



**FUTURES TRADER'S GUIDE to  
TECHNICAL ANALYSIS**

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## WELCOME

Daniels Trading is pleased to provide you with our Trader's Guide to Technical Analysis. The in-depth explanations contained in this guide will help you to unravel the mysteries surrounding Technical Analysis. Mastery of these concepts will aid your development as a trader and make you a more sophisticated analyst of market price and information. Our end goal is to develop clients capable of navigating even the most volatile of markets. View the information in this guide as the first step in establishing a long-term relationship with Daniels Trading.

Many of the 26 technical studies described below are available in the Quotes & Charts section of our website at [www.danielstrading.com](http://www.danielstrading.com). Once in Quotes & Charts, simply click "Custom Charts" to use these studies. If you have any questions or comments, please contact us toll-free at 800-800-3840 or by email at [info@danielstrading.com](mailto:info@danielstrading.com).

## ACCUMULATION/DISTRIBUTION

The Accumulation/Distribution is a momentum indicator that associates changes in price and volume. The indicator is based on the premise that the more volume that accompanies a price move, the more significant the price move.

Accumulation/Distribution attempts to confirm changes in prices by comparing the volume associated with prices.

When the Accumulation/Distribution moves up, it shows that the security is being accumulated, as most of the volume is associated with upward price movement. When the indicator moves down, it shows that the security is being distributed, as most of the volume is associated with downward price movement.

Divergences between the Accumulation/Distribution and the security's price imply a change is imminent. When a divergence does occur, prices usually change to confirm the Accumulation/Distribution. For example, if the indicator is moving up and the security's price is going down, prices will probably reverse.

If the days price change is positive then the difference in the daily high and low price is added to the total, and conversely if the daily change is negative then the daily range is subtracted from the total.



## ADX INDICATOR

The ADX Indicator, otherwise known as Directional Movement Index, is a trend following system. The average directional movement index, or ADX, determines the market trend. When used with the up and down directional indicator values, +DI and -DI, the DMI is an exact trading system.

The standard interpretation for using the ADX (red line) is to establish a long position whenever the +DI (blue line) crosses above the -DI (green line). You reverse that position, liquidate the long position and establish a short position, when the -DI crosses above the +DI.

In addition to the crossover rules, you must also follow the extreme point rule. When a crossover occurs, use the extreme price as the reverse point. For a short position, use the high made during the trading interval of the crossover. Conversely, reverse a long position using the low made during the trading interval of the crossover.

You maintain the reverse point, the high or low, as your market entry or exit price even if the +DI and the -DI remain crossed for several trading intervals. This is supposed to keep you from getting whipsawed in the market.

For some traders, the most significant use of the ADX is the turning point concept. First, the ADX must be above both DI lines. When the ADX turns lower, the market often reverses the current trend. The ADX serves as a warning for a market about to change direction. The main exception to this rule is a strong bull market during a blow-off stage. The ADX turns lower only to turn higher a few days later.

According to the developer of the DMI, you should stop using any trend following system when the ADX is below both DI lines. The market is in a choppy sideways range with no discernible trend.

## AVERAGE TRUE RANGE

### ALLOWING:

- *The distance from today's high to today's low.*
- *The distance from yesterday's close to today's high.*
- *The distance from yesterday's close to today's low.*

The Average True Range is a moving average (typically 7-days) of the True Ranges.



## BARCHART STYLE CHARTS

The barchart refers to the chart. There are a number of variations of the barchart style chart available within the custom charts.

- **Barchart OHLC** - plots a dash for the open and closing price for the day, extending a line for the high and the low.
- **Close only Plot** - plots a line from the closing price from one day to another.
- **High/Low Close Chart** - plots a line from the high to the low price for the day. The line from the closing price to the high price is plotted in red. The line from the closing price to the low price is plotted in blue.
- **Up/Down Day Chart** - plots the Barchart OHLC in green if the closing price for the day is above the previous days closing price, and in red if the Barchart OHLC in red if the closing price is below the previous days closing price.

## BOLLINGER BANDS

Created by John Bollinger, Bollinger Bands are similar to moving average envelopes. The difference between Bollinger Bands and envelopes is that envelopes are plotted at a fixed percentage above and below a moving average, whereas Bollinger Bands are plotted at standard deviation levels above and below a moving average. Since standard deviation is a measure of volatility, the bands are self-adjusting: widening during volatile markets and contracting during calmer periods.

