

# BV INDS FOR TRADESTATION

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DRAFT DOCUMENT

## Overview

These TS indicators are essentially based on a custom version of MTFs (multi time frame stochastic) called AdStoK\_MTF and Entropy. It is an event-oriented technique, which is meant to remain as simple as possible.

A rule set has also been designed to respond to the most significant patterns one can visually extract from reading the AdStoK. As a reminder, AdStoK is a smooth adaptive version of the popular StoK indicator which reacts to change in volatility, and proximity to overbought/oversold levels. Some flexibility to the number of bars used in its calculations makes it usable in most trading situations. However, it remains obvious that a tight trading range (*less than 3 points*) restricts trading to scalping, and extended trending periods may require increasing time frames.

Major events are determined by crossovers of the "White Line" (i.e. the fast StoK), and the "Green Line" (slow StoK), as well as some considerations of levels and gradients. Rules have been kept simple and "fuzzy" enough to avoid missing entries on account of strict conditions.

In addition, the rule set adds corrections to basic rules by calculating pattern inertia with entropy and other means. This allows for continuation in the move, i.e. look for possible re-entries.

It is still a "work in progress" version to which a few A.I. goodies will be added in the future.

The current solution is not *automatic*, and reading the AdStoK is still a valuable complement to the rule set. For instance, one can discriminate entry strength from where the pattern is starting. A Short pattern starting from overbought level is likely to develop more energy as it unfolds, and vice versa for a Long.

## Basic reading of BV Indicators

### AdStoK\_MTF

AdStoK\_MTF reads similarly to a regular StoK indicator, therefore particular attention will be given when the White Line leaves overbought/oversold zones. The AdStoK\_MTF displays 3 lines corresponding to 3 AdStoK indicators. As said earlier, some amount of flexibility has been coded to make it versatile in various trading environments. The White Line is the fastest StoK, so it is the main trigger used in patterns. The Brown Line comes in support for direction, and the Green Line gives context.

The picture below compares AdStoK\_MTF to a regular StoK (SlowK). AdStoK\_MTF certainly isn't "*rocket science*", but it is relatively smoother, and reduces significantly the number of false signals. Having said that, most *discretionary trading techniques rely essentially on the method more than on tools*, so a regular StoK may prove just as good as

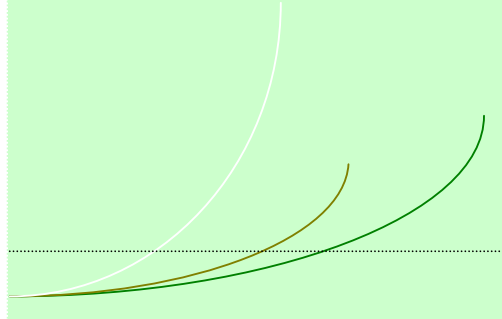


AdStoK\_MTF for some (adventurous) traders.

*Crossovers followed by separation* will very often give a good indication of the quality of a pattern, *particularly in overbought/oversold zones*. In a future version, the gradient slope will be processed by a Fuzzy Logic controller to analyse the energy released in the forthcoming move. For the time being, as the indicator is *very early*, the trader has time to visually verify the type of separation,

i.e. the gradient or slope, and the possible divergence with price action.

Here is a theoretical diagram showing good separation, paramount to a very good signal, here long.



This is a typical indication of a strong BUY signal, following a White Line crossover:

- The 3 lines start from deep oversold level
- The White Line shoots up and separates almost immediately from the other two lines.

In many cases however, the gradients of the other 2 lines will still be slightly negative. One must think of market dynamics in terms of "tensors". If the Green line still pulls down a bit, the separation may not be 100% clear. If the Green line has turned already, the White Line may shoot all too quickly and the signal may be sudden. One must not forget that these are volume bars, hence can sometimes form VERY quickly.

