

THE PATTERN TRAPPER -- "Technical Tools for the Day Trader"

Technical analysis can be defined as the study of past price behavior in an effort to determine patterns and trends that are believed to be predictable of the future. At the core of this school of thought is the assumption that human behavior is repetitive in nature. We all recognize that, although human behavior patterns may have recurrent tendencies, they do not normally express themselves in the same exact, mechanical manner each time. Even with this qualification in mind, technical analysis is capable of providing us with the ability to make price forecasts characterized with an improved probability of outcome. It can help us achieve the "edge" required in our pursuit of long-term consistent success.

A wide array of technical approaches is available. Some are better suited to particular personalities and styles of trading than others. This article will focus on just a few that I have found to be consistently helpful in interpreting intraday market behavior and making short-term price forecasts.

My trading timeframe of choice is the intraday, primarily because it affords the greatest degree of immediate feedback. An important element for consistent success is the ability to quickly realize one's mistakes. Intraday trading offers us a way to "have our finger on the button", and ready to take quick evasive action should our market judgements prove incorrect. Technical analysis tells us what has happened on a fairly consistent basis in the past, but it makes absolutely no guarantees about the future.

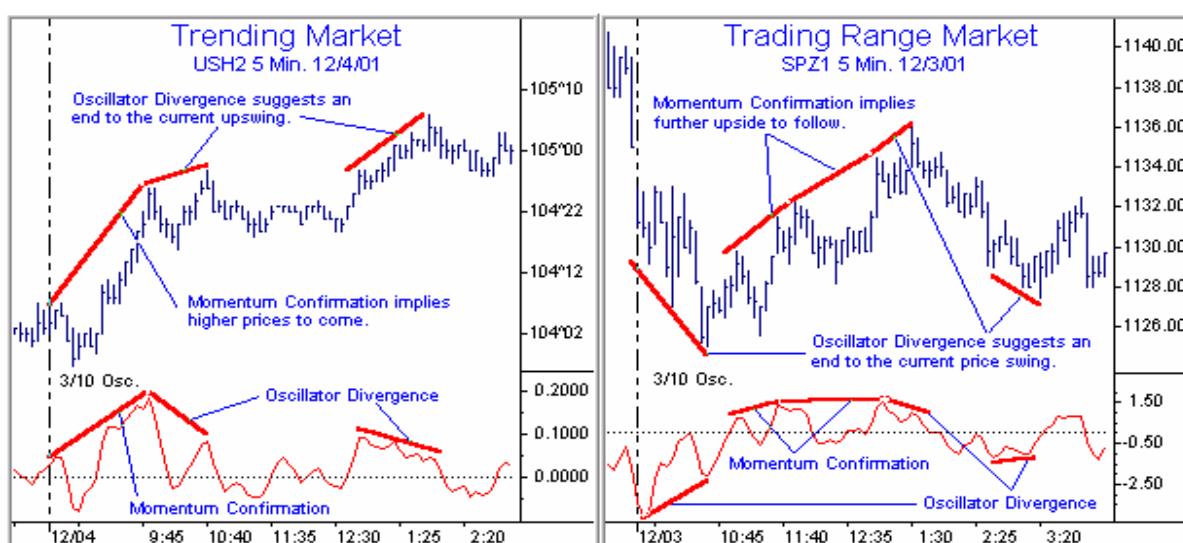
Oscillator Divergence/Momentum Confirmation

The nature of day trading requires that the futures trader make a constant assessment as to whether a market is in a trending or trading-range mode. If the mode is determined to be trading-range we need a convenient means of identifying short term reversal points. On the other hand, if the mode is assumed to be trending, we require a means of identifying (1) an appropriate entry point based on the trend currently in force, and (2) an appropriate exit point based on likely trend exhaustion.

An effective means of identifying such short term intraday market turning points involves an evaluation of the momentum behind successive market swings. Price momentum is the measure of the rate, or speed, of price change. Normally, if we are to expect successive market swings to continue creating new highs or new lows, we would expect the rate of price change to increase along with the move to new highs or new lows. If successive swings do not have an increase in momentum, the validity of any new push higher or lower is called into question.

