

DealBookFX™

Charting Options and Features

GFT chartings services in side of DealbookFX are divided up into two different packages, DealbookFX Basic Charting, and DealbookFX Advanced charting. The two are defined as:

DealbookFX Basic Charting-

- Moving Average Single Line
- Dual Moving Averages
- Three Moving Averages
- Moving Average Exponential
- Moving Average Triangular
- Moving Average Weighted
- MACD
- Bollinger Bands
- RSI
- Momentum
- %R
- CCI
- DMI
- Average True Range
- Rate of Change
- Stochastic
- Parabolic
- Kijun Sen

DealbookFX Advanced Charting-

- All of the above
- Dinapoli indicators
- Keltner Channel
- Linear Regression
- Starc Bands
- Indicator 75
- FX Trend
- Fibonacci Arc Tool
- Fibonacci Fan Tool
- Fibonacci Retracement Tool
- Gann Fan Tool
- Value Calculator Tool
- Parallel Tool
- Up & Down Arrows

The Basic service is free of charge. The Advanced service will retail for \$100.

Each package has something to offer, the free package that we offer to clients is by far the most inclusive of any "free" service inside of a dealing system offered by any FX dealer. The advanced service offers GFT client exclusive access to proprietary indicators from Joe Dinapoli, and GFT. The advanced charting service also offers GFT clients access to drawing tools like Fibonacci Retracements, Gann Fans, VCT tool, Parallel line tool, and other drawing items.

Here is a basic description of the indicators in our charting service.

Average True Range

Indicator Value

The Average True Range is a moving average of the True Range, which is the difference between the True Range High and the True Range Low.

The current True Range High is the current high or the previous close, whichever is greater. The current True Range Low is the current low or the previous close, whichever is lower. These values take into account price changes during off-hours trading.

The Average True Range at the beginning of the data series is not defined until there are enough values to fill the given period.

Usage

The Average True Range measures the volatility of a market. High values indicate that prices are changing a large amount during the day. Low values indicate that prices are staying relatively constant. Both trending and level prices can have high or low volatility.

High volatility levels can sometimes be used to time trend reversals, such as market tops and bottoms. Low volatility levels can sometimes be used to time the beginning of new upward price trends following periods of consolidation.

Bollinger Band

Indicator Value

Bollinger Bands are a pair of values placed as an "envelope" around a data field. You calculate the values by taking the moving average of the data for the given period and adding or subtracting the specified number of standard deviations for the same period from the moving average.

Bollinger Bands use a moving average, therefore the value at the beginning of a data series is not defined until there are enough values to fill the given period.

Usage

Bollinger Bands are useful for determining whether current values of a data field are behaving normally or breaking out in a new direction. For example, when the closing price of a market increases above its upper Bollinger Band,

it will typically increase in that direction.

Bollinger Bands can also be used for identifying when trend reversals may occur. A reversal is typically indicated by new highs or lows outside of the bands followed by another high/low inside of the bands.

Since the standard deviation can be used as a volatility indicator, the current width of the envelope can also be used for trend information. A narrow envelope indicates a lower amount of volatility, while a wide envelope indicates a higher amount. High volatility levels can sometimes be used to time trend reversals, such as market tops and bottoms and low volatility levels are sometimes used to time the beginning of new upward price trends following periods of consolidation.

A useful forecasting tool shows that moves that begin at one band tend to go all the way to the other band.

Bollinger Bands are similar to Trading Bands and share many of their characteristics except trading bands do not vary in width based on volatility.

Commodity Channel Index [CCI]

Indicator Value

The Commodity Channel Index (CCI) determines how far the current price has been from the recent average. High values indicate multiple days with higher than average prices, while low values indicate multiple days with lower than average prices, and the Commodity Channel Index is not defined until there are enough values to fill the given period.

Usage

The Commodity Channel Index (CCI) can be used as an overbought/oversold indicator or for detecting divergences from the price trend.

When watching the CCI in relation to the current price, it is useful to watch for new highs and lows. If the price of the market is reaching new highs and the CCI is not reaching new highs, a price correction may be upcoming.

The CCI typically ranges in value from -100 to +100. Values above this range indicate that the market may be becoming overbought, values below this range indicate it may be becoming oversold. As with other overbought/oversold indicators, this can often mean that the price will correct to more typical levels.

