KASE STATWARE®

Kase StatWare v9.8.1

March 2016

This manual refers to Version 9.8.1 of the StatWare indicators. Users of older versions of Kase StatWare may notice slight differences.

We make every effort to keep our manual up to date and accurate. If you have any questions or experience any problems, please contact our offices.

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Introduction

Trading is primarily a function of three tasks: entry, money management and exit. You will find that the Indicators in the Kase StatWare package will help you to perform all three tasks in a more efficient and successful manner. Where many older indicators are based on empirical observations, we now have the ability to derive indicators from the natural structure of the market itself. Patterns that were difficult to observe with primitive tools now emerge with computer-based statistical examination.

This manual has been written to explain the StatWare indicators and to give traders an increased understanding of the markets in order to diminish risk and increase profits. Keep in mind that the Kase indicators are tools that support a methodology and not a "black box" system. A trader's personality and experience will play a role in his or her experience in using Kase StatWare.

Kase's Trading Philosophy

It is Kase and Company Inc.'s philosophy to view the markets scientifically and accurately without making the procedure for doing so too complex. Through the application of statistics and mathematics a whole new generation of indicators has been made possible. It is our hope that using our piece of the future will be enjoyable and profitable for you.

Before Getting Started

Please become familiar with your charting platform. You will need to at least know how to set up charts, add indicators, and modify indicator inputs. In this manual it is not our aim to explain how to use any one specific charting platform, but rather explain the use of the Kase StatWare indicators, their inputs, and their application to trading. For help with the functionality of your charting platform please call their technical support, as appropriate.

Kase StatWare

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CHAPTER 1- Getting Started

1.1 Manual Conventions

- **Bold** – Cold is used to identify indicator names
- ***Bold*** **-** Bold Italic is used to identify menu names, command buttons, tabs, etc.
- `Courier` – Courier is used to identify names of indicator inputs.

1.2 Activation and Deactivation of Indicators

If you have been sent or given StatWare in a deactivated format at a conference or as part of a promotion and would like to activate your trial, please contact the Kase Call Center. If you are currently on a trial, the indicators will automatically deactivate at the end of your trial period unless you contact the Kase Call Center to commence a lease. If you are already leasing StatWare, the permissions for your subscription have been set by the Kase Call Center. If you are not able to access the indicators or plot them on your chart please contact us at 505-237-1600 or email accounts@kaseco.com.

CHAPTER 2 - Setting Up Charts

2.1 Setting Bar Length on Charts

Kase's philosophy is to "scale-up" from shorter-term to longer-term trades using three chart periods. For active traders, we recommend using charts roughly equivalent to 10 to 15 minutes, 20 to 30 minutes and 45 to 90 minutes depending on the level of activity and degree of trendiness. The more the market is trending, the longer the time frames, and the more choppy the market, the shorter the time frames. Also active traders may decide to scale up to longer time frames during well-established trends. We recommend less active traders hold trades for at least a few days to a number of weeks to look for long-term entry and exit signals on one-quarter to one-third day charts, half day charts, and daily charts. There are three ways Kase recommends to determine bar lengths.

2.2 Time-Based Charts

The first type of bar chart uses time bars. In these charts, one bar forms for each time period that elapses, regardless of market activity.

When using time bars, first determine the approximate number of minutes you wish to use and then determine the closest time bar length that divides evenly into the trading day. When using a longer number of minutes, such as 90, it's ok to have shorter bar on the day's close. So for example, in a five and one-half hour trading day, one could set the bars to five 60 minute and one 30 minute bar, or use six 55 minute, or five 66 minute bars. Using a slightly shorter bar at the end of the day emphasizes the late day activity going into the close.

2.3 Tick Volume Charts

The second way to set up bar charts is using tick volume charts. Each "tick" a reported traded price. A tick volume bar of 200, for example, would contain the price activity over 200 price changes or trades.

There are two ways to set up a tick volume chart. The first is to determine how many bars per day session are generated by the time bar you have been comfortable with, and set up a tick bar chart that generates a similar number of bars per day. The second is to use the Average True Range indicator to determine the average true range of the time bar you are comfortable with, and then use a tick bar length that generates a similar value. For tick volume bars less than 500, you might want to see if a Fibonacci number, such as 89 ticks per bar works for you. For tick volume bars larger than 500, the suggestion is to use round numbers.