One very effective tool for measuring price momentum is the 3/10 Oscillator. It is a simple indicator constructed by subtracting the 10 period Exponential Moving Average from the 3 period Exponential Moving. As an alternative, most charting packages offer construction of the MACD indicator (Moving Average Convergence-Divergence). The 3/10 Oscillator can be simulated with the MACD by setting the short term parameter to 3, the long term parameter to 10, and the smoothing parameter to 1.

When using the 3/10 Oscillator, we are attempting to identify one of two conditions on successive market swings that move to either new highs or to new lows. The first of these conditions is referred to as "Oscillator Divergence" and the second as "Momentum Confirmation". The two terms describe opposite conditions. Typically, each successively greater swing pivot high or swing pivot low will be accompanied by one or the other. In a market trending towards lower prices, Oscillator Divergence is described as a swing to new lows in price which is accompanied by a higher low in the oscillator. In a market moving towards higher prices, it is described as a swing to new highs in price which is accompanied by a lower high in the oscillator. Examples of both conditions are presented in the charts below.



In essence, Oscillator Divergence indicates that the current market movement is losing momentum. It is at these times that a reversal is most likely. If we had been considering a trade in the direction of the expected reversal, this would be an opportune time to initiate entry. On the other hand, when Momentum Confirmation occurs, we know that the current swing direction has some "oomph" left to it, and it would be best to either stay with existing positions or look for an opportunity to climb on board.

When properly used, the 3/10 Oscillator can become a very helpful tool for the day trader. It is a quick and effective means of measuring market momentum, revealing valuable information about the market's underlying intent. Become proficient in its use, but also realize that it is not infallible.

Pivot System Support and Resistance

Judgements made about likely market behavior which are based on momentum analysis can be even more productive if we have predetermined levels available which can act as "price templates" in interpreting the day's trading activity. The "Pivot System" is one such approach.

Floor traders and other professionals who do the actual buying and selling of futures contracts in the trading pits of the exchanges, generally employ very similar systems for valuing the price of these instruments in the absence of significant outside influences. This Pivot System of Support and Resistance determines relative valuation levels based on price activity of the prior day.

Pivot System price levels act as potential support and resistance zones throughout the day. They serve as focal points for floor professionals as they adjust their bids and offers, especially when trading activity is slow. The off-floor day trader is able to use these same values as an aid in determining appropriate areas for trade entry, stop placement, and exits.

The formulas for calculating Pivot System Support and Resistance Levels are as follows:

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

$$R1 = 2 * DP - L$$

$$S1 = 2 * DP - H$$

$$R2 = DP + (R1 - S1)$$

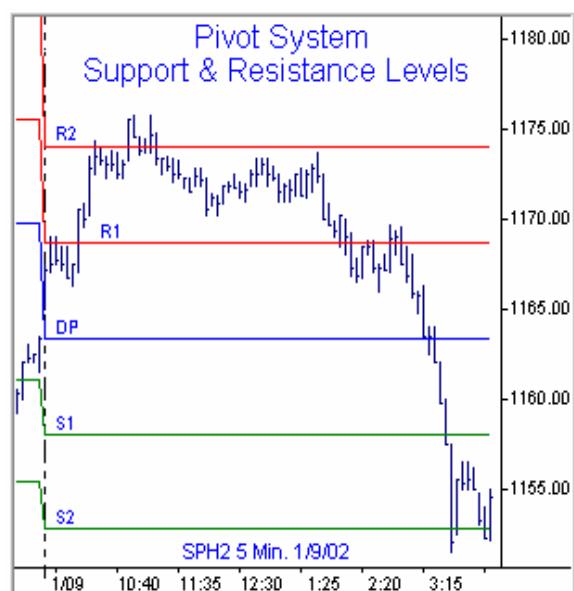
$$S2 = DP - (R1 - S1)$$

DP represents the Daily Pivot. R1 and R2 identify the resistance levels above the Daily Pivot. S1 and S2 identify the support levels beneath the Daily Pivot.