As with moving average envelopes, the basic interpretation of Bollinger Bands is that prices tend to stay within the upper- and lower-band. The distinctive characteristic of Bollinger Bands is that the spacing between the bands varies based on the volatility of the prices. During periods of extreme price changes (i.e., high volatility), the bands widen to become more forgiving. During periods of stagnant pricing (i.e., low volatility), the bands narrow to contain prices.

If the price breaks out of either the upper or lower band this is interpreted as a continuation signal not a reversal signal.

*Custom Charts Parameters: # days, # std. deviations*



## CANDLESTICK CHARTS

A Candlestick chart displays the body of the “candle” as a filled rectangle. The top of the rectangle is the highest of the open and the close. The bottom of the rectangle is the lowest of the open and the close. An “up day” is when the close is above the open and a “down day” is when the close is below the open. Traditionally “up days” are drawn as an open rectangle and “down days” are filled with black. However tradition in electronic color display is to show an “up day” as a green rectangle and a “down day” as a red rectangle. If there is no difference in the open and close then this draw as a blue rectangle. The “wicks” of the “candle” are lines from the lowest of the open and the close to the low and the highest of the open and the close to the high.

This is a very popular way of looking at the market in Japan and the rest of Asia. Candlestick charts are available in the Custom Charts section of our site.

## COMMODITY CHANNEL INDEX

The Commodity Channel Index works for stocks as well as commodities.

The Commodity Channel Index is an indicator designed for use in markets that follow definite cyclical patterns. While the CCI does not determine cycle lengths, if you have an idea of cycle length, the CCI can be a valuable timing tool.

Donald R. Lambert, who originated the CCI, suggests using a number of periods less than one-third of the cycle length. Using this calculation, seventy to eighty percent of random price fluctuations should fall within the +100% to -100% range. If the CCI yields a value above +100%, a long position may be indicated. When the CCI value falls below +100% closing a long position should be considered. Similarly if the prices drop below -100%

## FIBONACCI TIME ZONES

Fibonacci numbers are a sequence of numbers in which each successive number is the sum of the two previous numbers.

Fibonacci Time Zones are a series of vertical lines. They are spaced at the Fibonacci intervals of 1, 2, 3, 5, 8, 13, 21, 34, etc. The interpretation of Fibonacci Time Zones involves looking for significant changes in price near the vertical lines.

The Fibonacci Time Zone study (located in custom trends) uses days as variables and creates a series of vertical lines in that order.

## HISTORICAL VOLATILITY

Historic volatility is a measure of the variability of the range of closing prices seen over a past period of time. To put it another way, historic volatility is essentially the standard deviation of closing prices over a period of time. A wide range of closing prices results in a higher standard deviation and thus in a higher historic volatility. Thus, a Stock with an historic volatility of 20% would have been closing over a broader range than did a similar Stock with an historic volatility of only 10%.

Historical volatility can also be used as a tool by traders who are trading only the underlying instrument. Quantifying the volatility in a market can affect a trader's perception of how far the market can move and thus provides some help in making price projections and placing orders. High volatility may indicate a trend reversal as heavy buying/selling comes into the market and may sharp price reversals.

## KELTNER CHANNEL

The Keltner Channel is a volatility based envelope technique based on the range of HIGH to LOW daily. First a coefficient named "MA\_periods" is defined to hold the number of periods to be used in the moving averages required for the Keltner Channel. Then, a "typical" price is computed by summing the HIGH, LOW and CLOSE and dividing by three. "MA\_typical", a simple moving average of the typical price, is then computed using the number of periods held in "MA\_periods". "Diff" is the range for the day. "MA\_Diff" is a moving average of "Diff", also using "MA\_periods".

The "Upper" channel is calculated by adding the "MA\_Typical" and "MA\_Diff" together. The "Lower" channel is a subtraction of "MA\_Diff" from MA\_Typical.

If the price breaks out of either the upper or lower band this is interpreted as a continuation signal not a reversal signal.

## MACD OSCILLATOR

The MACD Oscillator is the difference between a short term and a long term moving average.

The three parameters used in the MACD Oscillator are (1st) the number of periods for the short term moving average, (2nd) the number of periods for the long term moving average and (3rd) the moving average of the resulting MACD Oscillator.

The MACD Oscillator shows the convergence and divergence of the short and long term moving averages and is plotted around the zero point. This is represented by the red line. The MACD which is the moving average of the MACD Oscillator is represented by the green line.



The **Exponential MACD Oscillator** uses the exponential moving averages in the calculation instead of the regular moving averages.