Unambiguous setups are not always frequent. Either the crossover takes place above oversold zone, or the Green Line still has a strong negative slope. The trader's discretion, i.e. intuition, experience, and basic common sense come into play here. This indicator set cannot cater for all sorts of strategies, and risk takers may still wish to go for a quick scalp to keep the vibe going while a more conservative trader will pass on it.

Another important setup to consider is the *bell shape pattern* when the White Line returns to the main trend given by a Green Line which has not moved significantly while the White Line did its little excursion. The Brown line ideally hasn't moved either.

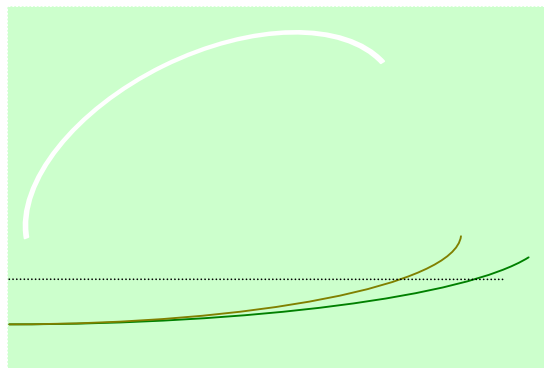
Most common patterns included the bell shape pattern have been coded in the rule set, but it still certainly always helps to confirm them visually at this point.

On this picture (right), the White Line shows good separation with the Green Line. Angle is roughly between 30deg and 60deg, which is generally the good balance between lack of energy (below 30deg) and high probability of divergence (over 60deg). At that point in time, the histogram shows the indicator is valid. It will be further explained later in this document.



The first long returned over 1.5pt in this example. It can also be noticed that the bell shape will give easier, stronger "return to the dominant trend" signals, further confirmed by the higher histogram value which provides reinforcement.

Here is a theoretical bubble setup:



In this market configuration, the White Line has parted some time ago, but the price excursion has not gathered momentum (other lines hardly left oversold zone), so the excited White Line is now losing strength. In most cases, one can go short even for a few ticks.

One can of course equally think of the opposite configuration (i.e. the "cup" pattern).

AdStoK\_MTF may have a high validity value even in a tight trading range. However, extreme caution must be exercised in the trading range is *below 3 ES points*. Only true scalping in the lower TF may prove OK, or possible later breakout entries may be found.

The AdStoK\_MTF indicator is range bound from -1 to +1. Since it is based on a stochastic indicator, it will always behave better when prices follow cycles. The built in adaptability will make it react adequately to a certain bandwidth, however, it will not be suitable when there are spikes (high frequencies), or long trends (very low frequency cycles). A number of safeguards have been coded to avoid entering into a position when the boundaries of the bandwidth are reached.

Please also note the pivot points are not 100% correct yet in the current version.

## SCALP2.12

Scalp2.12 is a "scalp & surf" indicator intended to bring about early scalp entries, and try and hang in the position if additional conditions materialise over time. It is essentially a rule set meant to extract salient patterns which would visually make sense, like AdStoK crossover, line gradients, energy picking up, etc... One should however not be misled by the "scalp" appellation, but always keep in mind, that most if not *all trades start as a scalp*, supported by some intelligent guesswork about direction and context.

The current trading technique requires 3 almost identical scalp indicators on each available chart.

## PARAMETERS

The indicator requires the following parameters:

- **NumBars:** this is the number of bars back which will be evaluated to extract a pattern. This figure is internally adjusted. Default value is 8, but the technique may work with 12 or 16 on higher TFs.
- **Accel:** this is a parameter to adjust response to change in volatility. It is highly *non linear*, hence may sometimes be difficult to adjust. If Accel equals 0, the function is deactivated. A low 'Accel' value is generally suitable. Default value is 0.4, and can be increased to 0.8 or 1 for higher TFs or daily data. The same value is used for AdStoK\_MTF and Entropy.
- **ZoneLevel:** this determines overbought/oversold levels. No particular need to adjust it. The default value is 0.66.