The principle level of reference is the Daily Pivot. Generally, as we enter each trading day, we regard this level as our balance point between bullish and bearish forces. A demonstration of significant price activity above the Daily Pivot is considered to have bullish implications, while activity below is bearish. Although actual trade entry and exits are initiated by a variety of other market factors, we first look at price behavior relative to the Daily Pivot level as an aid in determining the market's general directional bias.

The day's trading activity can generally be thought of as revolving around and gravitating towards the Daily Pivot level. As price moves away from this zone and approaches either the first level of resistance (R1) or the first level of support (S1), market behavior becomes increasingly important. Any rejection of these newly attained levels increases the likelihood of a return to the Daily Pivot. On the other hand, a breach of either of these initial levels is regarded as market acceptance and a perceived change in the valuation of the instrument being traded.

Additionally, should the market extend its move even further from the Daily Pivot, penetration through each successive level of support or resistance is generally regarded as having drawn in a greater degree of participation from off-floor interests. An increase in off-floor interests represents a greater likelihood that longer-term positions are being established, resulting in greater potential for the market to trend even further. Each consecutively greater level of Pivot System support or resistance breached is generally regarded as having stirred the interest of successively longer term participants.



Once the market has made a convincing breach of a particular support or resistance level, that level is considered to have reversed its support/resistance role, and, subsequently, becomes a test point for further market activity. For example, in the chart to the right, when price action develops into an upside break of the first level of resistance (R1), the retracement move back towards that level is considered a test of its integrity. A successful test occurs when the retracement move is turned away and price moves even further to the upside - which adds even greater credibility to that level as a renewed valuation point. Additionally, any further move away from that level has the potential to force the market through successive levels of support or resistance, drawing players of even longer time-frame perspectives into the market . . . and so on, continually expanding the market's range of activity.

When properly used, Pivot System Support and Resistance Levels can become a very helpful tool for the day trader. The approach is not only a quick way of gauging intraday valuation levels, but also offers an effective means of applying interpretative "templates" to market activity so as to better understand market behavior and spot opportunity. They help to determine when and where short-term intraday trends are likely to hesitate, and can also serve as "test points" in deciding whether the market may be more likely to either continue or reverse its current direction.



Dynamic Support & Resistance Levels for Intraday Trading

As helpful as Pivot System levels often are, a significant drawback to their use lies in the fact that they are calculated from the prior day's price action, and may not accurately reflect recent changes in market psychology. Effective intraday trading also requires a means of identifying support and resistance which can more easily adapt and more accurately represent price activity under rapidly changing market conditions. The 20 period Exponential Moving Average (20EMA) can be used to create these more "dynamic" levels of support and resistance. Unlike Pivot System S&R levels that remain constant throughout the day, the 20EMA changes in accordance with more immediate changes in price. This feature makes them a very effective tool, especially when significant shifts in market psychology occur between Pivot System levels, and after large thrusting impulse moves.

My principle intraday chart reference is the five minute timeframe with frequent note of other periods as market conditions warrant. For this reason, the 5 min. 20EMA is our most often referenced moving average. However, it is also helpful to additionally graph both the 15 min. and 30 min. 20EMAs on the same 5 minute chart. This is accomplished by plotting the following values.

5 min. 20EMA - plot a 20 period Exponential Moving Average.

