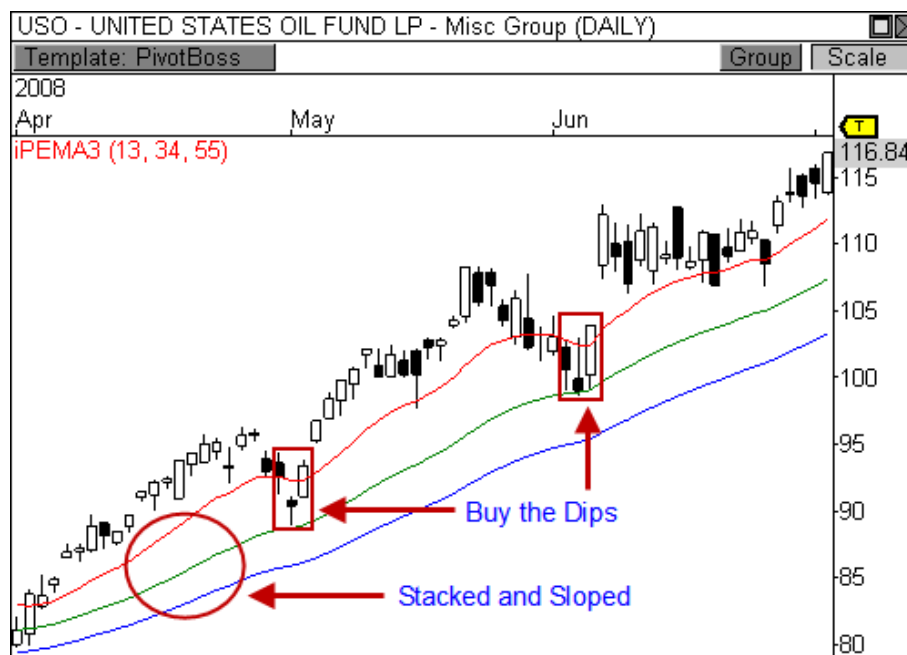

FIGURE 4: EMA's that are stacked and sloped pave the way for great reversals.

With the advances in sophisticated trading platforms, it's very easy to automate many of the concepts in this e-book, including using the 34- or 55-period EMA's as trailing stops. In the Appendix, you will find the code for a script I wrote called the Trailing PEMA Stop (file name: stoTrailingPEMA). This stop dynamically updates your trailing stop information using your specified EMA periodicity and exits the trade when price *closes beyond* the moving average. Since the parameter for the periodicity is customizable, you can use any period moving average you like to manage your trades!

Figure 5 shows the Trailing PEMA stop in action on our familiar chart of USO. The 55-period pivot EMA trails price throughout the trade until price closes below the moving average, at which point the exit is signaled. This stop is perfect for traders with a long term outlook, but it can also be used for day and swing trades, provided that you adjust the periodicity to suit your objective.
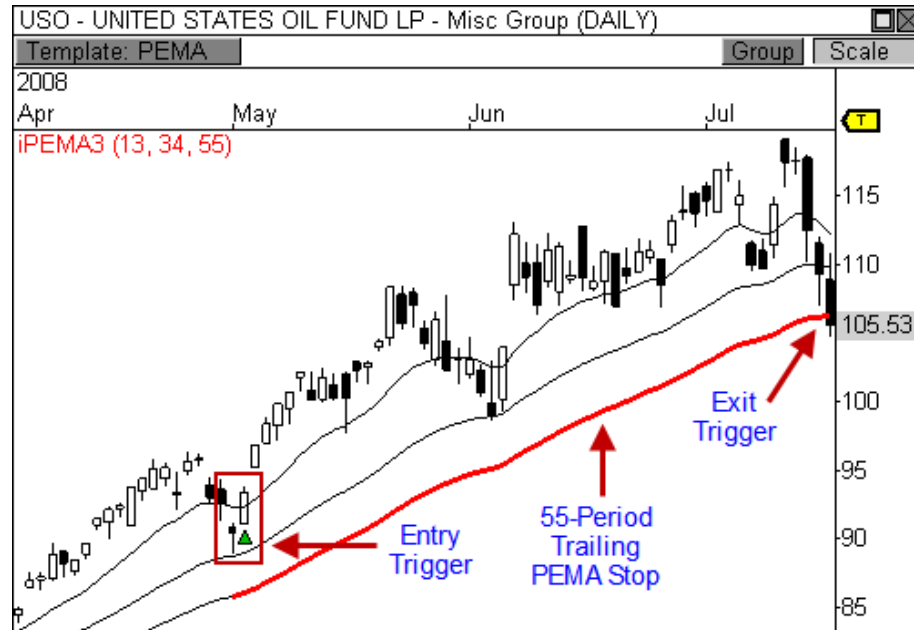

FIGURE 5: Illustrating the automated Trailing PEMA Stop.

Let's take a look at another example. Figure 6 is a weekly chart of Apple that illustrates the 3-step entry for the PEMA Pull-Back. Point 1 shows all three EMA's are trending higher at near 45-degree angles, which indicates a bullish consensus in three important classes of traders (in this case swing, position, and investors). At Point 2, price is seen pulling back from highs and testing the 13-period EMA, putting in a low above the 34-period average, but staying comfortably above the 55-day value. Finally, Point 3 shows AAPL closing back above the 13-period EMA, thereby firing a long entry signal.

Once in the trade, you would immediately set your fixed loss stop below the low of the pull-back you are playing. Therefore, your stop loss would be beneath the low of the bar that tested the 13- or 34-

period EMA. I typically use this stop loss placement for most of these trades, especially if my target is short or medium term oriented. I would then set my sights on using any of the trade management techniques mentioned earlier. However, for those of you that want to capture longer term trends, you would set your initial stop loss at the 34- or 55-period EMA and allow the average to dynamically update as your trailing stop as the trade moves in your favor, as I explained in the prior example. This will allow you to capture weeks, and even months, of trending action, which is perfect for position traders and investors.
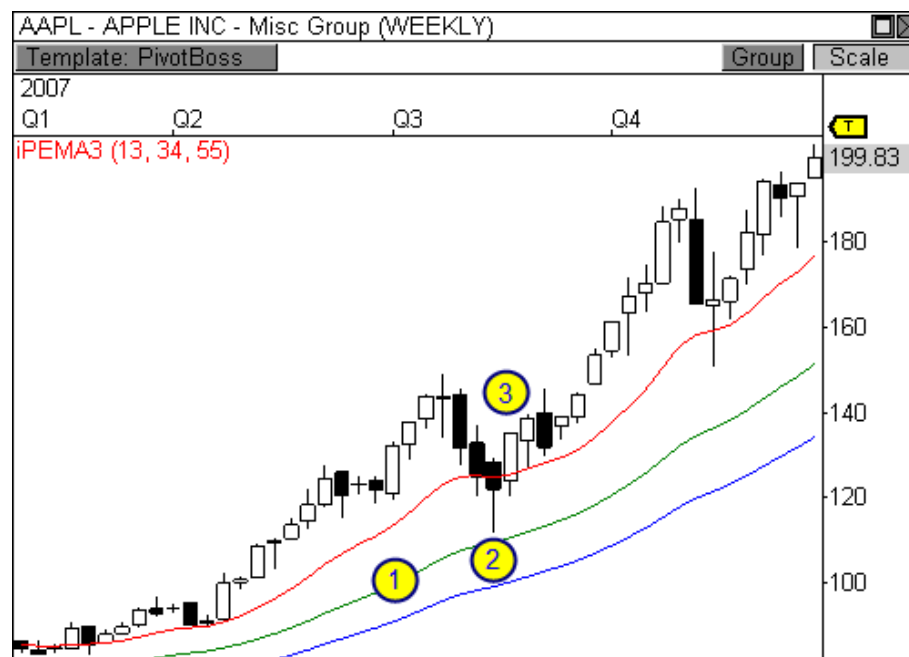
FIGURE 6: Illustrating the 3-Step PEMA Pull-Back entry technique.

Regardless of the trade management technique you employ, the PEMA Pull-Back offered excellent opportunities to enter AAPL during a confirmed bull market. Getting the best entry price is half the battle. Figuring out when take your profits is the fun part!

While the PEMA Pull-Back is great for swing traders, position traders, and investors, it can also be great for intraday traders, especially during trending days. In my upcoming book *Secrets of a Pivot Boss*, I teach you how to identify a potential breakout/trending day for the upcoming session – before the day even begins! If you can

identify when a market is likely to trend in the upcoming day, you can have confidence in employing the PEMA Pull-Back to trigger your trades!