- **Energy Level:** this is a threshold used in entropy calculation. Default value (0.05) is OK for intraday trading of ES futures, but must be adjusted otherwise. This figure is sensitive to price range, therefore should be adjusted for stocks (1 or higher).

For simplicity sake, the 3 “scalp & surf” indicators are identical for the time being except for NumBars set to 8, 16, and 24.

From experience, except for “Accel”, scalp parameters are hardly ever changed.

## OUTPUT

The indicator output is mainly a histogram showing direction and strength. Histogram colours will be:

- **Blue** for a UP pattern;
- **Red** for a DOWN pattern;

There are however a few variations to take into consideration:

If the bar is Grey or White, the pattern lacks one or more conditions or is simply too weak, hence should be used with extreme caution. If anything else, it may be an exit warning if opposite to the current move.

Other colour variations are:

- **Dark Blue:** early indication of reversal pattern based on energy
- **Dark cyan:** same as above but based on AdStoK crossover.
- **Cyan:** generally weaker continuation pattern
- **Dark Red:** same as above for down side movement
- **Dark magenta:** same as above for down side movement
- **Magenta:** same as above for down side movement

Such signals are there to complement a set of **Red/Blue** signals, except for the continuation signal which should not appear ahead of a series of signals.

StoK crossovers are also indicated by white crosses over or below the zero line. Only 2 values are given to White Crosses:

- When the White Line crosses below the Green Line in overbought territory, or crosses over the Green Line in oversold territory;
- Other crossovers;

Scalp2.12 also displays other types of crosses over or below the zero line:

- **Magenta:** Energy seems to show the DOWN move may be over
- **Cyan:** Energy seems to show the UP move may be over

These could be used as exit warnings (if in the DomTF), but they might also be removed in the final release of the indicators

## USAGE

Except for scalp situations, one will need at least *5 out of 6 signals in two TFs* to enter a trade. For scalps, 3 signals in the Lowest TF will suffice, but at least one confirmation from the Middle TF is necessary.

Detailed examples will be found later in this document.

## XO\_DIR SHOWME and PAINTBAR

There are 2 indications on the chart itself to assist the trader with determining direction. The PaintBar is **Blue**, **Yellow** or **Red**. The rule uses that colour information, and there should not be any definite patterns on a **Yellow** bar.

The ShowMe is a minor variation. If a **blue** cross is below a **blue** bar, the move will generally go higher and vice versa for **red**.

Generally speaking, the bar colour is the last control over a signal. As for the White Line, one should never enter against the bar colour.

## ENTROPY

The Entropy indicator shows whether there is energy in a pattern. It has been coded to show direction as well. Some adaptability has been coded as well, but it remains a little lagged compared to AdStoK. There is no particular need to watch Entropy as a few rules have been included in the rule set.

In case visual confirmation is needed, energy level above/below threshold, and increasing/decreasing should provide support for continuation in the current direction. A *peak in energy* is usually concurrent to an exit warning in a trading range, but not so in trending mode.

Users who find their screens cluttered enough may opt not to display the Entropy indicator. Entropy is already part of the rule set (scalp indicator).

## ADSTOK\_DIV

AdStoK\_Div calculates how closely related the AdStoK\_MTF (the White Line particularly) is to price action. In a way, it indicates possible




divergences, and subsequently can be used to discard one or several time frames. Its main use will be to determine the best time frame by selecting the highest AdStoK\_Div value.

Different rules will apply depending on whether all TFs present a similar DomTF, or whether one TF is way ahead of others TFs.

