Up/Down Volume Oscillator (Up/Down Osc)

Note
The Up/Down Volume Oscillator can be displayed only on charts of market type tickers.

The Up/Down Volume Oscillator measures the momentum of volume. It is computed as the difference between two moving averages, a short and a long-term average, each being a moving average of the net difference between up volume and down volume. It is an oscillator of the strength or weakness of market volume.

When the Up/Down Volume Oscillator is greater than zero, or when it moves from negative to positive, it is showing that net volume is up and that the strength of short-term volume exceeds long-term volume. This indicates increasing strength and supports a market rally. When it drops below zero, it is showing increasing down volume and is supporting a market decline.

The Up/Down Volume Oscillator is used in the AIQ market timing system knowledge base. For this purpose, the primary concern is whether the indicator is in positive or negative territory.

Up/Down Volume Oscillator, AIQ Market Timing Chart

The AIQ Market Timing Chart demonstrates the use of the Up/Down Volume Oscillator. On this chart, you can see that the DJIA reached a low in November, 1994 and tested this low in early December. During that time, the Up/Down Volume Oscillator is negative but increasing, indicating that up volume is increasing. When the oscillator turns positive, it marks the start of the December rally. As the market rallied, up volume outweighed down volume and the oscillator remained positive for more than two months.

Value shown in Control Panel

The value shown is the value of the Up/Down Volume Oscillator for the date specified.

Changeable constants

The smoothing constants that are used to compute the exponential averages for the Up/Down Volume Oscillator are a function of the number of days that the average represents. These constants, expressed in terms of the number of days represented by the average, may be changed. Default values and permissible ranges are as follows:

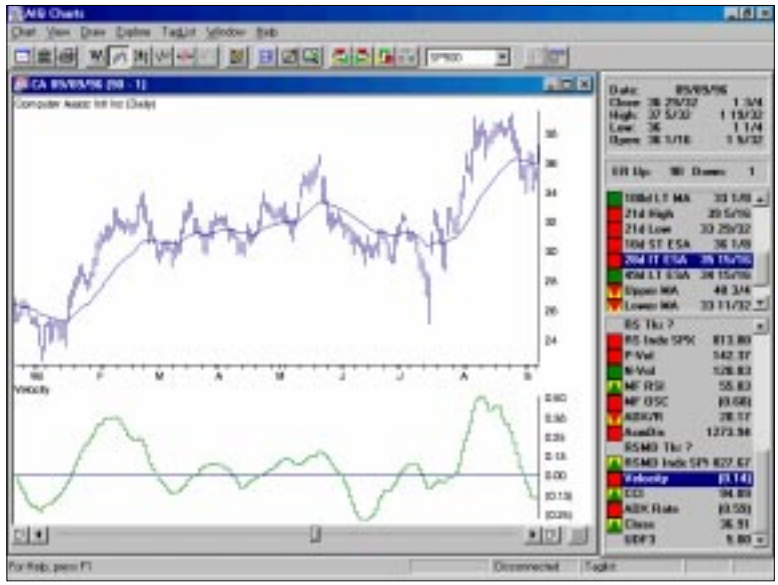
	Default	Range
Short Term ESA	19	1-98
Long Term ESA	99	2-99

Reminder...
In this documentation, the chart of the DJIA with NYSE Volume and Breadth is referred to as the AIQ Market Timing Chart. The Price Plot is of the Dow Jones Industrial Average. The Expert Rating and technical indicator values are derived from both DJIA and NYSE breadth and volume figures.

Velocity

Velocity is a momentum indicator which measures the rate of change of price using least squares methodology. The indicator is calculated as the slope of the line that most closely approximates the data over the period of time specified.

Velocity is similar to the Price Phase indicator and is used in the same way to determine short-term changes in price momentum. Velocity cycles above and below the zero line as momentum shifts back and forth between negative and positive. When the indicator is above the zero line and rising, momentum is positive and is increasing. The opposite is true when the indicator is below zero and is falling.



Velocity, Computer Associates

In the example chart, Velocity clearly defines several shifts in momentum. Two periods of strong upward movement are evident in January and again during late July-early August. It is also evident that price momentum reversed around the end of May and continued strong to the downside through early June.