Take a look at Figure 7, which is a 5-minute chart of the E-Mini S&P 500 futures contract. The ES got off to a hot start on this day, as price gapped up at the open and immediately began to push higher. Price then pulled back from the 30-minute high and immediately found strength off the 13-period pivot EMA, which set the stage for multiple PEMA bounces the rest of the session. Since the trend was never in doubt, you could have either trailed your stop using any number of trailing profit approaches, or you could have scalped four- to seven-point moves with each entry trigger. If you are familiar with E-Mini futures contracts, then you obviously know that picking up four to seven points per trade during a session is fantastic. The great part is each trade was in the direction of the day's established trend, meaning that these were relatively low-risk trades, which is not something you can always say when engaging the market.
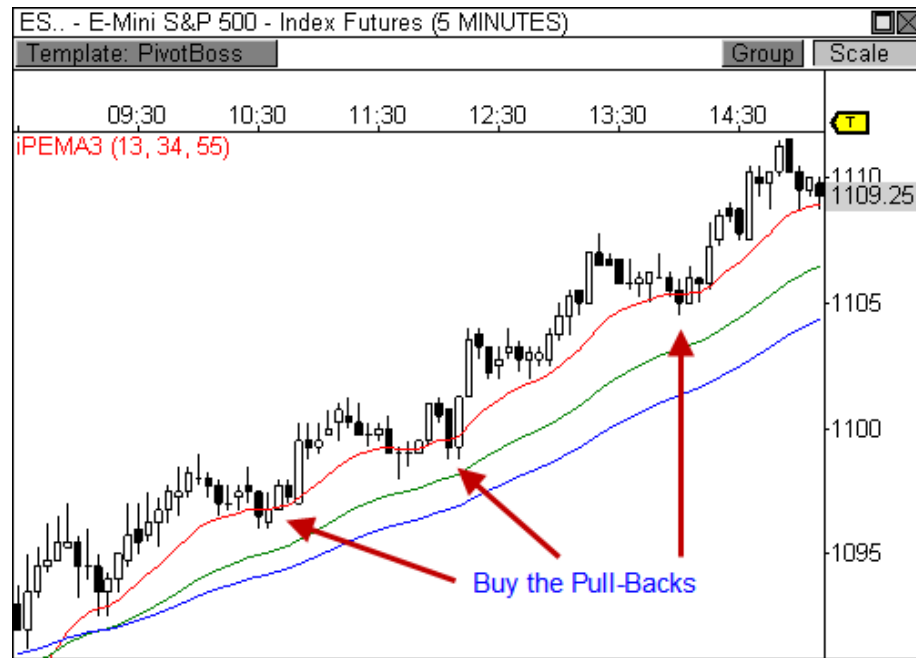

**FIGURE 7:** The PEMA Pull-Back works in real time trading.

While the premise of the PEMA Pull-Back is to buy at a discount and sell at a premium during *highly qualified trends*,

sometimes you can get a head start on a newly developing trend as soon as an EMA crossover occurs. When the fast EMA (13-period) crosses the slower moving averages (34- and 55-periods), you typically see a change in trend, which could offer an immediate PEMA Pull-Back opportunity that sparks a longer term move.

For a case in point, let's take a look at the daily chart of Microsoft Corporation ($MSFT) in Figure 8. Microsoft trended modestly higher throughout April before selling pressure increased in early May. Notice that the 13-period EMA (red line) eventually crosses below both of the slower moving averages, which typically signals a change in trend. The first pull-back to retest the moving averages after a crossover usually leads to a great PEMA Pull-Back opportunity, as all three moving averages usually unify to create a significant wall of resistance. Triggering an entry based off this formation allows you to enter the market at a highly confirmed area in a newly-developing trend, which can be very rewarding.
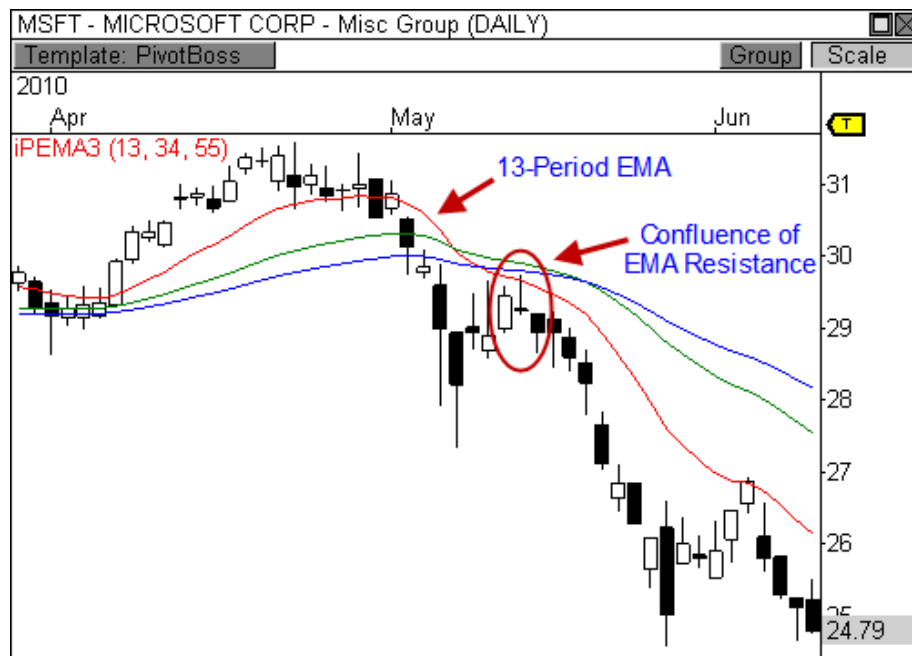
FIGURE 8: A non-confirmed, early PEMA Pull-Back entry approach.

Remember, the strong suit of the PEMA Pull-Back is pinpointing areas of value during trending markets. Since this type of

setup doesn't fall under the "confirmed trend" umbrella, you must use caution when approaching this particular version of the trade.

AUTOMATING THE PEMA PULL-BACK

As I mentioned earlier, automation has become a huge part of today's trading, as trading platforms have become highly sophisticated. Those that are not familiar with automation can become intimidated by the thought of having machines trading your account. However, automation can mean a number of things, from creating signals, indicators, and stops, to allowing computers to trade for you using rule-based strategies. I'm a big fan of automation for a number of reasons. For one, it allows you take emotion out of the equation. Taming your emotions during trading can be a tough task for anyone with a pulse, but automation forces you to become disciplined to the signal or strategy you are trading. This reason alone makes pursuing some form of automation worth your while.

Another reason I'm a big fan of automation is because I like to see my thoughts appear on my charts in the form of signals. Any time I get an idea for a trade setup, I begin to think of the rules needed to automate the entry so I can instantly view the signals on my charts. Once the signal is coded, I then run a multitude of tests to determine its accuracy and profitability, which is amazing! Imagine if Jesse Livermore or Nicolas Darvas had this capability generations ago!

Cutting to the chase, I have created a system that brings the PEMA Pull-Back setup to life on your charts. The code for the PEMA Pull-Back system (file name: sysPEMAPullBack) is in the Appendix. More so than the other setups that we will cover, this system presented unique challenges because it can be difficult to code what the eye so easily sees, like coding rules for EMA's that are stacked and sloped. In either case, the system turned out nicely and I'm happy with the signals, seen in Figures 9 and 10.

As you can from the examples, the raw signals from each PEMA Pull-Back opportunity are shown on the charts for Apple and the E-Mini S&P 500. These are the same charts we covered earlier in the section, but automated signals are bringing the opportunities directly to you. Isn't automation fantastic?
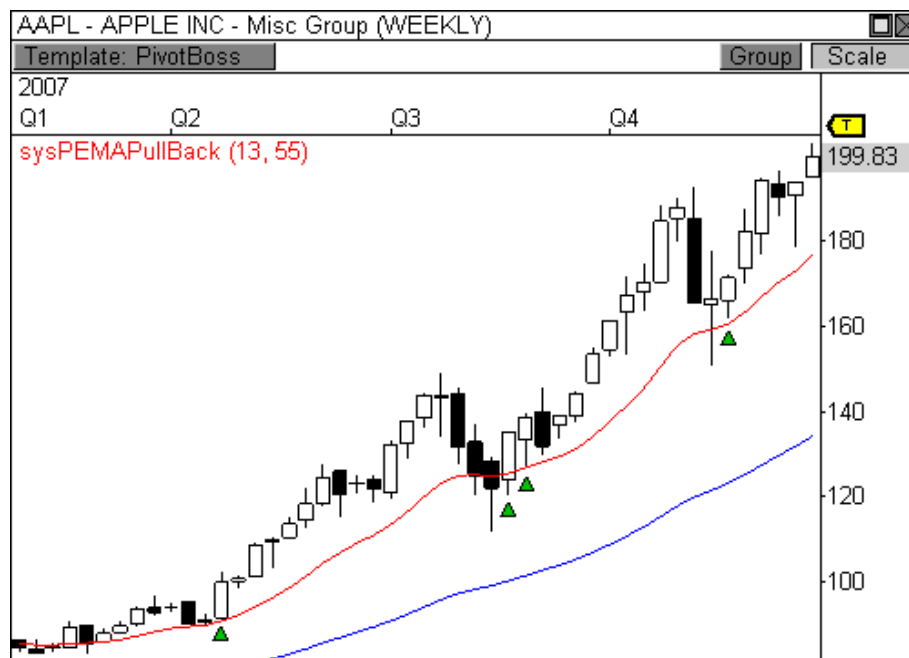
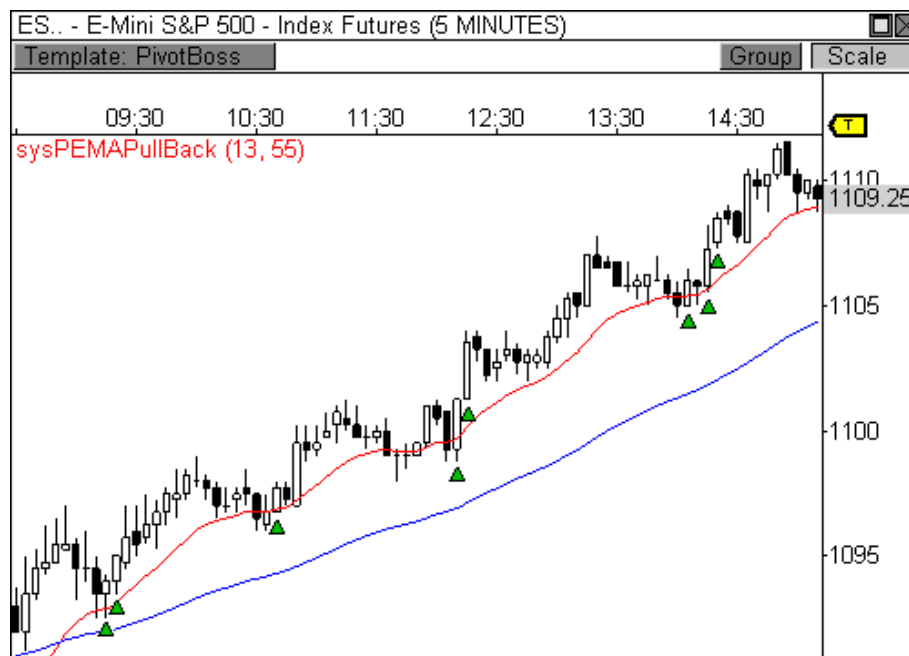**FIGURE 9:** Automating the PEMA Pull-Back in a weekly chart of AAPL.