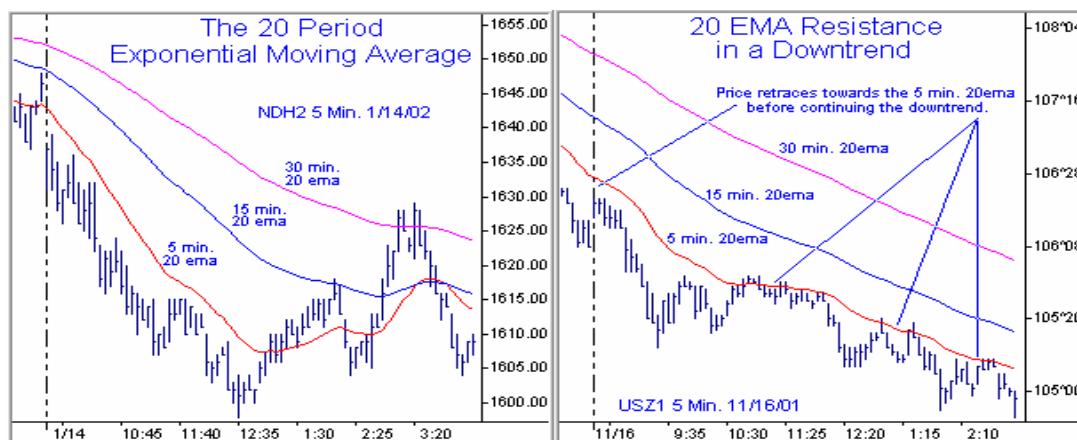
15 min. 20EMA - plot a 60 period Exponential Moving Average (15/5*20)

30 min. 20EMA - plot a 120 period Exponential Moving Average (30/5*20)

It is important to recognize that the 15 and 30 minute values arrived at with this method are not exact and precise representation of the corresponding 15 and 30 minute 20EMAs, but for purposes of identifying potential support and resistance levels, you will find the technique quite useful.

The 20 period EMA is treated as we would any other potential support or resistance level. In congested, trading range market conditions, these levels can be violated rather easily. However, when price begins to trend, the

20EMA can be a valuable aid in determining appropriate areas in which to take action either by establishing new positions . . . or bailing out of existing ones.



One of the more frequent uses of this indicator comes into play when we began a particular trading day expecting the trend established in the previous day to continue. A common strategy on such days is to look for an opportunity to enter on the first retracement move which takes price back towards a likely support (if in an uptrend) or resistance (if in a downtrend). The first level of support or resistance encountered is likely to be that of either the 5 minute 20EMA, the 15 minute 20EMA, or the 30 minute 20EMA (chart above right). It is important to keep an eye on these levels when we are expecting trend continuation. Once a trend has been established, it is very often the case that one of these levels (most often the 5 min. 20EMA) will contain the price action quite effectively.

The 20 period EMA can also come into play immediately following large news-driven price thrusts (chart at right). Trading conditions can often be so volatile during such periods that I generally discourage any sort of participation until the initial hysteria subsides. Typically, the strong impulse thrust that accompanies such events are the beginning statement in a new trend move. Such price behavior will usually undergo some sort of retracement activity before an advance of significance takes hold. Again, the 20 period EMA is an excellent tool for gauging the degree of retracement and likely return to the trend.

As stated earlier, the "dynamic" characteristics of the 20 period EMA is what makes the indicator such an important tool. Its ability to react in accordance to more immediate changes in the market environment make it a valuable aid in creating structure out of essentially unstructured events.