Keltner Channel

The Keltner Channel is based on the Average True Range and is sensitive to volatility. It may be used in place of standard deviation (Bollinger) bands or percentage envelopes.

Overview

The Keltner Channel is made up of two bands plotted around an Exponential Moving Average (EMA), usually the 20-day EMA.

Prices breaking through the bands often produce buy and sell signals.

Interpretation

As with all envelope or band systems, the probability is that price will remain within the envelope, and that if the price breaks through the envelope, it can be taken as a signal to sell or buy.

When prices close above the top band, this often means a breakout in upward volatility to be followed by higher prices. When prices close below the bottom band, prices are expected to move lower.

In a rising market the middle line, or 20 period EMA, should provide support. Conversely, in a falling market it tends to provide resistance.

As with all trend following systems, the Keltner Channel works well in up trends or down trends, but doesn't work well in a sideways channel. It is not meant to catch tops or bottoms.

Keltner channels should be used in combination with other indicators, such as RSI or MACD, to provide confirmation of the strength of a market. An exit strategy utilizing trendlines and other indicators can be particularly important. Waiting for the price to close below the lower band often erodes much of the potential profits from a good move.

The calculation for Keltner Channel, based on ATR, is as follows:

For the top or Plus Band, the ATR is calculated over 10 periods, doubled and added to a 20 period exponential moving average

For the bottom or Minus Band, the ATR is calculated over 10 periods, doubled and subtracted from a 20 period exponential moving average

Signals

When prices close above the plus band, it is a signal of strength and rising prices

When prices close below the negative band, a signal that prices will drop is indicated

Signals stay in effect until the prices close across the opposite band.

Linear Regression Indicator

Function Value

The linear regression indicator is calculated by fitting a linear regression line over the values for the given period, and then determining the current value for that line. A linear regression line is a straight line which is as close to all of the given values as possible.

The linear regression indicator at the beginning of a data series is not defined until there are enough values to fill the given period.

This function is the same as the Time Series Moving Average. It is also the same as the Time Series Forecast with an offset of zero.

MACD

Function Value

The MACD (Moving Average Convergence/Divergence) is calculated by subtracting the value of a 26-day exponential moving average from the value of a 12-day exponential moving average.

The value of the MACD at the beginning of a data series is considered to be zero. Because the MACD uses exponential moving averages, its initial values will include the zero value in its calculation. Therefore, you may want to ignore values before the 26th value, when the effect on the longer moving average is no longer significant.

Usage

The MACD is a specific instance of a Value Oscillator and is typically used on the closing price of a market to detect price trends. When the MACD is increasing, prices are trending higher, and prices are trending lower when the MACD is decreasing.

The MACD is traditionally traded against a 9-day exponential average of its value, called its signal line. The MACD Signal Line function is provided to generate this value. When the MACD increases above its signal line, a buy signal is generated. When the MACD decreases below its signal line, a sell signal is generated.

Momentum

Function Value

The Momentum Indicator is calculated by dividing the current value of the data by its value a given number of bars ago. It is traditionally multiplied by 100 for easier graphing.

The Momentum Indicator at the beginning of a data series is not defined until there are enough values to fill the given period.

Close Mom(Close,2)

2
3
4 200 <--- The momentum is $(4/2)*100$.
6 200 <--- The momentum is unchanged $(6/3)*100$.
6 150 <--- The momentum decreases $(6/4)*100$.

Usage

The Momentum Indicator is useful for determining trends in the data. When the momentum reverses direction, the trend is typically changing direction, and you can smooth out daily changes with a moving average.

The Momentum Indicator has also been used as a leading indicator of market sentiment. Abnormally high or low values have been observed to precede reversals. For example, a rapid increase in price (causing a high momentum) can be used to identify when the general market is jumping on a trend, which often occurs when the actual cause for the trend has passed. Prices often decrease following this rapid increase.

Relative Strength Index

Function Value

The Relative Strength Index is based on a ratio of the average upward changes to the average downward changes over a given period of time. It has a range of 0 to 100 with values typically remaining between 30 and 70. Lower values indicate oversold conditions while higher values would show overbought conditions.

The Relative Strength Index at the beginning of a data series is not defined until there are enough values to fill the given period. In addition, the value is defined as 100 when no downward changes occur during the given period.

Usage

The Relative Strength Index (RSI) is typically used with a 9, 14, or 25 calendar day (7, 10, or 20 trading day) period against the closing price of a market or commodity. The more days that are included in the calculation, the less volatile the value. The Relative Momentum Index (RMI) is an extension of the RSI which provides an additional smoothing parameter.