AdStoK\_Div simply calculates covariance between average price and the AdStoK\_MTF White Line. Again, no rocket science here... 😊

Notes:

- If all available time frames show a value of 0.05 or less, patterns must be used with *caution*. It is often recommended to stay on the side line until a time frame becomes valid again;
- If all time frames display an similar value, a better entry will be found in the lower TF;
- AdStoK\_Div can vary rapidly, so always check the dominant time frame even while in position;
- AdStoK\_Div gives a strong indication of the validity of the White Line. One should NEVER enter a trade against the White Line, and NEVER NEVER EVER do so on the DomTF!
-  AdStoK\_Div histogram's width is now adjustable to its strength thus making it easier visually to determine DomTF.
- In a scalp situation, assuming we have 3 signals in the Lowest TF, but the DomTF is the Middle TF, one can find support for a quick scalp if the White Line has turned in the direction of the scalp, even if signals are not there yet.
- If one TF is way ahead (AdStoK\_Div over 0.40), an immediate re-entry point can be found without support from the other TFs but in such case, look for an exit point when the White Line reverses or even peaks. DomTF may also change at that point, otherwise check the Entropy level, and exit first yellow bar.

## MM Lines

MM<sup>1</sup> lines are always displayed on the charts. However, unless in a trading range, and providing there was *no delay in entering in a position*, the indicators will turn when necessary. In most cases, as far as entries are concerned, MM lines like Fib levels are a distraction and

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<sup>1</sup> MM Lines are based on the Murray Maths Lines algorithms, probably official proprietary still, but widely available from different traders' forums on the Internet.

cause hesitations and subsequently early exits. However, they can be used for profit taking.

MM lines are rounded to the nearest tick.

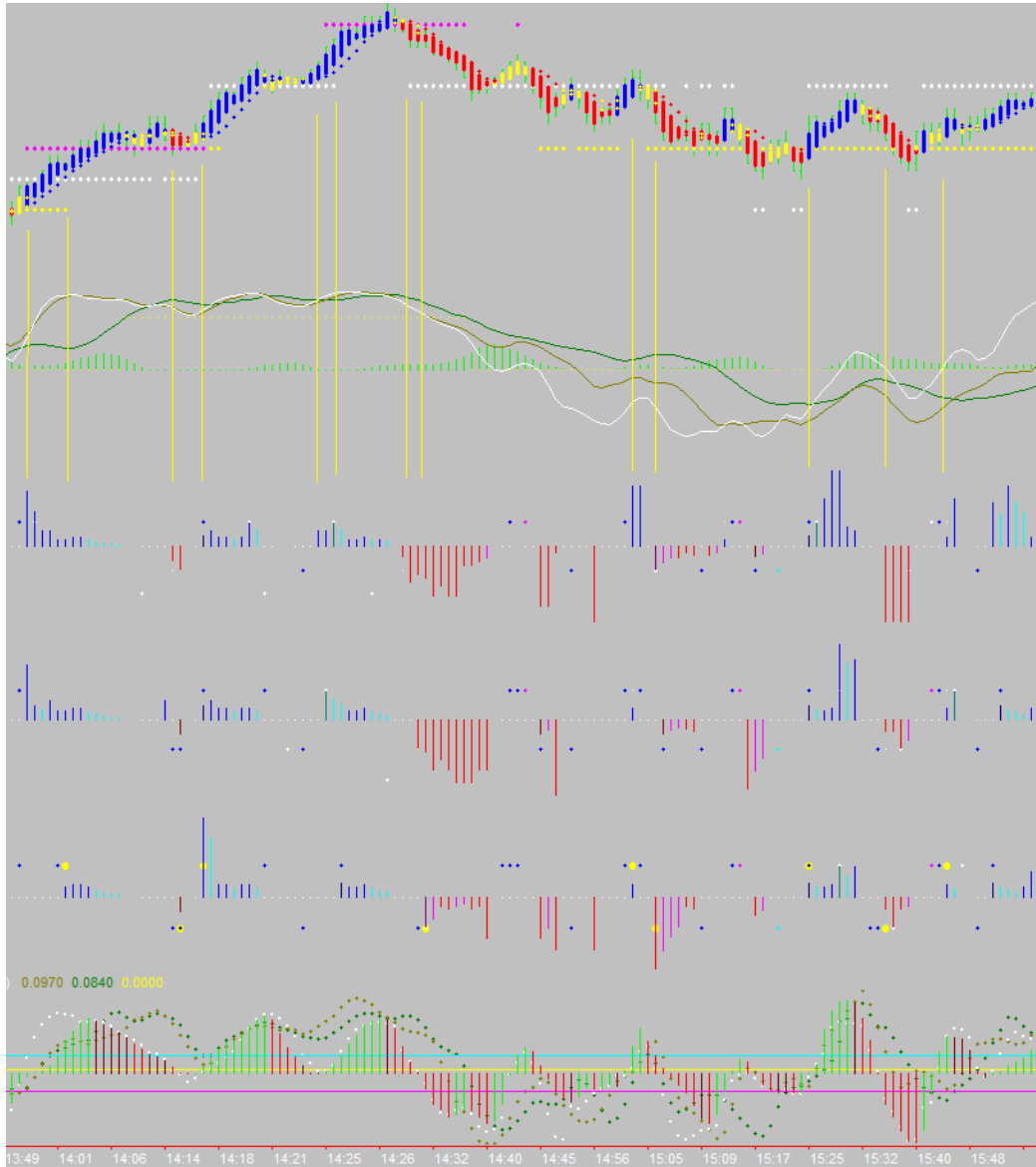
### Other indicators:

An additional AdStoK indicator is also available. It is too aggressive for our rule set, but it is useful as an extra routine has been added to react faster to price movement. It complements the AdStoK white line. Separation of the AdStoK (red dots) from the white line indicates the movement is likely to be strong.

This method does not require any other indicator. If anything, a 4<sup>th</sup> higher time frame may be added to the chart set in the event of a large move (over 10pts). Technically, a 4<sup>th</sup> time frame could reduce signal ambiguity to next to nothing, the rule set however may become too complex, particularly as one must bear in mind a rule set is only valid in relation to a trading strategy

## Reading a Chart

The technique currently uses 3 charts: 1500V, 3000V and 6000V, which should correspond<sup>2</sup> more or less to 2, 4 and 8mins charts. It is possible to slow the system down a bit by selecting another set of time frames, such as 2000V, 4000V, 8000V. While it is essential to find an agreement across charts, let's first take a look at the lower time frame, and read signals on the picture below.



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<sup>2</sup> Market activity can vary quite significantly according to time to contract expiry as well as normal seasonality (summer months, end of year holidays, etc).

We will look at events chronologically, from left to right. Salient events can be found at the time of the vertical lines which have been added manually. In this particular instance, the first line shows the following:

2 strong **Blue** signals indicate an **UP** movement. The third one is however still lacking. The AdStoK\_MTF does not show the best setup since the AdStoK crossover occurred relatively high already. The Validity histogram is low, so the entry point if any is probably to be found on the lower or higher TF charts, most probably the faster one.

If the higher TF shows 3 **UP** signals, we have a total of *5 out of 6*, which is strong enough for an entry.

Let's assume we have no entry at this point. Line 2 a few bars later shows 3 signals. Since this is now a 'late' entry, we have to check that the higher TF still confirms this new entry point, which is likely. Should this be the middle TF, it would be possible that the lower TF has lost steam in the meantime.

Unless this low TF has a very high AdStoK\_div value, confirmation will be needed. It is highly recommended NEVER to enter against the White Line in any time frame.

Line 3 shows at most a profit taking point. Even though 3 signals point down, they are not true **Red** signals, and Validity is close to nil.

Lines 4, 5 and 6 do show possible re-entry points.

Line 7 is the 1<sup>st</sup> **DOWN** signal. Since Validity is low, it is possible that the lower TF is already showing 2 or 3 signals. 4 out of 6 signals may be risky, yet the AdStoK crossover and separation look good, and this move starts off a strong resistance level, so this can eventually be an aggressive entry.

Line 8 confirms the Short entry.

Line 9 is a possible Exit point, or even a Long entry, if confirmed by the higher TF. In this instance, the middle TF did not show any indication of a long with only 1 Weak Signal (grey bar).

Line 10 is a Re-Entry point in case of Exit on Line 9.