2.4 Kase Bars, Kase Xrange or Other Range Type Charts

Some charting platforms allows users to also plot range type bars, Kase Bars, or Kase Xrange bars. Range bars are unique in that they are plotted based upon price moment rather than time or volume. Kase recommends these types of bars for intraday charts. There are a number of ways to set the Target Range for these bar types. No one way is correct, but below are recommendations to help you get started using range bars.

1. As a guideline, the target range should be no less than five times the average difference between ticks, or the range of a five-minute bar. So, for example, if a typical tick chart looked like this “10 – 12 – 14 – 12 – 14 – 16”, then the average tick difference is “2” and the minimum range one would use is “10”.
2. Set up the normal time or tick volume chart you would usually use, such as 15 minute, 30 minute, or 610 tick, etc. Plot the Average TrueRange (ATR) on that chart. Whatever the ATR is of the chart you normally use should be roughly equal to the Target Range you choose to input.
3. You can always just choose a range that seems appropriate to you. Visually, the bars should look about the same size. If there is a large variation, it usually means that the target range you have set is too small.

2.5 Adding Indicators to your Charts

Now that your charts are set up, add the indicators to them. We recommend adding the four core indicators listed below. The background and candlestick indicators are supplementary and may be added to charts as desired.

2.5.1 Core Indicators

KDevStops

KEES

KasePO

KaseCD

2.5.2 Background Indicators

KPermSto

KPermF

KaseSwing

KRevAmounts

2.5.3 Candlestick Indicators

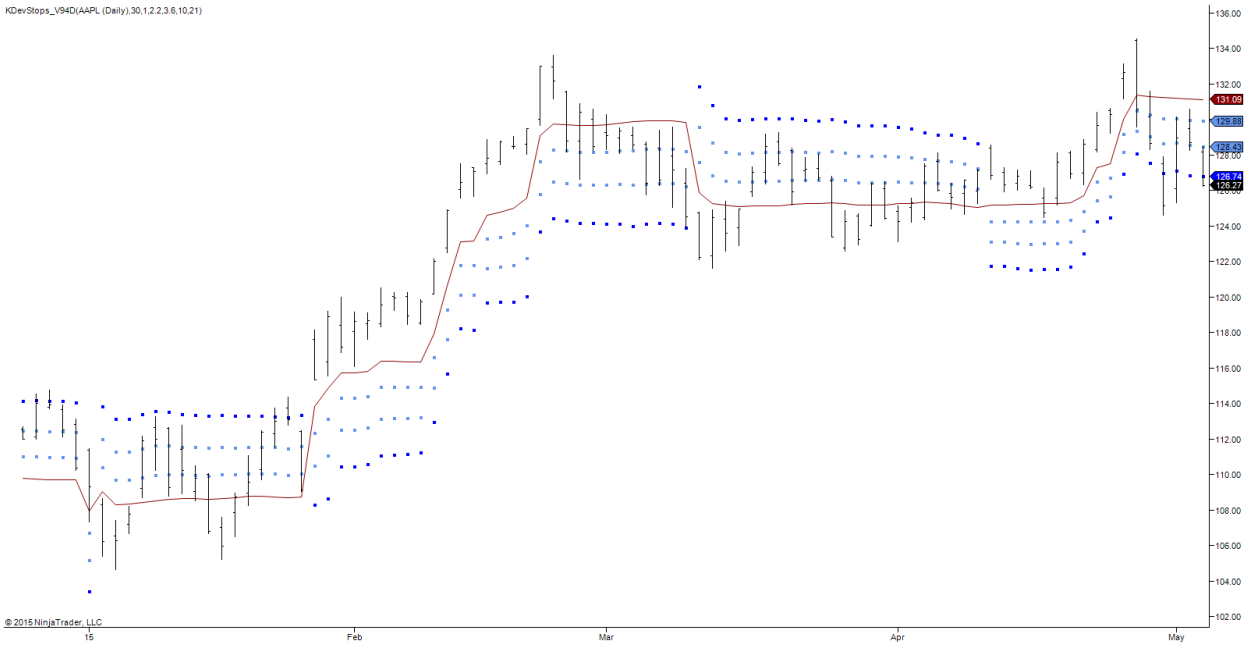
KaseCandles

CHAPTER 4 - The Indicators

4.1 Core Indicators

4.1.1 The Kase DevStops (KDevStops)

The Kase DevStops are the closest ideal stops can be in the real world. DevStops account for volatility (which is directly proportional to risk), for the variance of volatility (how much volatility changes from bar to bar), and for positive volatility skew (the degree an asymmetrical right tail extends to more positive values than a normal distribution).