The RSI usually leads the price by forming peaks and valleys before the price data, especially around the values of 30 and 70. In addition, when the RSI diverges from the price, the price will eventually correct to the direction of the index.

Rate-of-Change

Function Value

The Rate-of-Change Indicator is technically the same as the Change in Value function or the Percent Change in Value function, depending on whether the As Percent parameter is selected. In either case, the function returns the amount by which the data has changed over the given period. The Percent Rate-of-Change value is traditionally multiplied by 100 for easier graphing.

The Rate-of-Change Indicator at the beginning of a data series is not defined until there are enough values to fill the given period.

Close ROC(Close,2,0)

3	
4	2
6	3
6	2
6	0

Usage

The Rate-of-Change (ROC) indicator can be used for analyzing both price data and volume data.

When analyzing price data, 12-day and 25-day ROCs can be useful short/intermediate term indicators. Longer term ROCs may also be useful for detecting long term trends. Shorter term ROCs, such as a 12-day ROC, can be used effectively as overbought/oversold indicators. The higher the value, the more overbought a market is. The lower the value, the more oversold. The market will eventually correct to rate-of-change closer to zero in both cases.

When analyzing volume data, spikes in the rate-of-change typically accompany breaking out of a trend. In other words, when a sharp increase in volume occurs, the top or bottom of a current trend may be about to be reached, or a current lull may be broken.

Stochastic Oscillator

Indicator Value

The Stochastic Oscillator is calculated by subtracting the lowest low price of a market over the given period from its closing price. This value is then divided by the difference between the highest high price and the lowest low price over the same period. Finally, the value is traditionally multiplied by 100 for ease of charting.

The resultant value is a percent rating for the closing price, relative to the trading range between its recent highest and lowest prices. A value of zero indicates it closed at its lowest recent low. A value of 100 indicates it closed at its highest recent high.

The value is often smoothed using a "slowing" period. A slowing period of 1 uses the raw calculation, while a slowing period of 3 averages the value for the last three days.

The value at the beginning of a data series is not defined until there are enough values to fill the %K Period. If a %K Slowing is used, additional data will be required to fill the slowing period.

The Stochastic Oscillator is very similar to the Williams' %R indicator, except that where the information in the Williams' %R relates the closing price to the highest high, the Stochastic Oscillator relates the closing price to the lowest low. Also, the Williams' %R does not contain any internal smoothing (slowing).

Usage

The Stochastic Oscillator (the %K line) is typically used to determine when price trends will reverse. It is often compared to a moving average of its value, known as the %D line. When it crosses above its moving average, an enter long signal could be generated. When it crosses below its moving average, an enter short signal could be generated.

Another way to use the %K line or the %D line is to establish thresholds and trade when the line crosses those thresholds. For example, an enter long signal could be generated when the %K line falls below 20 and an enter short signal could be generated when the %K line rises above 80.

In addition, divergences between the Stochastic Oscillator and the price can be examined. If prices are rising and making new highs, but the oscillator is not making new highs, a price correction may occur in the near future.

Moving Average

Function Value

The moving average is calculated by averaging together the previous values over the given period, including the current value.

The moving average at the beginning of a data series is not defined until there are enough values to fill the given period.

Close	MA(Close,3)	
2		
3		
4	3	<--- first time 3 values available, averages (2,3,4)
5	4	<--- averages (3,4,5)

Usage

Moving averages are useful for smoothing noisy raw data, such as daily prices. Price data can vary greatly from day-to-day, obscuring whether the price is going up or down over time. By looking at the moving average of the price, a more general picture of the underlying trends can be seen.

Since moving averages can be used to see trends, they can also be used to see whether data is bucking the trend. Entry/exit systems often compare data to a moving average to determine whether it is supporting a trend or starting a new one. See the sample entry/exit systems for an example of using a Moving Average in an entry/exit system.

Note: To see a quick moving average from the chart or spreadsheet views, modify the characteristics of a field being displayed and set the Smoothing value greater than 1.

Moving Average (Exponential Bars)

Function Value

An exponential moving average is calculated by combining a certain percentage of the current value with an inverse percentage of the previous value of the exponential moving average. For example, if 25% weight is being given to the current value, 25% of the current value is added to 75% of the previous moving average to get the current moving average.