Changeable constants

The only constant involved in the calculation of Velocity is the time period over which the slope is calculated. The default value is 21 days and the permissible range is 1 to 100 days.

Volatility indicator

Note
The Volatility indicator is not available for real-time charts.

The Volatility indicator is a measure of the fluctuation in price over a specified period of time. The indicator is expressed as the annual percentage change in price which provides a relative basis for examining volatility. This volatility indicator is similar to the volatility used in the Black-Scholes pricing model. The higher the number, the more volatile is the security or the market.

Volatility readings help give an indication as to when the security will stage an advance or decline. An increase in volatility, especially after a period of low volatility readings, typically precedes a large move in the security. The direction of the security's movement is usually opposite its current trend. Prolonged high volatility readings often signal a consolidation period.

Volatility indicator, Insurance industry group

A chart of the Insurance industry group is shown in the figure. The group experienced a period of very low volatility in September 1994. When volatility increased at the end of September and into October, the sideways movement ended and the Insurance group began a strong downward move.

Value shown in Control Panel

The value shown is the value of the Volatility indicator for the date specified.

Changeable constants for Volatility indicator

The constant used to compute the moving average of volatility may be changed. The default value for this constant is 21 periods and the permissible range is 2 to 100 periods.

Volume

Clearly, volume is the force that drives the market. It is volume that indicates the meeting of supply and demand at a specific transfer price. Volume and the change in volume — the increase or decrease over time — is often a precursor to price movement. The analysis of volume is the basis for many of the rules within the AIQ knowledge base that determine the Expert Ratings.

On the Volume indicator chart, daily volume is shown by the vertical bars. The line running through represents an exponentially smoothed average of volume.

Volume is displayed in the data column of the Control Panel in hundreds of shares. What is important is the history of volume for the stock during the period of time shown on the chart.

Volume, Microdyne Corp.

It is said that volume precedes price. Look for spikes in volume (high volumes) and where the spikes are relative to the price of the stock. High volume when the stock is near a lower Trading Band indicates a possible move upward. High volume when the stock is near an upper Trading Band indicates a possible drop.

On the displayed chart, the Microdyne Corp. (MCDY) stock broke out from a consolidation pattern in October 1994. As you can see on the chart, volume began to increase before the breakout and continued to increase as the stock moved up. Each volume spike, indicating accumulation, was accompanied by a sharp increase of the stock price.

Value shown in Control Panel

The value shown is the Volume (in hundreds) for the date specified.

Changeable constants

The smoothing constant used to compute the exponential average of volume may be changed. The default value for this constant is 21 periods and the permissible range is 1 to 200 periods.

Volume Accumulation Percentage (VA Pct)

The Volume Accumulation Percentage indicator was first developed by Marc Chaikin *(Reference No. 9)*, based on earlier work by Larry Williams *(Reference No. 50)*. This indicator is a measure of buying pressure as opposed to selling pressure.

Volume Accumulation Percentage is a percentage of total volume resulting from buying, or accumulation, averaged over a specific time period. Accumulation pressure is determined by the relationship of the day's closing price to the intraday high (the highest price during the day) and the intraday low (the lowest price during the day). In the case of weekly charts, the week's close and intraweek high and low are used.

For example, an accumulation factor or weight assigned to accumulation pressure can have a value between plus or minus one. Plus one means accumulation. Minus one means distribution. Zero means they are in balance.

This weight is determined by the closing price in relationship to the intraday high and intraday low. If the closing price is midway between the high and the low, then accumulation and distribution pressures are balanced, and the factor is zero. If the closing price is equal to the day's highest price, then the accumulation factor is 1.0. If the day's closing price is equal to the intraday low, then the accumulation factor is -1.0, which indicates distribution.

To determine Volume Accumulation Percentage (for example, a 21-day Volume Accumulation Percentage), the volume multiplied by this accumulation factor and totaled for 21 days is then taken as a percentage of total volume for the same 21 days.

A buy signal is produced when the Volume Accumulation Percentage turns positive, and a sell signal when it turns negative.