If you put a zero in the third parameter box, the program will not calculate the moving average of the MACD and only the red line will appear, and the resulting MACD is conventionally presented as a histogram for clarity.

When the MACD Oscillator is above the zero line, conventional wisdom interprets this as a bullish signal, and conversely, when the histogram is below the zero line this is interpreted as a bearish signal. The red line being above the green line reinforces a bullish signal, and the red line below the green line reinforces a bearish signal. Other interpretations use crossovers between the red and green lines as market timing signals if the resulting direction of both lines is the same. Going up is bullish, going down is bearish.

## MACD HISTOGRAM

This is not the same as the Histogram generated by the MACD Oscillator when the third parameter is set to zero. The MACD Histogram requires all three parameters, set the same way as the MACD study above. It only draws one line, which is presented as a histogram and is the difference between the MACD and its moving average. It is plotted around the zero point.

When the Histogram is above the zero line, conventional wisdom interprets this as a bullish signal, and conversely, when the histogram is below the zero line this is interpreted as a bearish market.

## MOMENTUM

Momentum is the difference between the current price and the price X-time periods ago. The difference can be displayed in either points or as a percentage. The difference in points is referred to as **Momentum** or **Price Change**. The difference as a percentage is referred to as **Percent Change**.

Momentum is defined as the current close or settlement price minus the settlement price of X-periods ago, where X is defined by the first argument. The positive or negative price difference is plotted around the zero line. The second plot is the Y-period moving average of the momentum, where Y is defined by the second argument.

Momentum displays the wave-like motion in an oscillator format, plotted around a zero line, by measuring the amount that prices have changed over a given time period. As prices increase, the momentum rises; as prices fall, the momentum falls. The greater the change in prices, the greater the change in momentum.





It is most commonly used as an overbought/oversold indicator. When the indicator moves from positive to negative, the market direction is changing.

## MONEY FLOW

The Money Flow Index (MFI) is a momentum indicator that measures the strength of money flowing in and out of a security. It is related to the Relative Strength Index, but where the RSI only incorporates prices, the Money Flow Index accounts for volume.

The common interpretation of the MFI is similar to the RSI in that readings above 80 imply market tops while readings below 20 imply market bottoms. MFI can also be used to imply reversals, when prices trend higher and the MFI trends lower (or vice versa), a reversal may be imminent.

The Money Flow Index is calculated as follows.

- *Typical Price = (High + Low + Close)/3*
- *Money Flow = Typical Price \* Volume*
- *Money Ratio = (Positive Money Flow)/(Negative Money Flow)* Positive Money Flow is the sum of the Positive Money over the specified number of periods. (If today's Typical Price is greater than yesterday's Typical Price, it is considered Positive Money Flow.) Negative Money Flow is the sum of the Negative Money over the specified number of periods. (If today's price is less than yesterday's Typical Price, it is considered Negative Money Flow.)
- *Money Flow Index (MFI) = 100 - (100 / (1 + Money Ratio))*

## MOVING AVERAGES

A moving average is the average price of a security over the previous Nth-day's closes. For example, a "simple" 9 day moving average is the average of the closing prices for the past 9 days. In calculating the moving average each day, the earliest day is dropped and the latest day is added to the number being averaged.

The moving average is used to observe price changes. The effect of the moving average is to slow down the price movement so that the longer term trend becomes smoother (or less volatile) and therefore more obvious. When the price rises above the moving average, it indicates that investors are becoming bullish on the security. When the price falls below, it indicates a bearish trend.





The longer the period of the moving average, the smoother the price movement is. A 200-day moving average is commonly used to isolate long-term trends.

There are many variations of the moving average available, such as the moving average of the high prices and the low prices represented in a channel called the **Moving Average High/Low channel**. There is also the **Moving Average Percent Channel**. The first argument (X) is the x-day moving average of the closing price and the second argument (Y) is used as  $(Y/10,000 * \text{Price})$  plotted as a channel around over and under the result of the x-day moving average.

The **EXPONENTIAL MOVING AVERAGE** assigns a weight to the price data as the average is calculated. The more recent the price the heavier the weighting. The oldest price data in the exponential moving average is never removed from the calculation, but its weighting is decreased the further back it gets in the calculations.

As an example, the calculations for a 10 period exponential moving average are as follows.