DevStops allow profits to run and losses to be minimized. Setting stops based on statistical probabilities of being stopped out allows profit to be taken or losses to be cut at levels where the probability of a particular trade remaining profitable is low.

4.1.1.1 KDevStops Inputs

`BarsInFMA` and `BarsInSMA` are the number of bars used in the calculation fast and slow moving averages. These moving averages are used to default the DevStops to "long" when the

FMA is above the SMA or “short” when the FMA is below the SMA. During very trending markets the moving average can be limited from “flipping” by lengthening the value settings, or during oscillating markets the moving averages can be made to flip sooner by shortening the value setting.

`Dev1Val`, `Dev2Val`, and `Dev3Val` are three stop levels associated with reversals equivalent to the input Value against the highest high if long or lowest low if short. The default values of these variables are recommended most of the time. However large gaps or large changes in price during short period can blow out the standard deviation, in which case, the stops may be narrowed to compensate for this by decreasing the “Value”.

`NumBars` is the number of bars used to calculate the average Double True Range (DTR) and its related standard deviation.

4.1.2 The Kase Easy Entry System (KEES)

As the name implies, KEES is an easy to use entry system. It examines a combination of underlying momentum indicators, as well as embeds signals from the Kase Permission Screen and KaseSwing. KEES generates S’s for valid short entries and L’s for valid long entries, which means the signal takes place after a valid swing.

For those wishing to have more information about the signals, KEES defines two types of signals, “first” class meaning that the signal is in the same direction as that of a higher bar length filter and “second class” meaning that the signal is not in the same direction as a higher bar length filter. Each bar has color-coded points to denote first or second-class long and short signals. Small points are used for bars that do not have the proper structure to allow an entry, for example, a first class buy bar with a down close, and a lower high and lower low. Large points are used for bars that do have the proper structure to allow an entry such as a first class buy bar that had a higher high, higher low and closed up, but do not follow a valid swing.

Traditionally, Kase has taught traders to take second entry signals. This means that the first signal in a new trend is treated as a warning signal and the second signal after a valid pullback is taken as the entry. This is a more conservative strategy, but does not have to be deployed by more aggressive traders. KEES identifies the first signal and color codes it light blue for longs and orange for shorts.

4.1.2.1 KEES Inputs

`Dots:` is used to turn the color coded dots on and off for each bar. These dots help traders identify the underlying permission and class for each bar.

`Length:` is the value used for the momentum indicator lookback that is applied to the underlying synthetic longer bar length filter.

`Multiplier` is the number of bars used to create the synthetic longer bar length. For instance, if **KEES** is applied to a 10-minute chart and `Multiplier` is set to 3, then the last three 10-minute bars are combined to create a synthetic 30-minute bar.

`OutsideReversals:` is used to control the entry rules used for outside bars. An outside bar is a bar that has a higher high and lower than previous bar. This variable only effects outside bars

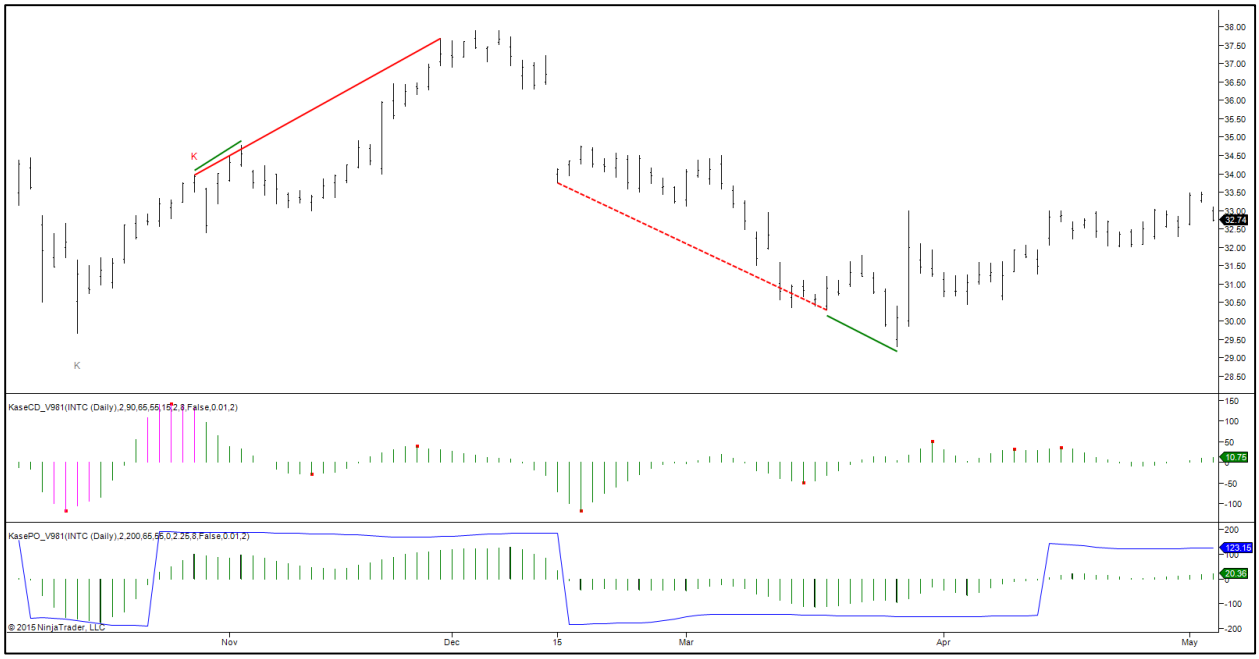
that reverse the direction of the close when compared to the previous bar. The rule comes into play when the variable is set to true.