The period is used to determine the relative weight which previous values should be given. The formula $2/(period+1)$ is used to determine the percentage. For example, a period of 7 would cause 25% ($2/(7+1)$) of the current value and 75% of the previous exponential moving average value to be used.

Note: All previous values are used to make up a current exponential moving average, even values from before the period. The period is used as a rough estimate of how long new values will remain significant in the calculation.

The value at the beginning of a data series is considered to be zero. Therefore, you may want to ignore values before the period has completed.

Usage

Moving averages are useful for smoothing noisy raw data, such as daily prices. Price data can vary greatly from day-to-day, obscuring whether the price is going up or down over time. By looking at the moving average of the price, a more general picture of the underlying trends can be seen.

Since moving averages can be used to see trends, they can also be used to see whether data is bucking the trend. Entry/exit systems often compare data to a moving average to determine whether it is supporting a trend or starting a new one.

Moving Average (Weighted)

Function Value

The weighted moving average is calculated by averaging together the previous values over the given period, including the current value. These values are weighted linearly, with the oldest value receiving a weight of 1, the next value receiving a weight of 2, and so on up to the current value, which receives a weight equal to the period.

The moving average at the beginning of a data series is not defined until there are enough values to fill the given period.

Note: For more exaggerated weighting on the current values, you may want to use an exponential moving average. You could also average two or more weighted moving averages together.

Usage

Moving averages are useful for smoothing noisy raw data, such as daily prices. Price data can vary greatly from day-to-day, obscuring whether the price is going up or down over time. By looking at the moving average of the price, a

more general picture of the underlying trends can be seen.

Since moving averages can be used to see trends, they can also be used to see whether data is bucking the trend. Entry/exit systems often compare data to a moving average to determine whether it is supporting a trend or starting a new one.

The Parabolic

Traders are always searching for methods with which to manage risk through the use of stop-loss orders. One method that has been proposed for determining stops is by using a mechanical formula based on the parabolic indicator, also known as the stop and reverse (SAR). How does it work?

The parabolic time/price system was introduced by J. Welles Wilder in *New Concepts in Technical Trading Systems*. The trading concept itself is an automatic reversal system, in which the system always has a position that is either long the market or short the market. For example, the first entry for a long position occurs when the recent extreme high is violated, at which point the trailing stop and reverse (SAR) order is placed at the recent extreme low price. Each day, the SAR order will advance higher in price, slow at first and then more each day. If you were to chart the SAR order price level, it would resemble a parabola (Figures 1 and 2). If the sell SAR order were to be executed, then the buy SAR would be placed at the most recent extreme high, and each day the buy SAR is lowered, again slow at first but increasingly lower each day until the market moves above the buy SAR. Then the system is back long, with the new SAR trailing from the most recent extreme low price.

This trading system has two points of appeal. First is the initial room that a trade is given between the entry price and the SAR order. Not all markets begin to trend immediately, but in time a trend may develop, and making an allowance for this possibility is promising. The SAR order has minor adjustments to make at first, but after a period of time the SAR begins to catch up with the market, automatically adjusting the distance between the SAR order and the current market.

If the trend were to reverse, the stop and reverse order would be hit, and with any luck lock in a profit and be positioned with the new trend. Unfortunately, the trading method requires a fairly strong trend because otherwise, the buy SAR orders would be executed near the top of the trading range and the sell SAR orders executed near the bottom of the trading range (Figure 3), resulting in trading losses. However, some traders use different entry rules, and the parabolic indicator is only used for confirmation of the trend and for selecting a stop-loss order late in the trade.

Triangular

Triangular moving averages place the majority of the weight on the middle portion of the price series. They are actually double-smoothed simple moving averages. The periods used in the simple moving averages varies depending on if you specify an odd or even number of time periods.

The following steps explain how to calculate a 12-period triangular moving

average.

Add 1 to the number of periods in the moving average (e.g., 12 plus 1 is 13).

Divide the sum from Step #1 by 2 (e.g., 13 divided by 2 is 6.5).

If the result of Step #2 contains a fractional portion, round the result up to the nearest integer (e.g., round 6.5 up to 7).

Using the value from Step #3 (i.e., 7), calculate a simple moving average of the closing prices (i.e., a 7-period simple moving average).

Again using the value from Step #3 (i.e., 7) calculate a simple moving average of the moving average calculated in Step #4 (i.e., a moving average of a moving average).