FIGURE 10: Automating the PEMA Pull-Back in a 5-minute chart of the ES.

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The PEMA Pull-Back is a fabulous setup that allows you to pinpoint excellent entry opportunities during trending markets. The fact that this setup provides you with highly confirmed entry and re-entry opportunities during established trends makes it a setup that any trader should consider for their trading regimen. Try it out and let me know what you think!

THE PEMA BREAKOUT

The next PEMA setup that I will cover is called the *PEMA Breakout*, which is a momentum trade that occurs after the market has endured a period of range contraction. This setup occurs when the three EMA's are trading in a neutral stage; meaning that all three EMA's are flat, or horizontal. This type of moving average behavior usually precedes a major breakout opportunity. If price has been trading within a clearly defined range and all three EMA's are neutral, a solid breakout could be on the horizon. Eventually, the breakout from the range confirms the trade, which is then managed to a target or with the moving averages themselves.

Keep in mind, markets usually alternate between periods of range contraction and range expansion. After a period of trading range behavior (range contraction), the market will break out and trend (range expansion). The PEMA Breakout looks to capitalize on this phenomenon, as the resulting moves can be quite spectacular. This setup works across time frames, but I find that it really excels for swing and position trades. Find one of these setups in a daily or weekly chart, and you could be riding a sweet trend for weeks, or even months.

Let's take a look at an example. Figure 11 is a weekly chart of the NASDAQ 100 Index ($NDX), which shows the PEMA Breakout helped to forecast the major sell-off that occurred late in 2008. The index developed a clear triangle pattern and traded in a neutral market for nearly three quarters, as evidenced by the horizontal EMA's. Eventually, the triangle was broken to the downside at 1,800, which sparked a major sell-off back toward the 1,000 level.

What made this setup so powerful is the fact that the EMA's were in a neutral state for an extended time, meaning the market was awaiting trend resolution. Once the breakout occurred, traders

entered the market in droves and pushed price to new value over the following three months.

Finding this setup in a major market index, like the NASDAQ 100 Index, allows you to play the move directly, or indirectly. That is, you could play the $NDX chart directly by using the QQQQ Exchange Traded Fund (ETF), the NQ E-Mini futures contract, or $NDX options. Or, you can choose to play the $NDX using an indirect approach, like playing tech-related stocks, ETFs, and options. In either case, you are giving yourself a chance to profit from this breakout opportunity, which was easily brought to your attention by the PEMA Method.
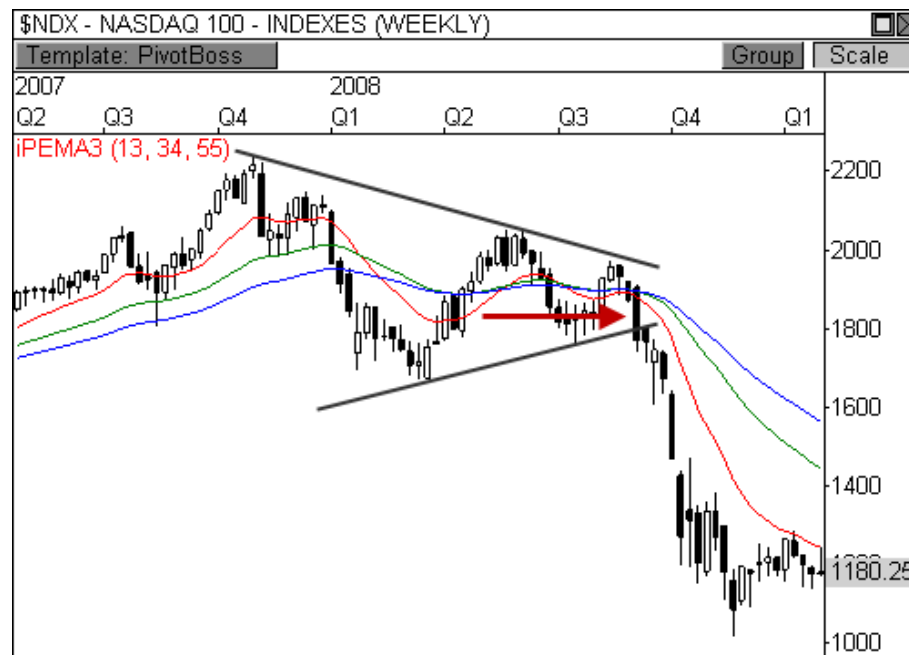
FIGURE 11: The PEMA Breakout setup helped to identify a major breakout in the $NDX.

ENTERING THE TRADE

Entering a trade based on the PEMA Breakout setup can be both straight forward and subjective. Essentially, you are looking to enter a confirmed breakout from the range that created the neutral state in the three EMA's. Using our last example, the confirmed breakout occurs upon a new closing value outside the triangle, preferably beyond the nearest price pivot of the range. If a new

closing value occurs, you will typically enter the move *at the open* of the following bar or candlestick.

MANAGING THE TRADE

Fortunately, any number of trade management approaches can be used with this setup. Since the resulting moves are usually trending moves, there is flexibility in how you exit your position. For example, any of the following exit methodologies would work with this setup:

- Use a traditional trailing profit stop.
- Use a single moving average crossover exit.
- Use a two-moving average crossover exit.
- Use a forecasted target from the consolidation or triangle.
- Use Fibonacci Extensions as targets.
- Use pivot-based support and resistance levels as targets.
- Use visual support and resistance levels as targets

I will not go into detail about each of these trade management approaches because many are straight forward, but I will talk about forecasting a triangle's target, since our last example falls in this category. The way I calculate a triangle's target is by measuring the height of the pattern and then projecting this measurement outward from the breakout point of the triangle. Therefore, I take the difference between the highest high and the lowest low of the triangle's back end and project the difference from the point of breakout, as illustrated in Figure 12 below.
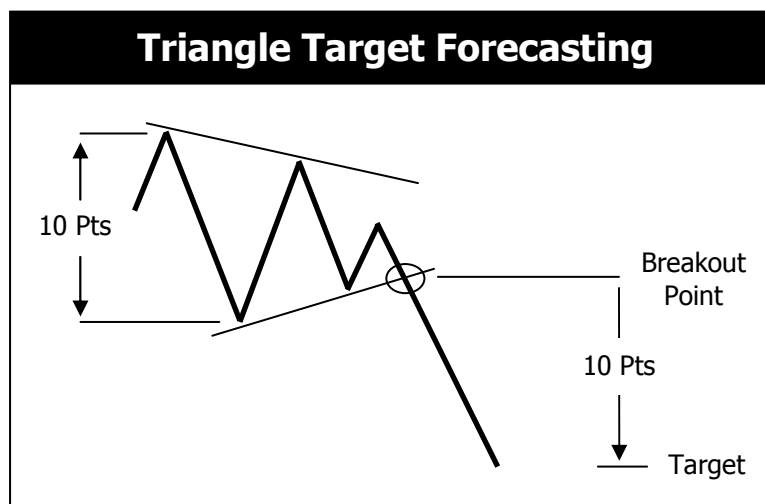
FIGURE 12: Forecasting a triangle's target.

In our last example, the NASDAQ 100 had a back end that spanned from 1,670 to 2,240, which provides a difference of 570 points. Projecting this differential downward from the breakout point of the triangle at 1,800 gives us a forecasted target of 1,230, which was eventually reached five weeks later.

There can be several different ways to go about finding targets for certain patterns, especially consolidations. The reason I choose to use the height method for triangles is because I believe it actually gives a more *conservative* estimate of where price may be headed, thereby allowing you to achieve your target more often than not. I have used this approach for a decade and it continues to produce fabulous results, both in my market analysis and trading.

Let's take a look at another PEMA Breakout example. Figure 13 shows how easily the PEMA Method can help forecast a breakout opportunity in this 15-minute chart of Crude Oil futures. Crude traded within the boundaries of a well-defined, four-day trading range prior to seeing a breakout. While consolidations and triangles can vary in shape and size, the three pivot-based moving averages give you advanced notice when a potential breakout is on the horizon. In the last day of the consolidation's development, the three EMA's were so flat you could barely tell them apart, thus indicating a breakout is imminent. Crude eventually got a clean breakout from the consolidation and rallied nearly 4 points in a few hours - which amounts to nearly $4000 per contract!
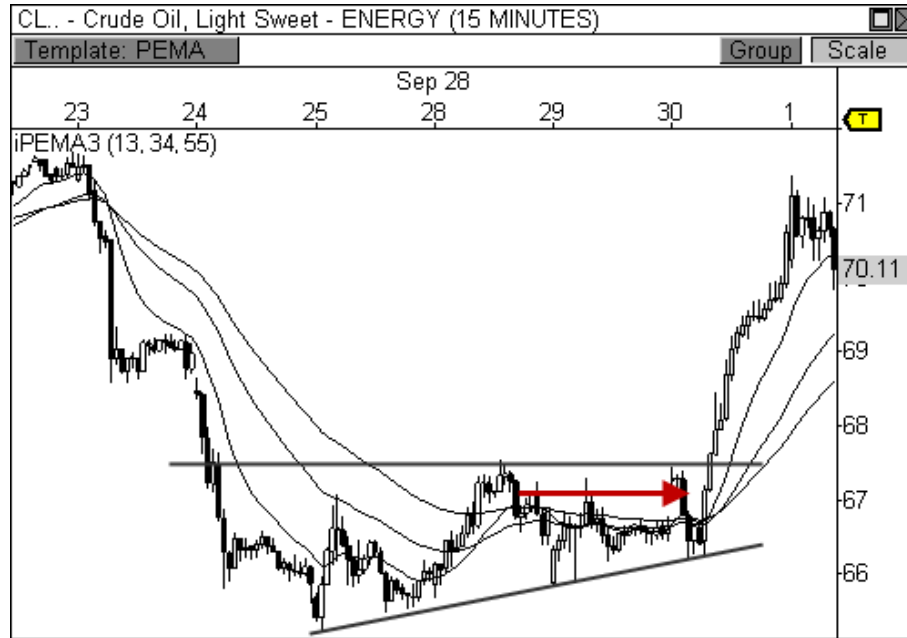
FIGURE 13: The PEMA Breakout in a 15-minute chart of Crude Oil.