- *First, go back to the beginning of trading or back 1 year or anything consistent. The longer the period, the more accurate the result.*
- *Add up the closing prices for the first 10 periods and divide by 10. This is the result for the 10th period (there are no results for periods 1 through 9).*
- *Then take 9/10 of the 10th period result plus 1/10 of the 11th period close. This is the 11th day result, etc, etc.*

The **OFFSET MOVING AVERAGE** is a simple moving average offset by moving the average “x” periods to the right, where “x” is the second argument. The first argument is used to calculate the simple moving average of the price, and the second argument determines the number of offsets to the right, hence shifting the moving average “x” periods to the right. The **EXPONENTIAL MOVING AVERAGE** is the same except it uses the exponential moving average in the calculation.

The **OFFSET MIDPOINT AVERAGE** is a simple moving average calculated from the average of the high and low for the period, offset by moving the average “x” periods to the right, where “x” is the second argument.

## PARABOLIC TIME/PRICE

The Parabolic Time/Price System, developed by Welles Wilder, is used to set trailing price stops and is sometimes referred to as the “SAR” (stop-and-reversal), Parabolic SAR is more popular for setting stops than for establishing direction or trend. Wilder recommended establishing the trend first, and then trading with Parabolic SAR in the direction of the trend. If the trend is up, buy when the indicator moves below the price. If the trend is down, sell when the indicator moves above the price.





The formula is quite complex and beyond the scope of this definition, but interpretation is relatively straightforward. The dotted lines below the price establish the trailing stop for a long position and the lines above establish the trailing stop for a short position. At the beginning of the move, the Parabolic SAR will provide a greater cushion between the price and the trailing stop. As the move gets underway, the distance between the price and the indicator will shrink, thus making for a tighter stop-loss as the price moves in a favorable direction.

If you are long (i.e., the price is above the SAR), the SAR will move up every day, regardless of the direction the price is moving. The amount the SAR moves up depends on the amount that prices move.

There are two variables: the step and the maximum step. The higher the step is set, the more sensitive the indicator will be to price changes. If the step is set too high, the indicator will fluctuate above and below the price too often, making interpretation difficult. The maximum step controls the adjustment of the SAR as the price moves. The lower the maximum step is set, the further the trailing stop will be from the price. Wilder recommends setting the step at .02 and the maximum step at .20.

## WILLIAMS PERCENT R

William's Percent R was developed by Larry Williams. It is another overbought/ oversold indicator that is expressed as a percentage, and ranges from 100% to zero, which is the reverse of the Relative Strength Index. For more information about Williams Percent R, please read the "Stochastics" section of this guide.

## PIVOT POINTS

The Pivot Point is defined as the average of the high, low and settlement price, and is plotted as the green line across the chart. The first support and resistance lines are used mainly in intraday trading in the pits. Because our service is used mainly by technical and position traders, we have elected to use the second level of support and resistance in our graphs. The blue line above the pivot point is the second resistance level and is defined as the pivot point plus the high price minus the low price. The red line below the pivot point is the support level and is defined as the pivot point minus the high price plus the low price.

Pivot points are used primarily as support and resistance levels with the pivot point the best support resistance level. Here is the formula used in pivot points (this is for each bar, regardless as to if it is a day, 10 min., 30 min., etc.):

- *the Pivot Point is the average of high, low or close*
- *support level 1 is  $Pivot Point \times 2 - High$*





- *support level 2 is Pivot Point - High + Low*
- *resistance level 1 is Pivot Point x 2 - Low*
- *resistance level 2 is Pivot Point + High - Low*

## POINT AND FIGURE

Point and Figure is a method of analyzing price movements on a time independent basis.

First select a box size (for stocks, a box is an integer value representing 1/8ths of \$1). Each box (an "X" or an "O") then contains multiple prices depending on the box size. As an example, with a box size of 4 and a stock trading around \$50, each box would represent 50 cents, with possible values of \$48, \$48.50, \$49, \$49.50, \$50, \$50.50, \$51, \$51.50, \$52 etc.

Then select a reversal size (also in 1/8ths of \$1). This is usually 3 - 10 times greater than the box size. As an example, a reversal size of 16 represents a \$2 reversal.

It may take more than one attempt to find a box size and reversal appropriate to the volatility of a particular stock and the time frame you are looking for. The larger the values, the fewer the columns, and the longer the time frame.

Up moves are shown as "X"s and down moves as "O"s. Starting from the earliest data, each price is assigned to a box, according to box size. When a second box is detected, the direction of the first column is determined, "X" for up and "O" for down.