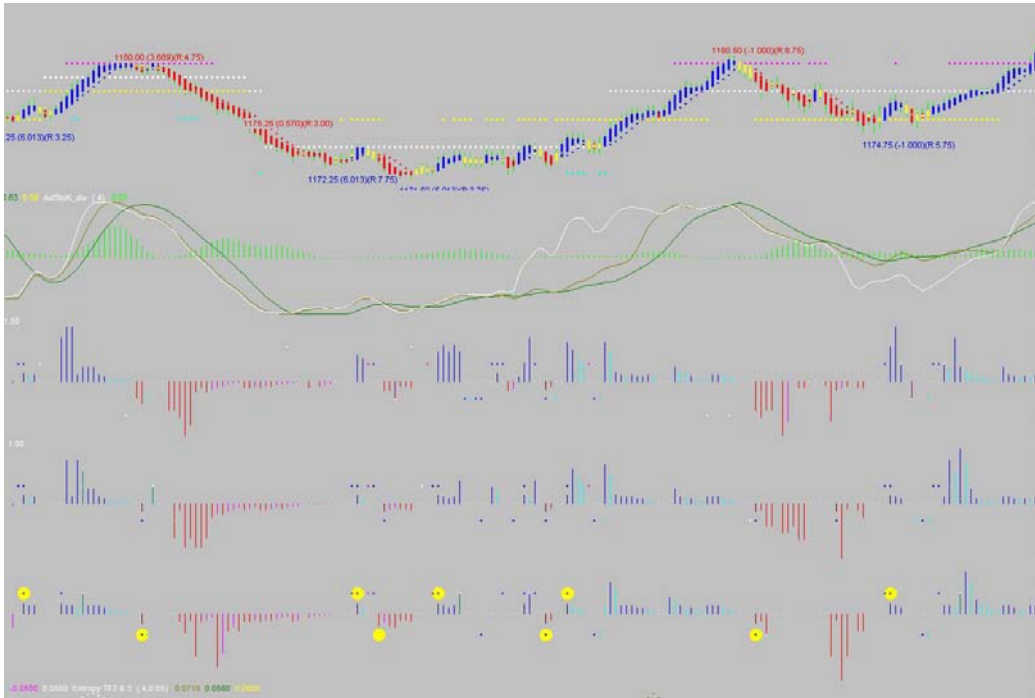
Line 11 is the difficult trade of the day... These signals are indeed confirmed by the higher TF, so a Long Entry is possible. Since this is a retracement trade, caution must be exercised. It may be a good idea to scale down the number of contracts to trade at this point, and exit at the first indication of a peak of energy and/or **yellow** bar.

Line 12 looks like a "return to the dominant trend" type of trade, yet it is not confirmed at all by the middle TF, which indicates that the trend is likely to change. A short scalp is possible, based on this TF only. This trade is not as obvious as it may look since good trades should ALWAYS

have 5 out of 6 valid signals, unless one TF is so dominant (Validity over 0.5) that one does not need to reach TF consensus.

Line 13 confirms the change in trend.

Here below is the picture for the Middle TF for the same trading session.



Note:

An important visual clue is to follow White Line crossovers particularly in Overbought/Oversold zones.

## Typical Trade Setup

Like most discretionary trading systems, a trading decision will require overcoming the natural fuzziness from the available information, which may even look rather conflicting at times.

Trade Setups will be first determined by:

- Dominant TF or TFs
- Quality of the pattern as per the White Line crossover
- Signal Synchrony

### *Dominant TF or TFs*

Thresholds have not been tested yet, but one can assume that if AdStoK\_Div is below 0.05, the TF is not valid for calculated signals. It is quite possible to have all 3 TFs with a low validity, particularly in a choppy market or tight trading range.

Let's look at some common situations at point of entry:

### **No DomTF**

In order not to miss an entry, providing the higher TFs are not contradicting, an entry in the Lowest TF, based on a solid separation of the White Line off overbought/oversold levels is likely to prove OK.