This is the type of momentum trade that can be had when the moving averages smell a true consolidation. When the market has stalled and is in search of direction, the PEMA Breakout trade can be one of your best tools to play the eventual breakout, regardless of the time frame you use or the instruments you trade.

The PEMA suite of setups excels in the foreign exchange market due to the extraordinary trending nature of these instruments. The PEMA Breakout setup is seen time and again in this market, which allows you to anticipate when a new trend, or a continuation of an existing trend, is ahead. Due to the trending nature of the forex markets, price will occasionally stall (consolidate) ahead of the next significant trending move. As such, this setup allows you take advantage of the resulting moves after these periods of rest.

There's no doubt that the breakouts in this market can be quite spectacular. Although, it must be said that I wouldn't use this setup (or any PEMA setup) in any periodicity below a 60-minute chart when trading forex. Generally speaking, higher timeframes help to smooth out the intrabar volatility in this market. Timeframes like 60-minute, 120-minute, 240-minute, daily, and weekly excel when

trading forex – at least in my experience. Let's take a look at an example.

Figure 14 shows a 60-minute chart of the AUD/USD forex cross rate. The pair experienced a period of range contraction after an extended decline and was winding up for another breakout move. The pair formed a well-defined triangle pattern and had PEMA confirmation, as all three EMA's were virtually flat at the apex of the pattern. Eventually, the AUD/USD pair broke through the bottom of the pattern and dropped heavily throughout the session, providing a swift and powerful move. Since the market was in an existing down trend, you are typically looking to trade in the direction of the trend. However, a breakout in either direction has proven to provide great momentum trades out of these clusters.
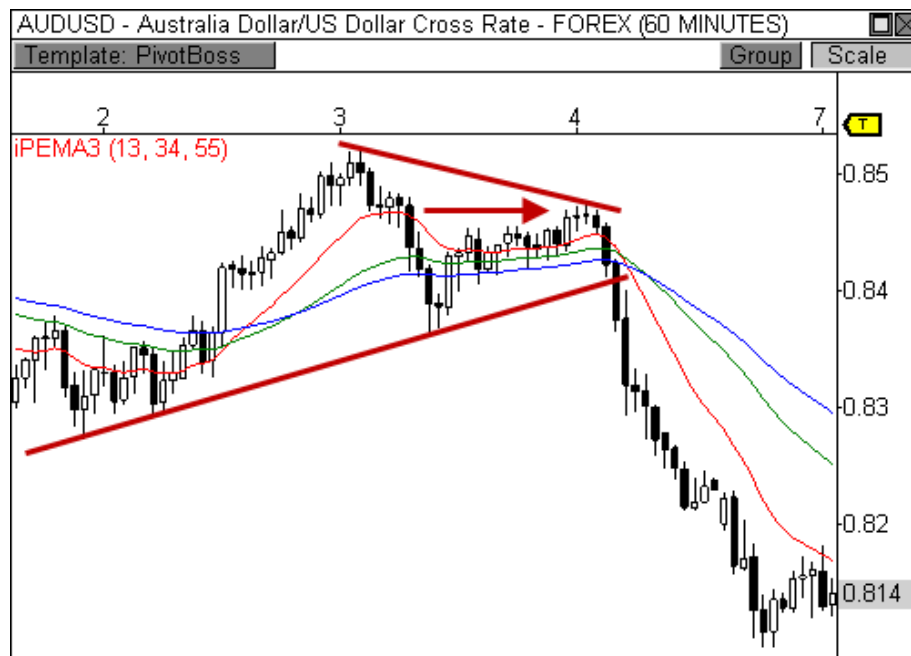
FIGURE 14: The PEMA Breakout in a 60-minute chart of the AUD/USD cross rate.

The PEMA Breakout offers a great way to find breakout opportunities when markets are winding up for the next major move. While this setup works great across all timeframes, I find that the higher the timeframe, the greater and more pronounced the breakout opportunity. Some of my best long term market calls have come as a result of this pattern in higher timeframes. I encourage you to

experiment with this setup in various timeframes and markets and incorporate what works best for your trading style.

THE PEMA CROSSOVER

One of the easiest multiple moving average setups to identify and trade is the *PEMA Crossover*, which uses two moving averages to identify a change in trend. This setup is easy to recognize, automate, and back test, which makes it a mainstay for many traders. Position traders, swing traders, and intraday traders will all find this setup to be extremely valuable in their trading, especially given the flexibility of the periodicities that can be used.

The PEMA Crossover fires a signal when the fast EMA crosses the slow EMA. If the fast EMA crosses *above* the slow EMA, a long signal is fired; whereas, if the fast EMA crosses *below* the slow EMA, a short signal is fired. Depending on your trader personality, you will want to adjust the periodicities of the two moving averages to suit your taste. I like to use 13- and 55-period pivot EMA's for swing and position trades. However, I will use significantly smaller periodicities for intraday trading, like 5- and 13-period averages, for example.

Take a look at Figure 15, which shows a daily chart of the Dow Jones Industrial Average ($DJI). Notice that when the fast moving average crosses below the slow moving average, a short signal is fired. Likewise, when the fast moving average crosses above the slow average, a long signal is fired. The PEMA Crossover system (file name: sysPEMACross) fired a long signal in the Dow at 10,325 in February, which helped to forecast a 900 point rally in the index. When this occurs, you can either trade the index outright, using options, futures, or ETFs, or you can use this signal as confirmation to begin hunting buy opportunities in your favorite stocks and ETFs.
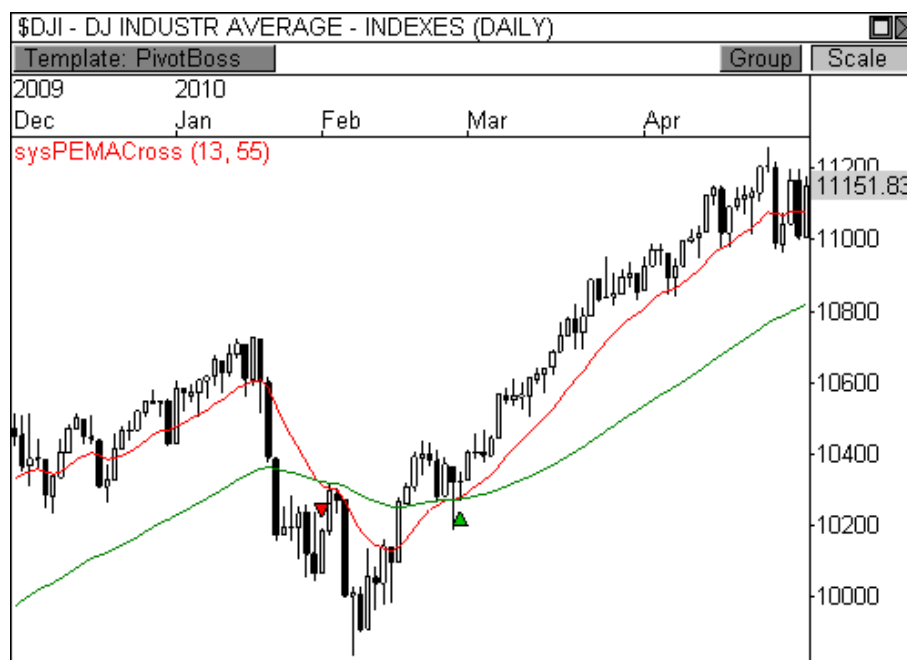
FIGURE 15: The PEMA Crossover illustrated in a daily chart of the Dow Jones.

Two-moving average crossover systems are nothing new to trading. Investors, fund managers, and traders have used them for a long time, and continue to use them today. It has always been said that the best systems are the simple systems. This setup is about as simple as it comes. Of course, what makes the PEMA Crossover unique is the fact that the moving averages are based on the pivot point, which gives us a better consensus of market value.

Two-moving average crossover systems are usually "stop-and-reverse" strategies, meaning that they will be in the market at all times when used as a mechanical strategy. Once an entry is triggered, it will remain in the market until the opposite signal is fired, at which time the current position will be liquidated and a new one entered in the direction of the new signal. This type of trending strategy relies on catching large trending moves, so it must be in the market to offset those times when the system is whipsawed during trading range markets. Given the nature of this strategy, it can be ideal for markets that are prone to trend, like forex markets. It also lends itself perfectly for position traders that hold positions for several months using higher timeframes like daily, weekly, or even monthly charts.

ENTERING THE TRADE

Entering a PEMA Crossover trade is straight forward, since the signals are automatically generated. When a signal is fired, however, you must wait for the bar to be completely finished before entering the trade. Once the close of the bar has been recorded, you can then enter the trade at the open of the following bar – which offers a purely mechanical entry that can be accurately back tested.