The column will continue in the same direction until a reversal is detected. With a column of "X"s, this is a price drop of at least the reversal size from the highest point in the column. Conversely, with a column of "O"s, this is a price rise of at least the reversal size from the lowest point in the column.

When a reversal is detected, a new column forms to the right of the current column, with the opposite direction and letter. The new column always starts with a value of one box above or below the previous column high or low, even if there is no price encountered for that box at that time.

If the price range does not exceed the reversal size a new column will not be formed, even if there is some price movement in the opposite direction.



To determine the time frame of the chart, refer to the price box above the chart. It will show the date the column started, and the high and low for the column.

Point and Figure is one of the oldest forms of technical analysis, bringing you into the world of double tops, triple bottoms, head and shoulders, converging columns, and many more. There are many publications illustrating the meanings of the patterns that are formed, with colorful terminology second only to that found with Candlestick Charts.

*Custom Charts Parameters: box size, reversal size (in 1/8ths)*

## RELATIVE STRENGTH

The Relative Strength Index (RSI) is one of the most popular overbought/oversold (OB/OS) indicators. The RSI was developed in 1978 by Welles Wilder.

The name “Relative Strength Index” is slightly misleading, as the RSI does not compare the relative strength of two securities, but rather the internal strength of a single security. The RSI is basically an internal strength index and is adjusted on a daily basis by the amount by which the market rose or fell. A high RSI occurs when the market has been rallying sharply and a low RSI occurs when the market has been selling off sharply.

One characteristic of the RSI is that it moves slower when it reaches overbought or oversold conditions, and then snaps back very quickly when the market enters even a mild correction. This brings the RSI back to more neutral levels and indicates that the price trend may be able to resume.

When Wilder introduced the RSI, he recommended using a 14-day RSI. Since then, the 9-day and 25-day RSIs have also gained popularity. The fewer days used to calculate the RSI, the more volatile the indicator.

The RSI is a price-following oscillator that ranges between 0 and 100. A popular method of analyzing the RSI is to look for a divergence in which the security is making a new high, but the RSI is failing to surpass its previous high. This divergence is an indication of an impending reversal. When the RSI then turns down and falls below its most recent trough, it is said to have completed a “failure swing.” The failure swing is considered a confirmation of the impending reversal.





The formula for the RSI:

- *A= An average of upward price change*
- *B= An average of downward price change*
- *Relative Strength=100-100/(1+A/B)*

## STANDARD DEVIATION

Standard Deviation is a statistical measure, which is closely related to volatility. Standard Deviation is typically used as a component of other indicators, rather than as a stand-alone indicator. For example, Bollinger Bands are calculated by adding a security's Standard Deviation to a moving average.

High Standard Deviation values occur when the price is changing dramatically (high volatility). Similarly, low Standard Deviation values occur when price is relatively stable (low volatility). For example a stock whose price increases by 4% to 5% each day will have a lower standard deviation, than a stock whose price increases by 1% each day followed by a 3% increase.

Standard Deviation is derived by calculating an n-period simple moving average of the data item (i.e., the closing price or an indicator), summing the squares of the difference between the data item and its moving average over each of the preceding n-time periods, dividing this sum by n, and then calculating the square root of this result.

## STOCHASTICS

George Lane developed the Stochastics indicator in the early 1960's. The stochastics indicator is based on the observation that as the price of an instrument increases, the daily closes tend to be closer to the upper end of the recent price range. Conversely, as the price decreases, the daily closes tend to be closer to the lower end of the recent price range.

The stochastic values simply represent the position of the market on a percentile basis versus its range over the previous n-day sessions. The percentile scale begins with zero at the bottom of the n-day range and ends with 100 at the top of the range. The Stochastic Oscillator compares where a security's price closed relative to its price range over a given time period.

The Stochastic Oscillator is displayed as two lines. The main line is called "%K." The second line, called "%D," is a moving average of %K. The %K line is usually displayed as the primary red line and the %D line is usually displayed as the secondary green line.





There are three primary stochastic values:

1. *Raw stochastic* -the most basic value representing the stochastic value for each period. Also known as raw K.
2. *%k* -the first smoothing of the raw stochastic, usually with a 3-period exponential moving average.
3. *%d* -the smoothing of the %k value, usually with another 3-period exponential moving average. Also known as slow K.

There are two parameters for stochastics:

1. *the n-day range over which the Raw K percentile is calculated*
2. *the y-day exponential smoothing factor for %K and %D*

“Fast Stochastics” refers to comparing Raw K and %K, while “Slow Stochastics” refers to comparing the slower %K and %D values. However, it should be noted that there are a wide variety of different names for the stochastic values.