When charting this indicator, look for divergences and nonconformations between Volume Accumulation Percentage and price action. Divergences occur when the trend of price action and the trend of the indicator are in opposite directions. A nonconformation occurs when price action achieves a new high or new low that is not matched by an equivalent high or low by the indicator.

Volume Accumulation Percentage, Champion Int'l

A divergence can be seen on the chart of Champion Int'l (CHA) in November 1994. Prices are decreasing but Volume Accumulation is trending higher. This divergence indicates that although prices are decreasing, smart money is buying. An outright buy signal is given by the indicator when it turns positive in early December.

Value shown in Control Panel

The value shown is the value for Volume Accumulation Percentage for the date specified.

Changeable constants

The time period used to compute the average may be changed. The default value is 21 days and permissible range is 1 to 60 days.

Volume Oscillator (Vol Osc)

An oscillator is the difference, in percentage terms, between two different exponentially smoothed averages. The Volume Oscillator here is a percentage difference between short-term volume and long-term volume. As volume tends to precede price, TradingExpert Pro provides this indicator to show the relationship between short-term volume and long-term volume.

The center line on the Volume Oscillator chart is zero. A positive value for the indicator indicates short-term volume greater than long-term volume. A negative value indicates the reverse.

What you should look for when evaluating the Volume Oscillator are nonconformations with price activity. A nonconformation can be seen on the chart for Champion Int'l (CHA). Although the stock is flirting with new highs in October 1994, the Volume Oscillator has turned negative. This nonconformation shows that short-term volume is insufficient to support the higher prices. Soon after, the price moved sharply lower.

Volume Oscillator, Champion Int'l

Value shown in Control Panel

The value shown is the value for the Volume Oscillator for the date specified.

Changeable constants

The smoothing constants that are used to compute the exponential averages are a function of the number of days that the average represents. These constants, expressed in terms of the number of days represented by the average, may be changed. Default values and permissible ranges are as follows:

	Default	Range
Long-Term ESA	25	2-99
Short-Term ESA	10	1-98

Volume/Price Trend (VP Trend)

The Volume/Price Trend indicator, like the Trading Channel Index, is a short-term indicator best used for signal confirmation. The value of this indicator is that both price and volume are combined into a single indicator.

Volume/Price Trend is computed as an exponentially smoothed average of the ratio of percentage price change and the percentage of volume above and below average volume.

This indicator is very sensitive to changes in price action. Periods of average volume will precede periods of higher volume when price action is already taking place. The Volume/Price Trend indicator attempts to anticipate price action by measuring price changes during periods of average, or normal, volume.

Because the Volume/Price Trend indicator gives short-term, quick confirmations of Expert Rating signals, it is best used when trading equity options.

Look for divergences and nonconformations with price action. Divergences occur when the trend of price action and the trend of the indicator are in opposite directions. A nonconformation occurs when price action achieves a new high or new low that is not matched by an equivalent high or low by the indicator.

Volume/Price Trend, Alza Corp.

The main thing to look for when using the VP Trend indicator, however, is movement of the indicator in the direction of the AIQ Expert Rating. Displayed is a chart of Alza Corp. (AZA) for the analysis date of 01/03/95. On this date, an Expert Rating of 97 up was generated by AIQ. For the prior month, the VP Trend held steady while the stock price declined. This combined with the fact that the indicator was increasing on the day of the signal constitutes a confirmation of the up signal by the VP Trend.

Value shown in Control Panel

The value shown is the value for the Volume/Price Trend indicator for the date specified.

Changeable constants

The time period used to compute the exponentially smoothed average of the ratio is a changeable constant. The default value is 21 days and the permissible range is 1 to 100 days.

Charting tools

Two special charting methods are available in TradingExpert for Windows: Candlestick charts and Point and Figure charts.

Note
In the explanations that follow, the terms day and period are used interchangeably to refer to time periods. For weekly data, the terms day and period should be replaced by week.

Candlesticks

To access Candlesticks, click the Candlestick button on the toolbar. The Price Plot will be converted to a Candlestick chart.