MANAGING THE TRADE

Once you have triggered your entry, there are several ways to manage this trade. Traditionally, you would remain in the trade until an opposite signal is fired. That is, you will only exit the trade when the fast moving average crosses the slow moving average. This is how the majority of two-moving average systems operate. However, you are not most systems. You are your own trader that can create your own exit methodologies to suit your trading style. While waiting for an opposite signal to fire an exit may be the "normal" approach, you may find this method to be inconsistent, depending on the market's behavior. This exit approach can either lead to great exits or extremely late exits, which can severely cut into your profits. Instead, try some of the following tactics to manage your PEMA Crossover trade:

- Use a traditional trailing profit stop.
- Use a single moving average crossover exit
- Use a two-moving average crossover exit.
- Use a fixed profit target.
- Use Fibonacci Extensions as targets.
- Use pivot-based support and resistance levels as targets.
- Use visual support and resistance levels as targets

As I mentioned earlier, the 13- and 55-period pivot EMAs are not set in stone. While these periodicities offer great opportunities for swing and position traders, I like to use a faster cocktail of EMA's for intraday trading. Depending on the volatility of the instrument I am

trading, I will use triggers that range from 5- and 13-period averages to 13- and 21-period averages. Using lower periodicities for entry triggers allows you to react to price movement in a timely manner, which is extremely important for intraday trading.

Let's take a look at an intraday example. Figure 16 is a 5-minute chart of the Mini-Sized Dow Futures contract with an 8- and 13-period PEMA Crossover system plotted. Four signals fired during this two-day stretch, offering profitable intraday results. Notice that three of the four signals led to moves ranging from 50 to 100 points, which is solid intraday action for the YM!
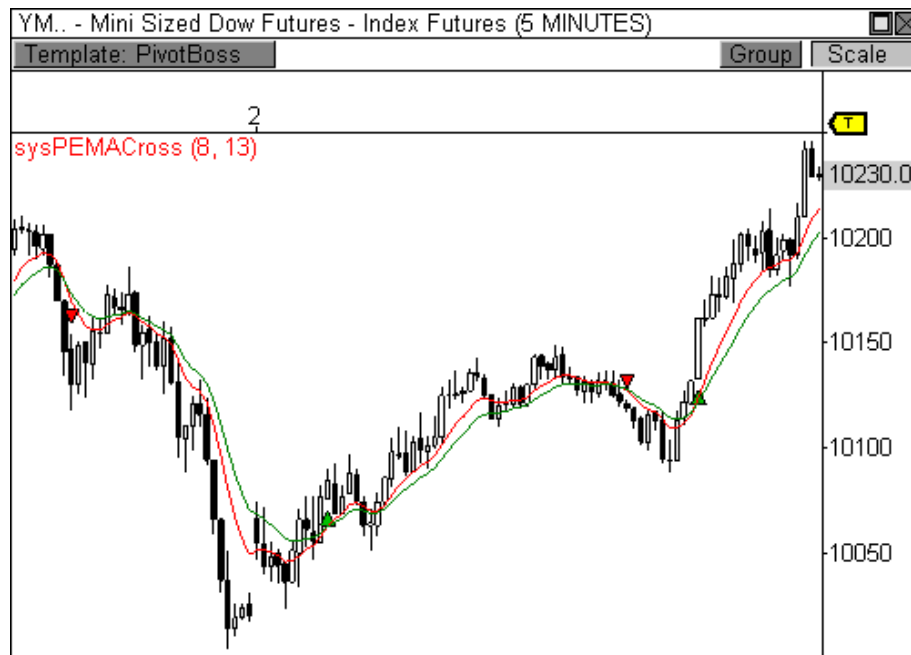

FIGURE 16: Using quicker EMA's for PEMA Crossover signals in a 5-minute chart of the YM.

Depending on the personality of a given instrument, you can also use lower periodicities for your crossover signals in a daily timeframe. As you may know, the personality of a market will change over time. At times, a market may be quiet and trending, while other times it may be erratic and directionless, or predictable and range-bound. As each instrument goes through these various phases of market personalities, you should adjust the moving averages of your PEMA Crossover system to find the best fit.

For example, Figure 17 shows a daily chart of Dell, Inc. ($DELL) with a 5- and 13-period PEMA Crossover system plotted. During this four-month stretch of time, DELL traded in an orderly manner and trended fantastically, which allowed you to find great entries and exits using the PEMA system.

With today's trading platforms, you can even scan the entire market of stocks with specific criteria to find those that are behaving in a similar manner, thereby allowing you to trade stocks that fit certain behavioral tendencies. Heck, if you really like how a stock trades, you can even stick the symbol into a correlation engine and find other stocks that match the tendencies of your model stock. Again, we are extremely fortunate to have this level of automation at our fingertips. At no other time in history has this been the case for traders like you and me. Take advantage of the technology!
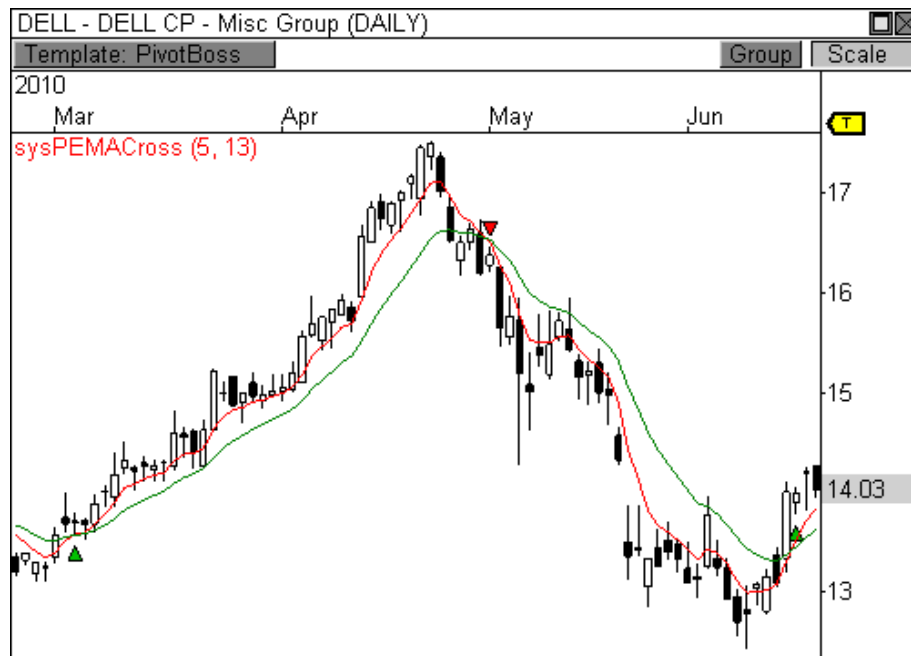
**FIGURE 17:** Another set of EMA's firing crossover signals in this daily chart of DELL.

THE PIVOT-BASED DEMA CROSSOVER

For those of you who like aggressive crossover entries, I've also created a more advanced crossover method that may be more to

your liking. Instead of basing the two-moving average crossover on the pivot-based exponential moving average, which is already a fast moving average, I've created a double exponential moving average based on the pivot point. A *double exponential moving average (DEMA)* is basically the EMA of an EMA, meaning the output is the second derivative of the original exponential moving average.

While an EMA is a faster moving average than the SMA, the DEMA is on another level in terms of speed. See Figure 18, which shows three 13-period moving averages plotted: the DEMA, EMA, and SMA. Notice how the DEMA hugs price closely and is the first to confirm the reversal in mid-June. The EMA does a good job of this, but lags the DEMA by a large margin. The SMA doesn't even enter the conversation. By the way, I've included the script for the pivot-based DEMA indicator (file name: iPivotDEMA) in the Appendix. Give it a test drive!
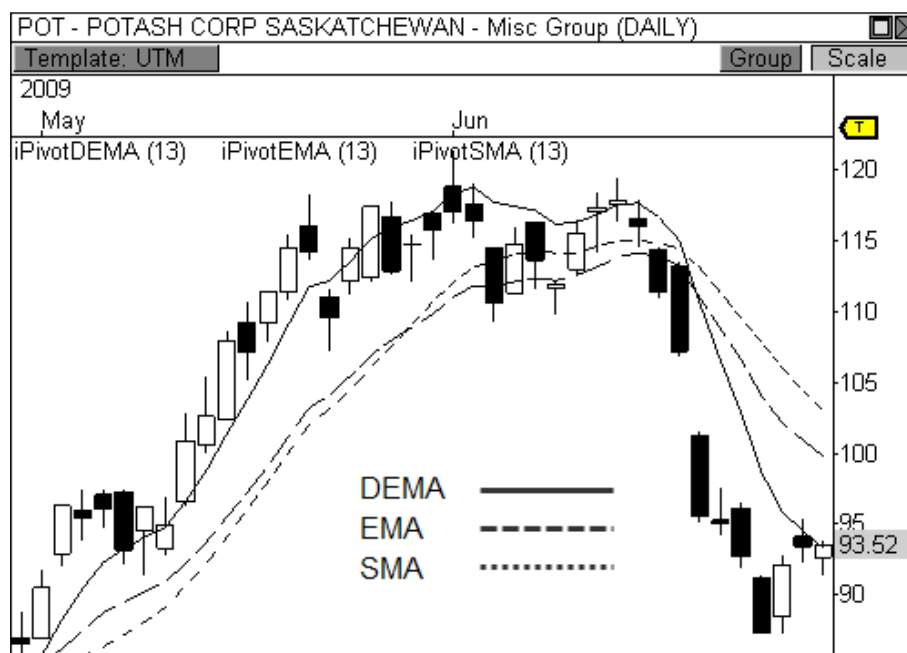
FIGURE 18: The DEMA is a faster moving average than the EMA and SMA.

The *pivot-based DEMA Crossover* (file name: sysPDEMACross) is a fantastic system that can offer tremendous entry and exit signals because of its speed. While this can sometimes lead to false signals,

some traders still prefer to use this faster system and are happy to filter out the noise in another way.