The image on the right comes from a 1500V chart, in a situation of no valid TF. 2 UP signals come early after the White Line crossover and separation. The 3<sup>rd</sup> one comes a little later, so this is not a perfect synchrony. This is a high risk scalp trade which proved OK. This setup actually came as a retracement trade after a substantial drop.

### **DomTF is the Lowest TF, other TFs are not significant**

This is a typical scalp situation. On the first occurrence of 3 signals, enter into a trade for a few ticks, if higher TFs are not in contradiction, and if the range between the last 2 pivots is over 3 points. The middle TF may join the party after a few bars, otherwise exit on White Line reversal and/or Yellow bar.

In a scalp situation, 3 signals in the Lower TF may suffice. Any support from the Middle TF makes it safer.

If Middle TF does not come in support to this scalp after a few bars, look for an exit on weakening of the White Line along with a Yellow bar. It is quite possible that price is close to a MM line or Fib level.

### DomTF is the Lowest TF. Middle TF is a little behind

This is still a scalp entry, but Middle TF may take over. Same conditions apply, but the trade may go over 1pt. Again, DomTF will probably evolve while in position.

### DomTF is the Middle TF

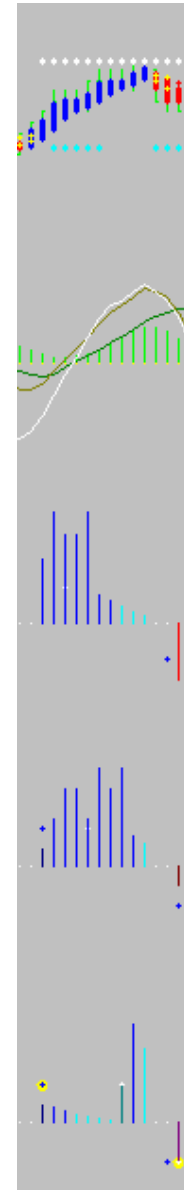
A prerequisite is that the higher TF is not contradicting (no signal in the opposite direction). Signals in the DomTF must also be confirmed by the Lower TF. While it is likely that the Lower TF will have turned in the same direction, it is possible that TFs are not in a good synch. The point of entry is still determined by the Lower TF and one SHOULD NOT enter into a position against its White Line, unless the Validity factor is so low that the Lower TF is to be discarded.

The image on the right comes from the lowest TF (1500V). In this particular instance, the DomTF is the Middle TF slightly ahead of the Low TF. 3 Signals indicate a scalp entry, not yet supported by the Middle TF. However at that point, the Middle TF has its White Line which has reversed. In such case, the Middle TF still brings support to the scalp. As time goes by, the DomTF turns more in favour of the Lowest TF indicating it probably won't go further than a scalp. Exit must be found on the Low TF, when the White Line reverses followed by a Yellow bar.

Again, it must always be kept in mind that the DomTF function evolves while in position, and trade decisions are always affected by such information.

### DomTF is the High TF

If the High TF dominates on its own, the move is large and may well continue. If the entry has been missed at the beginning of the move on account of another setup (No DomTF, early exit of a scalp on a Head and Shoulder situation for instance), a re-entry is possible at almost any point in time. It is however safer not to go against the White Line in the lowest TF even if that TF is not really valid.





## Signal Synch

The quality of entries depends largely on a *close synchronisation of signals*. On each chart, and particularly on the DomTF, signals must appear on the same bar, or within a bar or two. Any further delay probably means a poorer signal.