`OutsideSames:` is used to control the entry rules used for outside bars. An outside bar is a bar that has a higher high and lower than previous bar. This variable only effects outside bars that close in the same direction of the previous bar. The rule comes into play when the variable is set to true.

4.1.3 Kase Momentum Indicators (KasePO and KaseCD)

The KasePO and KaseCD are momentum indicators derived from a mathematically sound, statistically based evaluation of trends and is used similar to traditional momentum indicators. Both momentum indicators automatically adapt for changes in dominant cycle length and volatility. These indicators signal the following.

1. Overbought or Oversold conditions. The KasePO and KaseCD identify overbought and oversold conditions with "PeakOut" signals, shown by a "P" for the KasePO PeakOuts and a "K" for the KaseCD PeakOuts. A PeakOut is a positive histogram peak above an overbought line or a negative histogram peak below an oversold line. The Signals are colored when they occur under normal conditions and gray when they are weak. Weak signals indicate that the confirmation bar closed against the direction of the signal (i.e. a bearish PeakOut when the confirmation bar closes up).
2. Momentum Divergence. The indictors generate standard bullish and bearish divergence signals.
    a. Bearish divergence takes place when prices have made a higher or equal high and a momentum indicator has made a lower or equal positive peak.
    b. Bullish divergence takes place when prices have made a lower or equal low peak and a momentum indicator has made higher or equal (i.e. less negative) negative peaks.
    c. Normal signals are shown as a solid line (green for KasePO and red for KaseCD)
    d. Weak signals are shown as a dotted line (green for KasePO and red for KaseCD)



The KaseCD is a sensitive, second derivative indicator, calculated in the same way as the MACD histogram is calculated from a moving average oscillator. Namely, the KaseCD is the difference between the KasePO and its average, just as the MACD is the difference between an exponential moving average oscillator and its average. Because the KaseCD automatically adapts to changing market conditions, it can be seen to generate cleaner crossover signals and more reliable divergences than the MACD.

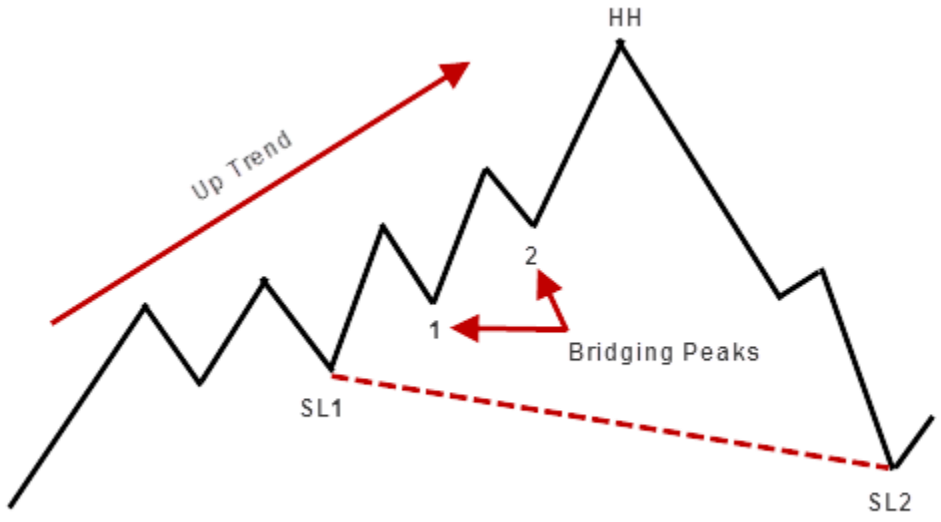
Automated Divergence Function - The KasePO and KaseCD include an algorithm that automatically draws bullish and bearish divergences between peaks on the price chart. This highly sophisticated function will also trigger alerts if supported and enabled through your charting platform whenever a divergence is plotted. Divergences for the KasePO are defaulted to plot as green lines and for the KaseCD as red lines