Let's take a look at how the PDEMA Crossover stacks up against our original PEMA Crossover system. Figure 19 is a 60-minute chart of the E-Mini S&P 400 futures contract with the PEMA Crossover system plotted, and Figure 20 is the same chart with the PDEMA Crossover system plotted. While the PEMA system fired solid long and short opportunities, the PDEMA system fired these entries much earlier. As a matter of fact, the PDEMA system fired the long trade a full 12.60 points earlier, which on this futures contract amounts to $1,260 per contract traded. This type of advantage is not to be taken lightly. This is not to discredit the PEMA Crossover, however, as it has its advantages over the DPEMA method, like more confirmed entries, for instance.
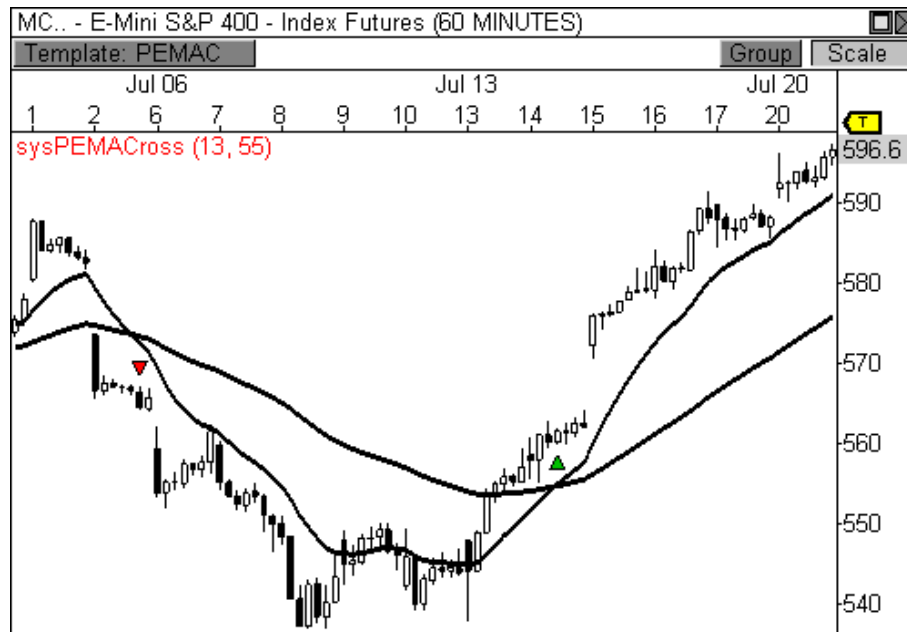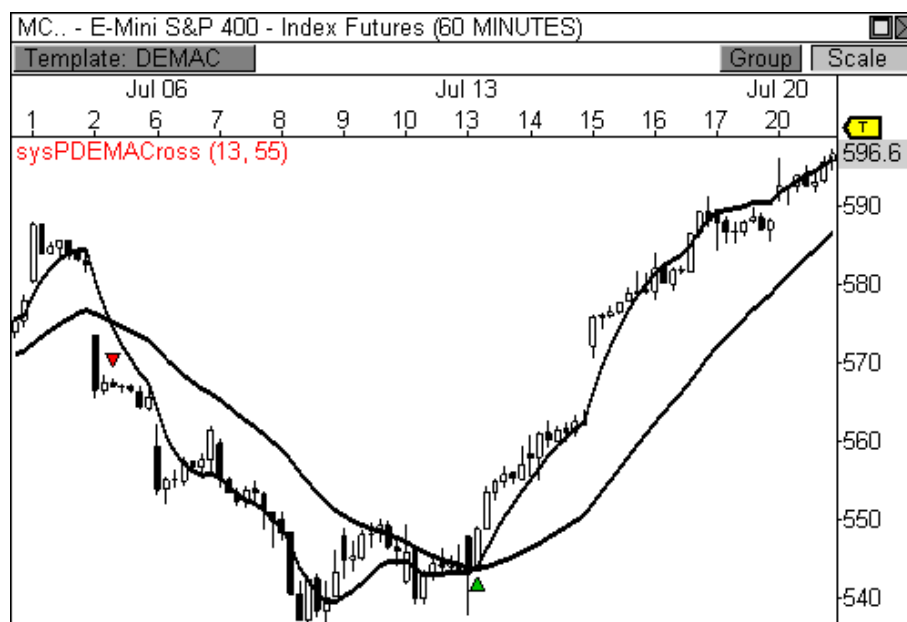

FIGURE 19: The PEMA Crossover system fired long and short signals in this chart of the MC.

FIGURE 20: The PDEMA Crossover system fired earlier signals in this chart of the MC.

Experiment with both types of crossover methods and select the one that works for you. Variety is the spice of life. Having both of these crossover methods in your trader tool kit will allow you to deploy the best system for the right circumstance.

THE MODIFIED PEMA CROSSOVER

Professionals have used two-moving average crossover systems for decades because they can offer great results, given the right conditions. However, I wanted to modify this concept by utilizing EMAs that offer amazing responsiveness, while integrating trend confirmation. The result was a system I wrote called the *Modified PEMA Crossover* (file name: sysModPEMACross). This system is an ultra fast PEMA crossover signal that has built-in trend confirmation.
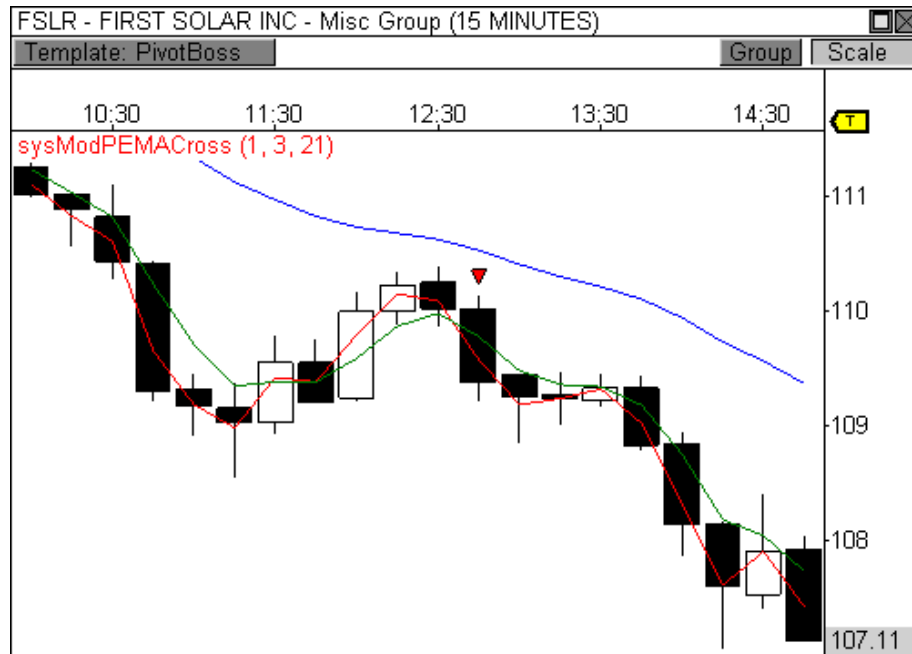
The Modified PEMA Crossover system fires signals in the direction of the prevailing trend, as measured by a larger moving average. For this setup, I use 1- and 3-period pivot EMA's for crossovers, and use a 21-period pivot EMA for trend confirmation.

Therefore, this system will only allow bullish crossover signals to fire when price is above the 21-period pivot EMA, and will only allow bearish crossover signals to fire when price is below the 21-period average. In essence, the results are usually highly qualified "buy the dip, and sell rip" type of opportunities. Let's take a look at a few examples!

Figure 21 is a 15-minute chart First Solar, Inc. ($FSLR) with the Modified PEMA Crossover system plotted. I've zoomed in on this particular chart to give you a better feel for the intricacies of the system. Notice that the 1- and 3-period pivot EMAs closely hug price and provide valuable short term crossover information, while the 21-period pivot EMA provides trend confirmation. As you can see, during a decline only bearish signals are allowed to fire, while only long signals fire during an uptrend. Each signal is fired during a pull-back within the trend, offering great value opportunities. I usually do not expose the actual pivot EMA's that offer the crossover signals, but I wanted to show you the inner workings of the firing engine. For the rest of the examples, only the trend-confirming EMA will be exposed.

FIGURE 21: The Modified PEMA Crossover system fires trend-confirmed signals.

ENTERING THE TRADE

Entering a Modified PEMA Crossover trade is straight forward, since the signals are automatically generated, much like the traditional PEMA Crossover system. When a signal is fired, however, you must wait for the bar to be completely finished before entering the trade. Once the close of the bar has been recorded, you can then enter the trade at the open of the following bar – which offers a purely mechanical entry that can be accurately back tested.

MANAGING THE TRADE

Once you have triggered your entry, there are several ways to manage this trade. Since this setup is a modified version of the traditional crossover, you would not wait for an opposite signal to trigger your exit. Instead, you want to use short term methods for exiting these trades. The goal of this setup is to help you identify short term reversals within an existing trend. Therefore, your exits should focus on capitalizing on short term gains. Try some of the following tactics:

- Use an N-Bar exit (ie: exit after 5 bars)
- Use a 1- and 3-period PEMA crossover exit.
- Use cycle lows and cycle highs for exits
- Use a fixed profit target.
- Use Fibonacci Extensions as targets.
- Use pivot-based support and resistance levels as targets.
- Use visual support and resistance levels as targets