Note: **WILLIAMS PERCENT R** is simply the inverse of Raw K. **WILLIAMS PERCENT R** uses an upside down scale with zero at the top and 100 at the bottom.

The calculations and interpretations for **MODIFIED STOCHASTICS** are the same as those used on the regular Stochastic Indicator, except in the definition of the n-period price range, the modified stochastic defines the range by the highest close and the lowest close in the number of periods specified.

There are several ways to interpret a Stochastic Oscillator. Popular methods include:

1. *Buy when the Oscillator (either %K or %D) falls below a specific level (e.g., 20) and then rises above that level. Sell when the Oscillator rises above a specific level (e.g., 80) and then falls below that level.*
2. *Buy when the %K line rises above the %D line and sell when the %K line falls below the %D line.*

Look for divergences. For example, where prices are making a series of new highs and the Stochastic Oscillator is failing to surpass its previous highs.





The Stochastic Oscillator always ranges between 0% and 100%. A reading of 0% shows that the security's close was the lowest price that the security has traded during the preceding n-day periods. A reading of 100% shows that the security's close was the highest price that the security has traded during the preceding n-day periods.

To calculate the stochastics:

*Assuming parameters of 14,3 find the 14-period high, the 14-period low and the latest price.*

*The raw stochastic is calculated as (latest - 14-period low) / (14-period high - 14-period low) multiplied by 100. Therefore if the 14-period high was 200, the 14-period low was 100, and latest price is 150  $(150-100)/(200-100)*100 = 50\%$*

*On the third period of data, the %k is the average of the raw values. After the 3rd period %k is the 3-period exponentially smoothed raw values  $(2/3 \text{ old } \%k + 1/3 \text{ new raw stochastic})$ .*

*After 3 periods of %k, the %d is calculated as a 3-period exponentially smoothed version of %k.*

## TREND LINES

One of the basic tenets put forth by Charles Dow in the Dow Theory is that security prices do trend. Trends are often measured and identified by "trendlines." A trendline is a sloping line that is drawn between two or more prominent points on a chart. Rising trends are defined by a trendline that is drawn between two or more troughs (low points) to identify price support. Falling trends are defined by trendlines that are drawn between two or more peaks (high points) to identify price resistance.

A principle of technical analysis is that once a trend has been formed (two or more peaks/troughs have touched the trendline and reversed direction) it will remain intact until broken.

One benefit of trendlines is they help distinguish emotional decisions from analytical decisions. Another benefit of trendlines is that they almost always keep you on the "right" side of the market. When using trendlines, it's difficult to hold a security for very long when prices are falling just as it's hard to be short when prices are rising--either way the trendline will be broken.





## TREND SPOTTER

Trend Spotter is a computerized trend analysis system, developed over several years, on the internet. The system uses a combination of wave theory, market momentum and volatility. Thus attempting to find a general trend for a specific market. Trend Spotter attempts to cut losers early and let winners run.

As Trend Spotter is a proprietary trading system we do not give out the formula used to calculate the trends, however a complete listing of all trends on a given market can be found in the Performance Analysis section of the subscription site.

A graphical interpretation can be viewed using the Custom Charts. When there is a single dot above the price, this is a resistance point and represents a bearish trend. When there is a single dot below the price, this is a support point and represents a bullish trend. When there are 2 dots, one above and one below the price this represents a neutral or hold trend. When a trend exits either a bullish or bearish trend, the trend is forced as a neutral trend for at least one day.

## VOLUME

Volume is the number of shares (or contracts) traded during a specified time frame, for example daily volume is the number of shares traded each day. Volume is a basic yet very important element of technical analysis and can provide clues as to the intensity of a given price move.

Low volume levels are characteristic of the indecisive expectations that typically occur during consolidation periods (i.e., periods where prices move sideways in a trading range). Low volume also often occurs during the indecisive period during market bottoms.

High volume levels are characteristic of market tops when there is a strong consensus that prices will move higher. High volume levels are also very common at the beginning of new trends (i.e., when prices break out of a trading range). Just before market bottoms, volume will often increase due to panic-driven selling. In the absence of news high volume is usually indicative of institutional buying and selling.

Volume can help determine the health of an existing trend. A healthy up-trend should have higher volume on the upward legs of the trend, and lower volume on the downward (corrective) legs. A healthy downtrend usually has higher volume on the downward legs of the trend and lower volume on the upward (corrective) legs.