4.1.3.1 KasePO and KaseCD Inputs

`BridgeFilter`: Bridging is a filter that is used to ensure that the price peaks for a divergence are taking place in the same general trend/direction. The `BridgeFilter` is the number of allowable swings that take place between the beginning peak and high/low peak of a divergence

range. The illustration below shows the peaks/swings that the filter checks for a bullish divergence. The logic is the opposite for bearish divergence.

In this illustration the SL1 (Swing Low 1) and SL2 (Swing Low 2) are price swings that are being compared for divergence by Kase's divergence algorithm (momentum is not shown, but is assumed to be rising for a bullish divergence like this). The bridging filter checks the number of swings (or peaks) between SL1 and HH (highest high between SL1 and SL2). If the number of bridging peaks is equal to or greater than the value set for `BridgeFilter` then the divergence is considered to be bridging and is nullified.



The idea here is that SL1 was a swing that took place during an uptrend and SL2 took place during a downtrend. Therefore, the two swing lows should not be compared for a valid divergence signal.

Setting `BridgeFilter` to zero (0) will nullify all divergences. The higher these variables are set, the more swings the algorithm will allow between SL1 and HH.

`LongCycle` and `ShortCycle` control the range of shortest and longest cycle lengths used to determine significant trend. During very trendy markets, lengthen the settings, and during choppy oscillating markets shorten them.

NumBars this is the maximum number of bars between the swing highs or lows used to determine divergence. So a setting of 40 means that divergence peaks that are within 40 bars of each other will show on the screen, and those farther apart will not. Increasing NumBars will generate more signals and vice versa.

PeakFilter: This is the minimum histogram value that the momentum must overcome to be used as a measuring peak for momentum divergence and overbought/oversold signals like PeakOuts and KCDpeaks.

PeakFixed: This is a baseline based on historical studies to calculate PeakOut levels. Increase this setting to make the PeakOuts less sensitive and vice versa.

PeakStdDev: This is the number of standard deviations of the local data used to calculate PeakOut levels. Increase the number of standard deviations to make the PeakOuts less sensitive, and take place less often, and vice versa.

ShowAllDivs: Many times, after a divergence has taken place, additional divergences will form from the same starting peak. Setting ShowAllDivs to true will show all the divergences from a given starting peak. Setting ShowAllDivs to false will show only the most recent divergence from a given starting peak

SlopeFilter: Rounded or insignificant histogram peaks can be filtered out by requiring a certain slope, in terms of percent of the histogram value to be met. If that slope is less than slopeFilter, the peak is considered too shallow and is filtered out. A setting of 0 filters out no peaks. A filter of 0.01 filters out all peaks less than 1% higher than the surrounding data.

Tolerance: For divergences or PeakOuts to be valid, peaks in price and momentum must occur within a certain number of bars or "tolerance" of each other, but not necessarily on the same bar. The input variable tolerance represents the maximum number of bars allowed between price and histogram peaks for a valid divergence or PeakOut signal. A default of 3 is set based on optimization tests. Increasing tolerance will generate more signals and vice versa.

4.2 Background Indicators

4.2.1 The Kase Permission Stochastic (KPermSto)

Trades taken in the direction of the major trend tend to be more successful than trades against the trend. Thus, it's good practice to screen trades with a longer bar length filter. However, this takes time and waiting for longer bars to complete can delay profitable entries. To address these difficulties, the Permission Stochastic was developed. The algorithm behind the indicator computes a synthetic longer bar length that updates upon the completion of each shorter bar, and calculates a moving Stochastic, that can be used to effectively screens trades on a longer bar length.

4.2.1.1 Kase Permission Stochastic Inputs

`length` is the number of longer bars used to calculate the Permission Stochastic. Its default value is 9. To slow the indicator and make it less sensitive, increase the Stochastic `length` by changing it from 9 to a higher value, such as 13. To speed up the indicator, do the opposite.