Let's take a look at Figure 22, which is the same 15-minute chart of First Solar, Inc. from earlier, but this one shows more data and is sans the 1- and 3-period EMA's. Notice that only long signals are fired when price is above the 21-period moving average, while only short signals are fired when price is below the moving average. This built-in trend confirmation forces you to remain disciplined to the trend. Moreover, the ultra-fast 1- and 3-period EMA's tend to fire signals at the most opportune time, which cannot be ignored.
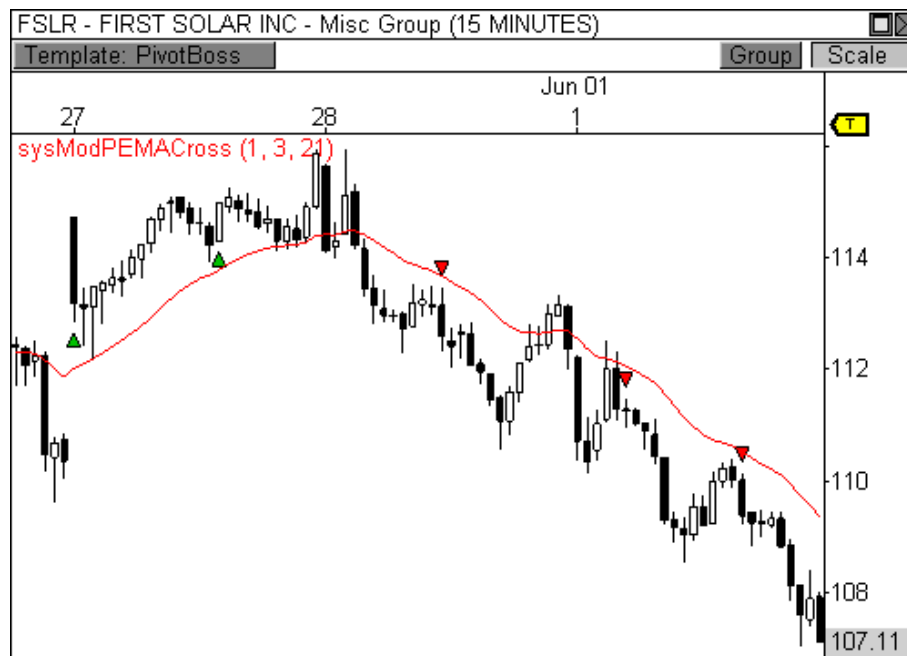
FIGURE 22: The Modified PEMA Crossover system fires great short term signals.

This setup works extremely well across all timeframes and excels in markets and instruments that tend to trend. For example, during recent bull and bears trend in Bank of America ($BAC), the Modified PEMA Crossover system highlighted great pull-back opportunities in both trends, as seen in the daily chart in Figure 23 below. Most of the signals led to three to five day moves, which is perfect for swing traders. Also, in this small snapshot, seven of the nine signals led to either new highs within the bull trend, or new lows within the bear trend – that's over 75% of the time! When you have this type of signal accuracy used in a market with a like-minded personality, the results can be amazing.
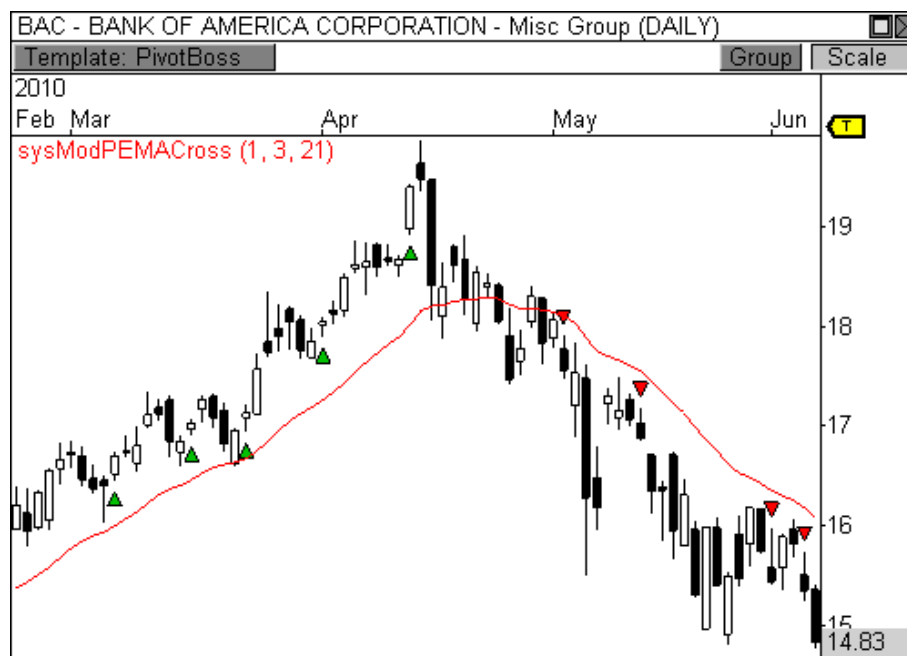
FIGURE 23: The Modified PEMA Crossover system can be used in real-time or EOD trading.

One of my favorite bull runs of all time was the Crude Oil rally of 2007 and 2008. There were so many fantastic ways to profit during this amazing price run, and I was fortunate enough to participate in some of the money-making moves. Figure 24 shows a weekly chart of Crude Oil futures during this amazing rally and illustrates how precise the Modified PEMA Crossover system was in identifying great pull-back opportunities.

In this example, the Modified PEMA Crossover system fired signals that offered moves ranging between three weeks and three months. Also, each signal led to a new high within the established trend, meaning that each pull-back offered the type of reward you are typically seeking. Again, this type of entry and trade length is ideal for swing and position traders looking to take advantage of value opportunities.

Remember, the parameters of this system are customizable to allow you to find the right fit for your trading style. I encourage you to test drive this system with various parameters and in various timeframes to understand what works best for your goals. Also, the systems that I have provided throughout the book allow you to

automate strategies and back test the results. Given proper exit methodologies and money management approaches, each of the setups discussed can be easily turned into winning strategies. Get to work and let me know how they work out for you!
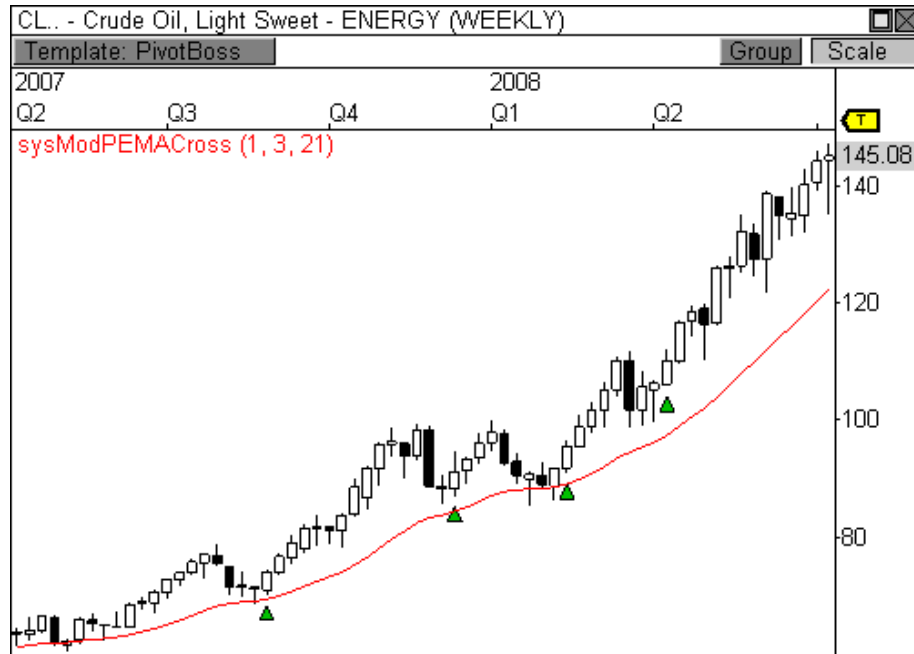
FIGURE 24: The Modified PEMA Crossover system fired great signals during the Crude Oil rally.

ENGAGING PIVOT-BASED INDICATORS

The PEMA setups that I have covered offer some of my favorite ways to approach the market using moving averages. I encourage you to engage these setups in a manner that complements your trading approach. Not all setups and styles of trading will fit all traders, no matter how profitable the approach. You must use what fits your trader profile and your trading approach. Slowly incorporate these setups into your trading one by one. Keep a diary of the results of each setup and judge performance over time. Due diligence is usually the right course of action with any new venture.

The good news is the PEMA approach encompasses only a fraction of my pivot-based library of indicators, systems, and setups.

Other pivot-based indicators, like Floor Pivots, the Camarilla Equation, and Market Profile levels, offer an amazing array of techniques to both analyze and trade the market.

My upcoming book *Secrets of a Pivot Boss* offers the most comprehensive collection of pivot-related trading ideas and concepts available to traders. Whether you are a real-time trader, swing trader, position trader, or investor, you will find great value in this book, regardless of the markets you trade or your level of experience.

I have analyzed the market every day for 12 years and have cultivated the techniques in this book into a fine art using the best leading indicators available to traders. The concepts in this book will help you become a more knowledgeable and confident trader. Professional traders use tools that are based purely on price, which is a leading indicator in its own class. In this book, we will discover the best leading indicators available to traders, including Floor Pivots, the Pivot Range, the Money Zone, and the Camarilla Equation.

Secrets of a Pivot Boss brings a fresh approach to these powerful concepts that you will not find anywhere else. Some of these tools have been around for decades, but many traders do not know they exist or how to properly use them to profit in the market. In fact, the traders that do use these tools typically drive better cars and have bigger homes. Traders like Larry Williams, Mark Fisher, John Person, and John Carter all use pivots in their trading. These are distinguished traders, educators, and authors that have seen the road map and can no longer look at charts the same without these powerful tools plotted in some form or fashion.

While you may have studied forms of pivots in the past, I provide a fresh perspective that can only be described as a truly unique approach to playing these amazing indicators for profit. You'll learn powerful concepts like *two-day pivot relationships, pivot width analysis, pivot trend analysis, and multiple pivot hot zones*.

Not only will you learn about incredible pivot relationships, but I will also divulge my best trading secrets, including my favorite *candlestick setups, the six types of trading days, the types of buyers and sellers, and the best money-making setups*. I'll even provide you with scripts of my favorite *proprietary indicators*, which I've written and included in the appendix of the book! *Secrets of a Pivot Boss* is scheduled to be released in August 2010!