Candlestick toolbar button

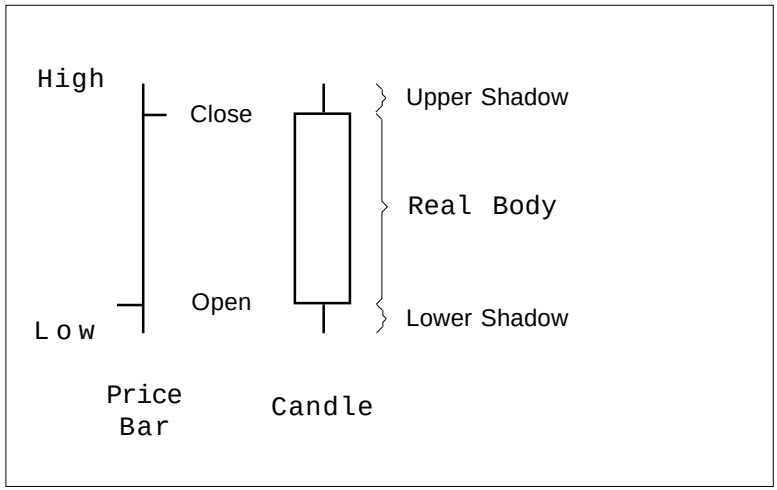
Candlestick charting is an alternative way of charting price action. Candlestick methodology has long been popular in Japan, where it was developed around 1750 at the beginning of the Rice Market. Candlestick Charting became popular in the West largely due to two books: the translation into English of Seiki Shimizu's *The Japanese Chart of Charts,* and the more recent book *Japanese Candlestick Charting Techniques* by Steve Nison, Merrill Lynch, New York.

Although Candlestick charting is used primarily for short-term commodity trading, it does have its uses in equities. AIQ recommends using it as additional information for signal confirmation. In the AIQ system, Candlesticks are not used as a primary decision tool, nor are they used as part of the knowledge base. Candlesticks are included to give a better understanding of price action.

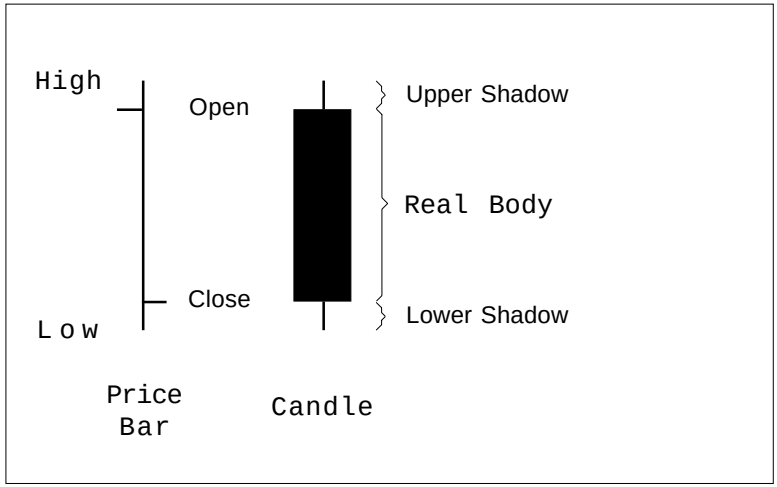
The information used in the Candlestick Chart is identical to the information used in a standard price bar — that is, open, high, low, and close prices. The illustrations show the difference between the Western bar and the Japanese candle. Another dimension has been added, the dimension of "color," to easily show the change between opening price and closing price.

That "color" difference is shown as a bar, which is called the Real Body. The difference between the high for the period (day or week) and the Real Body is called the Upper Shadow, and the difference between the Real Body and the low for the period is called the Lower Shadow. If it is an up period, then the body is an outlined open bar. If it is a down period, then the body is a solid bar.

In the illustration for an Up Day Bar and Candle, the close is higher than the open and therefore the Real Body is an outlined bar. In the illustration for a Down Day Bar and Candle, prices drop from the open and close lower, in which case the Real Body is a solid bar.