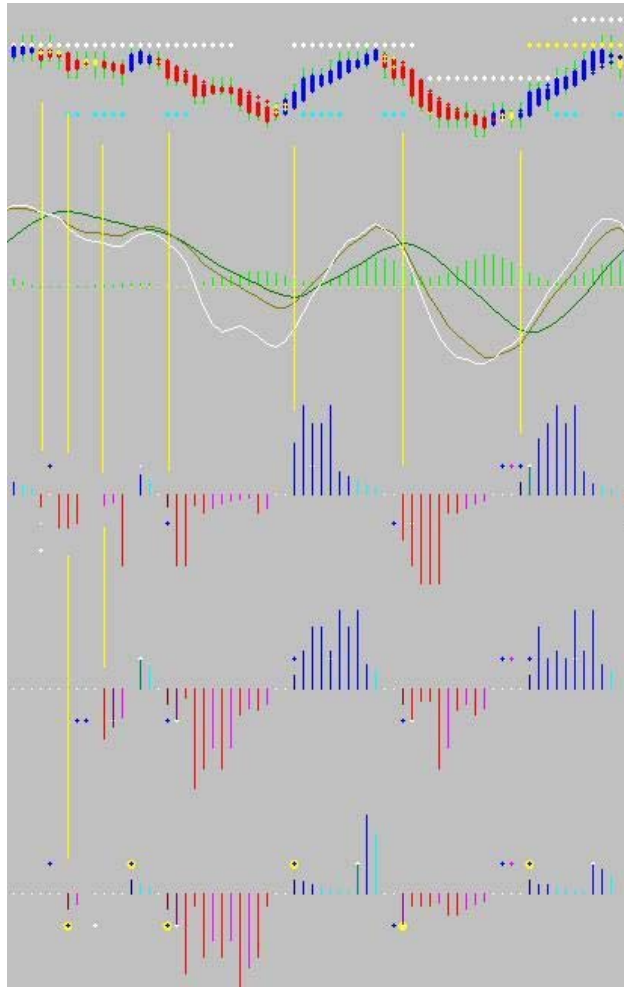
It is obvious that signals will not always coincide across TFs. In fact they probably will only on a few occasions of unambiguous setups, i.e. White Line crossover in overbought/oversold zones and/or bounce on MM support/resistance levels.

Assuming that *all trades start like a scalp*, one can enter a trade based on the Lowest TF, and anticipate the Middle TF to follow, as per case described earlier (Middle TF is dominant, and White Line has reversed in the direction of the scalp). One may enter one or two bars earlier than if we would have waited for the TFs to join the move.

If the Middle or High TFs are valid if not dominant, it is safer to wait for full synch. One must not forget that if only the Low TF is dominant and other TFs invalid, there will be little more than a scalp. Having said that, a scalp based on the Low TF will never lose more than a few ticks if the move does not materialise and signals are turning.

Example:

On the image (right) taken from a 1500V chart, signals for the first short are not in synch. The short will be OK, but it remains risky. In fact, if one takes a bold decision to enter short, one will have to go through the little shoulder that follows (not even shown on the Middle TF). If one waits for the full synch, the move is always clearer. At that point, it can only be a scalp as there is no real support from the Middle TF.



When signals coincide, the White Line has turned on the Middle TF (slightly more dominant than the Low TF). The Middle TF will join the move when it's too late. The scalp is over, and at the same time, DomTF turned to the Low TF. Indication of a larger move on the contrary would be given by the Middle TF confirming its position as a DomTF.

The same configuration applies for the subsequent long. In a trading range (Low TF is dominant) support from the Middle TF may be limited by the White Line direction. The objective is 2 to 4 ticks max.

If the Middle TF is and remains dominant, and Middle TF signals come in support within a bar or two, the trade will probably return 1 to 2 points, unless the White Line turns there as well.

### ***A final word: Return to Basics***

- Markets are always dynamic, and situations may change rapidly. When the market is fast, one has to check which TF is the DomTF, and whether one has signal synch.
- It is very difficult to trade in a tight trading range (below 3 points). The DomTF should follow the range relatively well. If the range is

3 to 6 points, the Middle TF is likely to be dominant. Over 6 points, the High TF should take over, and a 4<sup>th</sup> TF may be needed on some occasions.

- Never enter against the White Line. Unless the Low TF is invalid, an entry point will have to be found when the White Line follows the move.
- Always wait for bar end, as signals may come and go within +/- 1 tick while the bar is still being updated.