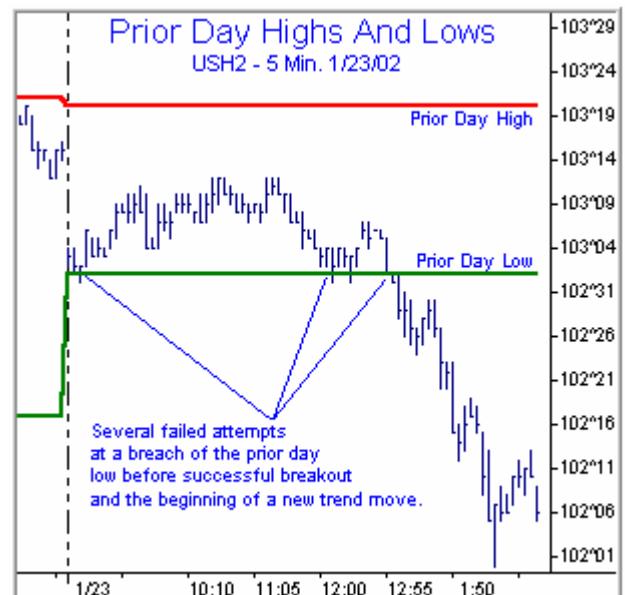
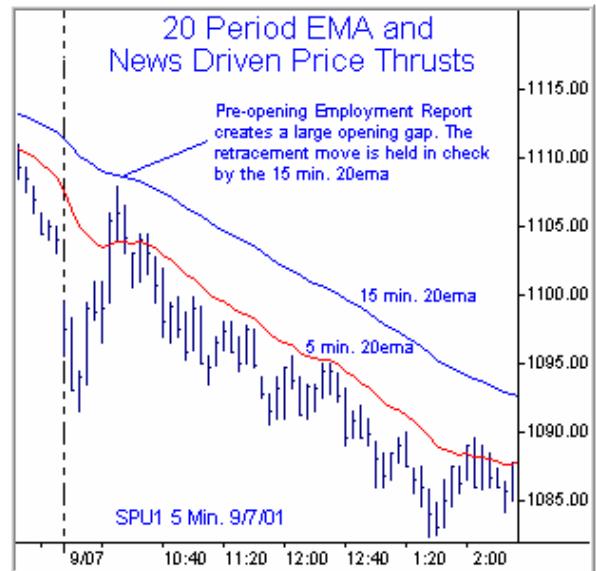
Use of Prior Day Highs and Lows

Each of the intraday trading techniques discussed so far have relied on reference levels arrived at by means of mathematical calculations. The technique discussed in this section, in contrast, will deal with a set of support and resistance levels which are much more intuitively obvious. In short, we will discuss a technique for using the prior day's price extremes as a means of determining market-based valuation levels.

If market activity is thought of as an auction process, where bidders and sellers are constantly vying for the most advantageous price, daily timeframe highs and lows represent the outer extremes of accepted value for any particular trading day. The highest price achieved during the day represents the maximum that buyers were willing to offer for the commodity, and the lowest price represents the minimum that sellers were willing to accept. For this reason, subsequent price action has a tendency to remain within the boundaries of apparent value as defined during the previous day of trading.

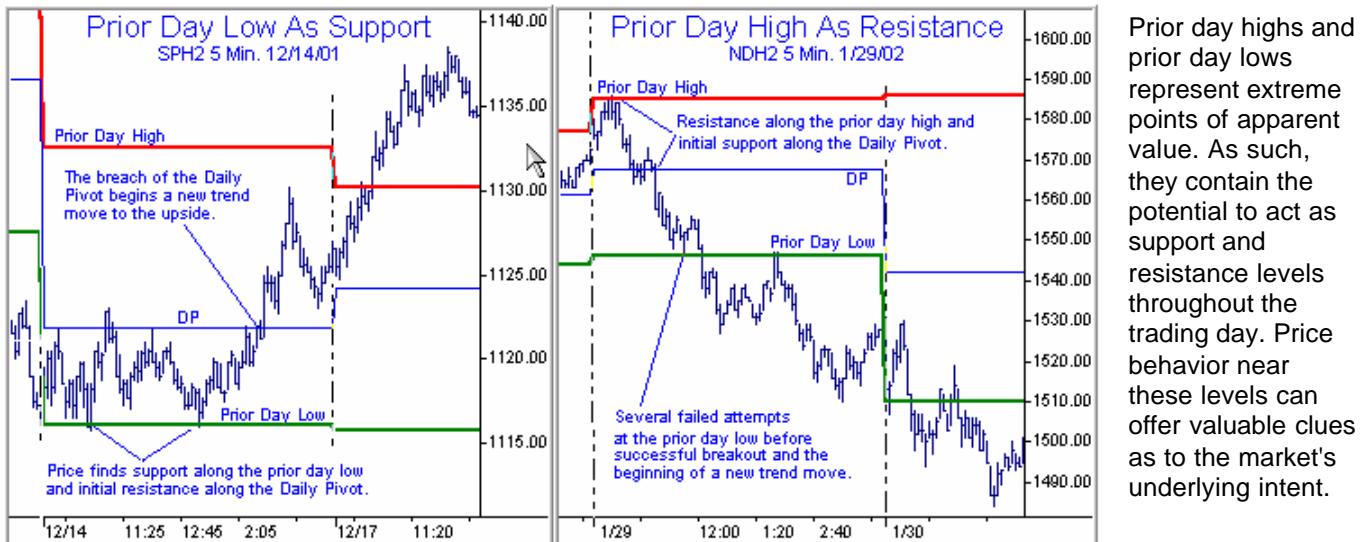
Under typical market conditions (news-driven price thrusts being one notable exception) a successful breach of a prior day high or low is normally preceded by several failed attempts. Once achieved, such price action often represents an important shift in market psychology with the potential to create a new trend move.