STARC Bands

For those of you that are familiar with Bollinger Bands in your list of great technical indicators, may I introduce another "like" overbought/oversold indicator that is making its presence known with elite traders. STARC Bands consist of two lines that show upper and lower areas of support to help the trader identify significant price levels. The channels are developed by using the "average true range" (ATR) from past periods as well as implementing a simple moving average (SMA) in its equation to finding high probable trades. Like other indicators that allow the trader to customize their methods, so do STARC Bands. The recommended settings suggest the trader uses 15 periods for the ATR along with a 6 period close for the SMA.

Upper STARC: $SMA + (ATR \times 2^*)$

Lower STARC: $SMA - (ATR \times 2^*)$

(*In extreme volatility settings, you may want to use a factor of 3 instead of 2)

DETRENDED PRICE OSCILLATOR

Overview

The Detrended Price Oscillator ("DPO") attempts to eliminate the trend in prices. Detrended prices allow you to more easily identify cycles and overbought/oversold levels.

Interpretation

Long-term cycles are made up of a series of short-term cycles. Analyzing these shorter term components of the long-term cycles can be helpful in identifying major turning points in the longer term cycle. The DPO helps you remove these longer-term cycles from prices.

To calculate the DPO, you specify a time period. Cycles longer than this time period are removed from prices, leaving the shorter-term cycles.

Calculation

To calculate the Detrended Price Oscillator, first create an n-period simple moving average (where "n" is the number of periods in the moving average).

Now, subtract the moving average "(n / 2) + 1" days ago, from the closing price. The result is the DPO.

MACD

Overview

The MACD ("Moving Average Convergence/Divergence") is a trend following momentum indicator that shows the relationship between two moving averages of prices. The MACD was developed by Gerald Appel, publisher of Systems and Forecasts.

The MACD is the difference between a 26-day and 12-day exponential moving average. A 9-day exponential moving average, called the "signal" (or "trigger") line is plotted on top of the MACD to show buy/sell opportunities. (Appel specifies exponential moving averages as percentages. Thus, he refers to these three moving averages as 7.5%, 15%, and 20% respectively.)

Interpretation

The MACD proves most effective in wide-swinging trading markets. There are three popular ways to use the MACD: crossovers, overbought/oversold conditions, and divergences.

Crossovers

The basic MACD trading rule is to sell when the MACD falls below its signal line. Similarly, a buy signal occurs when the MACD rises above its signal line. It is also popular to buy/sell when the MACD goes above/below zero.

Overbought/Oversold Conditions

The MACD is also useful as an overbought/oversold indicator. When the shorter moving average pulls away dramatically from the longer moving average (i.e., the MACD rises), it is likely that the market price is overextending and will soon return to more realistic levels. MACD overbought and oversold conditions exist vary from market to market.

Divergences

A indication that an end to the current trend may be near occurs when the MACD diverges from the market. A bearish divergence occurs when the MACD is making new lows while prices fail to reach new lows. A bullish divergence occurs when the MACD is making new highs while prices fail to reach new highs. Both of these divergences are most significant when they occur at relatively overbought/oversold levels.

Calculation

The MACD is calculated by subtracting the value of a 26-day exponential moving average from a 12-day exponential moving average. A 9-day dotted exponential moving average of the MACD (the "signal" line) is then plotted on top of the MACD.

DMI (ADX,DI-, DI +, DX)

What is DMI?

The Directional Movement Index or DMI is designed to highlight the strength of any upward or downward trend in the market. It is composed of DI+ and DI- which show the strength of the increasing and the decreasing prices respectively and Average Directional Index or ADX which determines the strength of the trend. ADX is a moving average of Directional Index (DX) with a smoothing constant double the size of the time period selected for measuring upward and downward movements.

Trading Signals of DMI

In a trading system based on DMI, a buy signal is given when the DI+ value becomes greater than the DI-. For a sell signal, look for the point where DI- becomes greater than DI+. In both cases trading signals are only generated if the presence of a relatively strong trend is detected, for example, in the case that the value of ADX is higher than 25%.

%R (Larry William's)

Larry William's %R is the inverse of %K-FAST and its corresponding trading signals are generated when it crosses 20% and 80% levels.

%R readings of above 20 are considered overbought signals: readings under 80 are considered oversold. Divergence from price graphs occurring in overbought/oversold areas can signal a change in market direction.