Up Day Bar and Candle

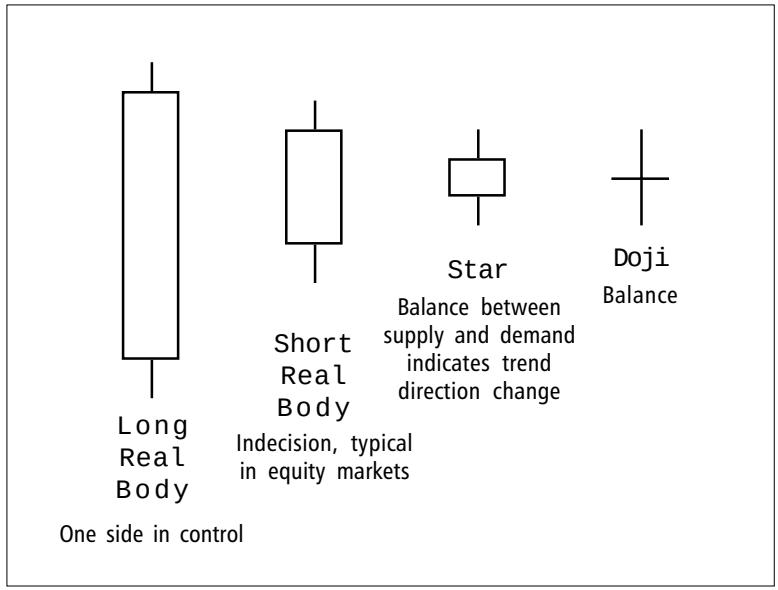


Down Day Bar and Candle

It is the "color" of the Real Body that provides the additional dimension that proves to be the real value of Candlestick Charting. The two-dimensional price plot becomes, in a sense, a three dimensional plot, and price action is easy to discern. The Real Body reflects price movement for each period, and when a number of periods are combined, price action for the total period is easily seen.

The shadows reflect the extremes in price movements for the period. This is the influence of emotion on prices, reflecting the bidding process — the supply and demand interaction — during the period. But the Japanese Candlestick charting technique is primarily based on the relationship and "color" of the Real Body from one period to the next.

Candlestick types



The various Candlesticks that will be seen on a Candlestick Chart

Long Real Body

The Long Real Body occurs when one side of the market is in control. If the demand side is controlling and prices are increasing, then the Long Real Body will be an outlined bar. If the supply side is in control and prices are dropping, then the Long Real Body will be solid.

Short Real Body

This type of Candlestick will typically be seen in the trading of equities. It reflects less control and more indecision as to which way the market is going to move — trading is limited to a narrow range and, consequently, the Real Body is short.

Star

The Star is a very small Real Body with a gap in the direction of a trend reversal. This Candlestick, which reflects balance between supply and demand, will typically appear at the end of a clearly discernible trend. When it follows several trending days (long and short bodies of same color), it often indicates that the forces of supply and demand have come into balance.

Doji

The Doji occurs when price is unchanged for a particular day or week (opening and closing prices are exactly the same). It shows perfect balance between the forces of supply and demand. You also will see this Candlestick frequently on the charts of lightly traded equities.

Explanation of the Candlestick Chart

Displayed is a Candlestick Chart from TradingExpert for International Flavors & Fragrances (IFF). The chart shows an example of a Doji followed by an uptrend. The Doji occurred on 01/09/95, the date indicated by the small black cursor on the Candlestick Chart. Prior to the Doji are several days of consolidation (Candlesticks with Short Real Bodies indicating indecision and consolidation) followed by downward price movement. The appearance of the Doji signifies a balance between supply and demand and the downtrend in prices is over.

Doji followed by a Long Real Body, International Flavors & Fragrances

Note
If you are using the TradingExpert default colors, the solid bodies, which denote downward price moves, are solid red. The outlined bodies, which denote upward price moves, are red outlined bars.