One approach for taking advantage of this market scenario is to use the actual break of the prior day high or the prior day low as the trigger into the trade - going long on a break of the high, and short on the break of the low. Using such a method for market entry is certainly viable, and, in fast market conditions may be the ONLY way of participating. However, it is considered to be a rather aggressive technique, for forays into new areas of market valuation are sometimes rejected in very quick fashion. A more conservative and risk averse approach is to delay entry until some sort of price retracement can occur. Such short-term pullbacks often take place before a new trend move can begin in earnest. Many times, a breach of the prior day high or low will retrace all the way back to the original breakout point. If not, the next most likely level of retracement will be that of the 5 min. 20EMA.



Price analysis relative to prior day highs and lows can also prove helpful when markets get caught in extended, tight-range trading conditions. This kind of market scenario is often followed by extreme range expansion and a pickup in volatility. Sometimes the increase in volatility can be very sudden and dramatic, leading to trading days well-suited for capturing large profits - but only if you've chosen the correct breakout direction.

Whenever low volatility conditions have been identified, a break of a prior day high or low can often serve as the cue that the expected range expansion move has begun and can put us on watch for reduced-risk ways to participate. But even before such a break occurs, there are a few techniques that offer an advanced assessment of likely breakout direction and allow for earlier entry. For example, we can often determine directional clues from price action relative to the prior day high, prior day low, and the current Daily Pivot. If the market first approaches the prior day low, and is then repelled upwards through the Daily Pivot, breakout direction is likely to be towards higher prices (below left chart). Similarly, if the prior day high is approached, repelled, and price then moves through the Daily Pivot from above, likely breakout direction is to the downside (below right chart). Furthermore, often directional clues can also be found in market behavior near the Daily Pivot. If price activity is unable to breach this level, the expected breakout will often develop on a path opposite that of the original approach.



Conclusion

Typically, most new traders approach the study of technical analysis with an eye towards identifying a single indicator, system, or trading methodology which, when practiced with precision and discipline, will reap rewards on each and every trade attempt (or at least very nearly so). Many traders, especially beginners, in their unending search for this one and only ultimate trading tool, tend to look at this discipline as having such potential . . . as containing the possibility of being the long sought-after magic key which unlocks the hidden secrets of future market direction. It is important that we not regard ANY technical trading tool in this light. Instead, they are better regarded merely as an aid in summarizing and simplifying certain discretionary aspects of our trading routine. Technical analysis gives an indication of what has happened on a fairly consistent basis in the past, but it make no guarantees of the future.

The techniques discussed in this article will jumpstart your understanding and interpretation of price behavior and underlying market intent, but don't expect them to become your Holy Grail. It is very likely that it may take a great deal of practice before you can comfortably integrate them into your normal trading routine. Some will be more effective under certain market conditions than others. Plan on spending considerable time with each tool before you start to fully realize its benefits as well as its shortcomings. As with all effective trading tools and techniques, nuance and idiosyncrasy become more apparent with practice.