At PivotBoss.com, we pride ourselves on great educational and analytical content using pivot-based indicators and classical technical analysis. We are dedicated to bringing you daily content that helps foster a community of knowledgeable and confident traders. Stop by and participate in the discussion! I would love to hear from you!

Yours in Trading Success,

Frank Ochoa
PivotBoss.com

Website: http://PivotBoss.com
Twitter: http://twitter.com/PivotBoss
RSS: http://feeds.feedburner.com/PivotBoss

APPENDIX

For those of you who trade with OmniTrader Professional or VisualTrader Professional, I am including the exact VBA code of the various scripts that I have covered in this e-book. While these scripts will allow you to see the same opportunities that I have written about, they also give you the ability to create incredibly powerful mechanical strategies. If you do not trade with these platforms, the easy language syntax is fairly close to that of other trading programs, so assimilating the information should be fairly easy. Enjoy!

Pivot-Based Simple Moving Average
File Name: iPivotSMA

```
#Indicator

#PARAM "Periods", 13

Dim fPivot        As Single
Dim fPivotSMA     As Single

fPivot = ((H + L + C)/3)

fPivotSMA = SMA(fPivot,Periods)

PlotPrice("PivotSMA", fPivotSMA)

Return fPivotSMA

Summary:
Creates a simple moving average based off the central
pivot point.

Parameters:
Periods – Number of periods used to calculate the moving
average.
```

Pivot-Based Exponential Moving Average
File Name: iPivotEMA

```
#Indicator

#PARAM "Periods", 13

Dim fPivot        As Single
Dim fPivotEMA     As Single

fPivot = ((H + L + C)/3)

fPivotEMA = EMA(fPivot,Periods)

PlotPrice("PivotEMA", fPivotEMA)

Return fPivotEMA

Summary:
Creates  an  exponential  moving  average  based  off  the
central pivot point.

Parameters:
Periods – Number of periods used to calculate the moving
average.
```

PEMA 3 Indicator
File Name: iPEMA3

```
#Indicator

#PARAM "ShortEMA",13
#PARAM "MedEMA",34
#PARAM "LongEMA",55

Dim fPivot              As Single
Dim fShortEMA           As Single
Dim fMedEMA             As Single
Dim fLongEMA            As Single

fPivot = ((H + L + C)/3)

fShortEMA = EMA(fPivot,ShortEMA)
fMedEMA = EMA(fPivot,MedEMA)
fLongEMA = EMA(fPivot,LongEMA)

PlotPrice("ShortEMA", fShortEMA)
PlotPrice("MedEMA", fMedEMA)
PlotPrice("LongEMA", fLongEMA)

Return 0

Summary:
Creates one indicator with three exponential moving
averages based off the central pivot point.

Parameters:
ShortEMA - Number of periods used to calculate the short
term moving average.

MedEMA - Number of periods used to calculate the medium
term moving average.

LongEMA - Number of periods used to calculate the long
term moving average.
```

Trailing PEMA Stop
File Name: stoTrailingPEMA

```
#Stop

#PARAM "EMA_Periods", 34

If Signal = LongSignal _
AND C <= iPivotEMA(EMA_Periods) Then
      Signal = ExitSignal

Else if Signal = ShortSignal _
AND C >= iPivotEMA(EMA_Periods) Then
      Signal = ExitSignal

End if

PlotPrice("TrailingPEMA",iPivotEMA(EMA_Periods), red, 3)

Summary:
This trailing profit stop signals an exit when price
closes against your specified pivot-based exponential
moving average.

Parameters:
EMA_Periods – Number of periods used to calculate the
moving average stop.
```

PEMA Pull-Back System
File Name: sysPEMAPullBack

```
#System

#PARAM "PEMA_Bounce", 13, 1, 50
#PARAM "PEMA_Confirm", 55, 1, 50

Dim fPivot              As Single
Dim fPEMABounce         As Single
Dim fPEMAConfirm        As Single

fPivot = ((H + L + C)/3)

fPEMABounce = EMA(fPivot,PEMA_Bounce)
fPEMAConfirm = EMA(fPivot,PEMA_Confirm)

If H[1] > fPEMABounce[1] AND _
      L[1] < fPEMABounce[1] AND _
      fPEMABounce[1] > fPEMABounce[4] AND _
      fPEMABounce > fPEMAConfirm AND _
      C > fPEMABounce AND _
      C > O Then
            Signal = LongSignal

ElseIf L[1] < fPEMABounce[1] AND _
      H[1] > fPEMABounce[1] AND _
      fPEMABounce[1] < fPEMABounce[4] AND _
      fPEMABounce < fPEMAConfirm AND _
      C < fPEMABounce AND _
      C < O Then
            Signal = ShortSignal

End If

PlotPrice("PEMABounce", fPEMABounce)
PlotPrice("PEMAConfirm", fPEMAConfirm)

Summary:
Fires signals for the PEMA Pull-Back setup.

Parameters:
PEMA_Bounce – Signals are fired based on this EMA.

PEMA_Confirm – Confirms the current trend.
```

PEMA Crossover System
File Name: sysPEMACross

```
#System

#PARAM "FastEMA", 13, 1, 50
#PARAM "SlowEMA", 55, 1, 150

Dim fPivot              As Single
Dim fFastEMA            As Single
Dim fSlowEMA            As Single

fPivot = ((H + L + C)/3)

fFastEMA = EMA(fPivot,FastEMA)
fSlowEMA = EMA(fPivot,SlowEMA)

If iPivotEMA(FastEMA)[1] < iPivotEMA(SlowEMA)[1] AND _
     iPivotEMA(FastEMA) > iPivotEMA(SlowEMA) Then
            Signal = LongSignal

ElseIf iPivotEMA(FastEMA)[1] > iPivotEMA(SlowEMA)[1] AND
_
     iPivotEMA(FastEMA) < iPivotEMA(SlowEMA) Then
            Signal = ShortSignal

End If

PlotPrice("FastEMA", fFastEMA)
PlotPrice("SlowEMA", fSlowEMA)


Summary:

Fires signals for the PEMA Crossover setup.

Parameters:
FastEMA – Periods used for the fast moving average.

SlowEMA – Periods used for the slow moving average.
```

Pivot-Based Double Exponential Moving Average
File Name: iPivotDEMA

```
#Indicator

#Param "Periods",13

Dim fPivot              As Single
Dim fPivotEMA           As Single
Dim fPivotEMA2          As Single
Dim fPivotDEMA          As Single

fPivot = ((H + L + C)/3)

fPivotEMA = EMA(fPivot,Periods)
fPivotEMA2 = EMA(fPivotEMA, Periods)
fPivotDEMA = (fPivotEMA * 2 - fPivotEMA2)

PlotPrice("PivotDEMA", fPivotDEMA)

Return fPivotDEMA


Summary:

Creates a double exponential moving average based on the
central pivot point.

Parameters:
Periods – Number of periods used to calculate the moving
average.
```

PDEMA Crossover System
File Name: sysPDEMACross

```
#System

#PARAM "FastMA", 13, 1, 50
#PARAM "SlowMA", 55, 1, 150

Dim fPivot              As Single
Dim fPivotEMAF1         As Single
Dim fPivotEMAF2         As Single
Dim fPivotEMAS1         As Single
Dim fPivotEMAS2         As Single
Dim fFastDEMA           As Single
Dim fSlowDEMA           As Single

fPivot = ((H + L + C)/3)
fPivotEMAF1 = EMA(fPivot,FastMA)
fPivotEMAF2 = EMA(fPivotEMAF1, FastMA)
fPivotEMAS1 = EMA(fPivot,SlowMA)
fPivotEMAS2 = EMA(fPivotEMAS1, SlowMA)
fFastDEMA = (fPivotEMAF1 * 2 - fPivotEMAF2)
fSlowDEMA = (fPivotEMAS1 * 2 - fPivotEMAS2)

If iPivotDEMA(FastMA)[1] < iPivotDEMA(SlowMA)[1] _
AND iPivotDEMA(FastMA) > iPivotDEMA(SlowMA) Then
            Signal = LongSignal

ElseIf iPivotDEMA(FastMA)[1] > iPivotDEMA(SlowMA)[1] _
AND iPivotDEMA(FastMA) < iPivotDEMA(SlowMA) Then
            Signal = ShortSignal

End If

PlotPrice("FastDEMA", fFastDEMA)
PlotPrice("SlowDEMA", fSlowDEMA)


Summary:

Fires signals for the PDEMA Crossover setup.

Parameters:
FastEMA – Periods used for the fast moving average.

SlowEMA – Periods used for the slow moving average.
```

Modified PEMA Crossover System
File Name: sysModPEMACross

```
#System

#PARAM "FastEMA", 1, 1, 50
#PARAM "SlowEMA", 3, 1, 150
#PARAM "TrendEMA", 21, 1, 150

Dim fPivot              As Single
Dim fFastEMA            As Single
Dim fSlowEMA            As Single
Dim fTrendEMA           As Single

fPivot = ((H + L + C)/3)

fFastEMA = EMA(fPivot,FastEMA)
fSlowEMA = EMA(fPivot,SlowEMA)
fTrendEMA = EMA(fPivot,TrendEMA)

If iPivotEMA(FastEMA)[1] < iPivotEMA(SlowEMA)[1] AND _
     iPivotEMA(FastEMA) > iPivotEMA(SlowEMA) AND _
     L > iPivotEMA(TrendEMA) Then
          Signal = LongSignal

ElseIf iPivotEMA(FastEMA)[1] > iPivotEMA(SlowEMA)[1] _
     AND iPivotEMA(FastEMA) < iPivotEMA(SlowEMA) AND _
     H < iPivotEMA(TrendEMA) Then
          Signal = ShortSignal

End If

PlotPrice("TrendEMA", fTrendEMA)

Summary:
Fires signals for the Modified PEMA Crossover setup.

Parameters:
FastEMA - The fast EMA used for crossover signals.

SlowEMA - The slow EMA used for crossover signals.

TrendEMA - The EMA used for trend confirmation.
```