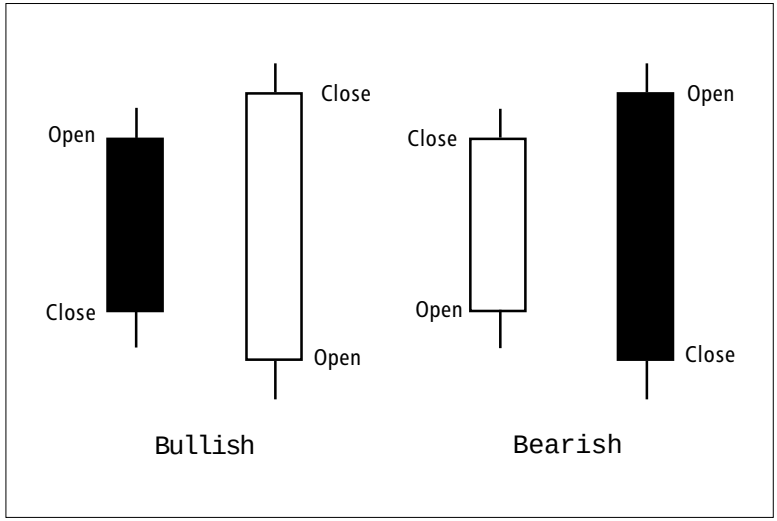
The Doji day is followed by a Long Real Body to the upside — which means that the demand side has taken over. Comparing the Candlestick Chart with the price chart for the same period of time, it is easy to see how the addition of "color" adds more information.

Candlestick signals may also be used for confirmation of Expert Rating signals. The chart for British Petroleum (BP) is an example of a Doji confirmation. On 12/09/94, an up signal was issued by TradingExpert for British Petroleum but, looking at the Candlestick Chart, the signal comes during a period of downward drifting prices. The Real Bodies for the period to the left of the black cursor are mostly solid, signifying a period of declining prices.

On the day that TradingExpert generated an up signal for the BP stock, a Doji appeared. This Doji says that this Expert Rating is valid — supply and demand are balanced and the stock is ready to move higher. Following the Doji, prices started back up.

Doji confirmation of an up signal, British Petroleum

The real value of Candlestick Charting is in multi-period patterns. Two of these patterns, the Bullish and Bearish Engulfing patterns, are discussed next.



Engulfing Patterns

Bullish Engulfing Pattern

The Bullish Engulfing Pattern marks the end of a discernible downtrend. This pattern consists of a solid Real Body followed by an outlined Real Body that engulfs the prior day's solid.

The term engulf means that the second day's close is higher than the previous day's open and the second day's open is lower than the previous day's close. In other words, the second day's Real Body must not only be larger than the prior day's Real Body but it must begin below and end above the prior day's Real Body and, hence, engulf the prior day's open and close. The longer the body of the second day (engulfing Candlestick), the more significant the pattern.

Bearish Engulfing Pattern

The illustration shows that the Bearish Engulfing Pattern is exactly the opposite of the Bullish Engulfing Pattern. In the Bearish Engulfing Pattern, a solid Real Body follows an outlined Real Body and the solid Real Body engulfs the prior day. When this pattern occurs during a clearly discernible uptrend, it marks the end of that trend. In chart analysis from the commodity world, these engulfing days are called outside days and are interpreted in the same manner.

Bullish Engulfing Pattern, Seagate Technology

The Seagate Technology (SGAT) chart is an example of a Bullish Engulfing Pattern. On 07/15/93 (designated by the black cursor), an outlined (up) Candlestick totally engulfs the prior day's Real Body. The Bullish Engulfing pattern was coupled with heavy volume, increasing confidence in the subsequent uptrend of the stock.

Bearish Engulfing Pattern, XTRA Corp.

The XTRA Corp. (XTR) chart is an example of a Bearish Engulfing Pattern. The stock has been in a prolonged uptrend. On 05/07/93 (designated by arrow), a strong solid Real Body totally engulfs the prior day's outlined Real Body. This is a typical example of a bearish pattern at the end of an uptrend. The Bearish Engulfing Pattern occurred on heavy volume, increasing confidence that the uptrend was ending and a move to the downside beginning.

These are but a few examples of the use of Candlestick Charts. You can also refer to the two books mentioned at the beginning of this section. When studying these books to learn to use Candlesticks in conjunction with AIQ Expert Ratings and the AIQ indicator charts, you should concentrate on the sections which discuss trend reversal signals.