`multiplier` determines the number of shorter bars included in the longer bar length used in the Permission Stochastic. Higher values result in more short bars being used in the calculation of the longer bars. For example, if using a 20 minute bar for trading, a setting of "3" would result in a longer bar length of 60 minutes. t. The longer the higher-level filter multiplier, the less sensitive the indicator will be to shorter-term price action. The default input is 5.

4.2.2 The Kase Permission Screen (KPermF)

The Permission Screen interprets the Permission Stochastic by simply displaying one color when the filter is in a status where long trades may be taken "Permission Long" and another for Permission Short using some simple rules that relate to the level of the K and D lines and their relationship. The user should note that this indicator is embedded in the entry indicators and is not necessary or even recommended to use in normal timer or position charts. If the Permission Screen histogram is green, long trades on the normal bar length chart may be taken. If the Permission Screen histogram is dashed dark magenta, then short trades on the normal bar length chart may be taken.

4.2.2.1 Kase Permission Screen Inputs:

`Length` is the number of longer bars used to calculate the Permission Stochastic. Its default value is 9. To slow the indicator and make it less sensitive, increase the Stochastic `length` by changing it from 9 to a higher value, such as 13. To speed up the indicator, do the opposite.

`Multiplier` determines the number of shorter bars included in the longer bar length used in the Permission Stochastic. Higher values result in more short bars being used in the calculation of the longer bars. For example, if using a 20 minute bar for trading, a setting of "3" would result in a longer bar length of 60 minutes. t. The longer the higher-level filter multiplier, the less sensitive the indicator will be to shorter-term price action. The default input is 5.

`Overbought` and `Oversold` set the threshold for these conditions within the indicators and apply to the algorithm for setting a bar as long or short.

`PercDiff` is the measurable difference between the underlying momentum values to decide how the permission for a bar is set. To make the setting less sensitive widen the value of this variable.

4.2.3 KaseSwing (KaseSwing)

KaseSwing is built into many of the Kase algorithms, including KEES, the KaseCD and the KasePO to identify swings and highs and lows needed for determining valid entries and divergences. The indicator itself may be used by Kase to define both swing lines and waves.

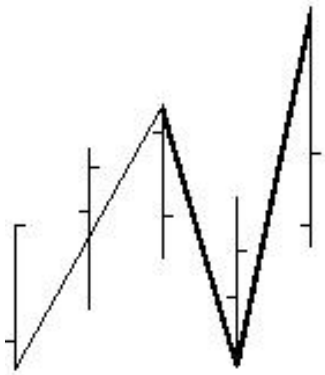
KaseSwing identifies each bar as either a falling or rising bar. A falling bar is defined as a bar that has a lower low than the previous bar, or a rising bar, which has a higher high than the last bar. Note that outside bars, those that make a higher high and lower low than the last bar, are counted as both rising and falling bars. Inside bars, those that do not make a higher high or lower low that the last bar, are ignored. There are specific rules and settings for handling both outside and inside bars.

A running count of rising and falling bars is kept and updated for each new bar. This count is used to find the detail or resolution of the swings and is controlled by an input called MinSize

that controls the sensitivity of the swings drawn. This means that after a swing has formed, MinSize numbers of bars are needed to draw the next swing.

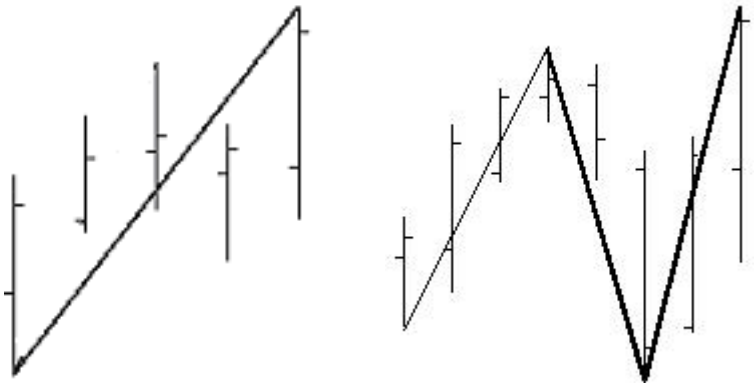
As shown in the chart below, after a high swing formed, there was one falling bar and then one rising bar. Because MinSize = 1 a swing can be drawn at the low of the falling bar and the high of the rising bar.

Drawing MinSize = 1



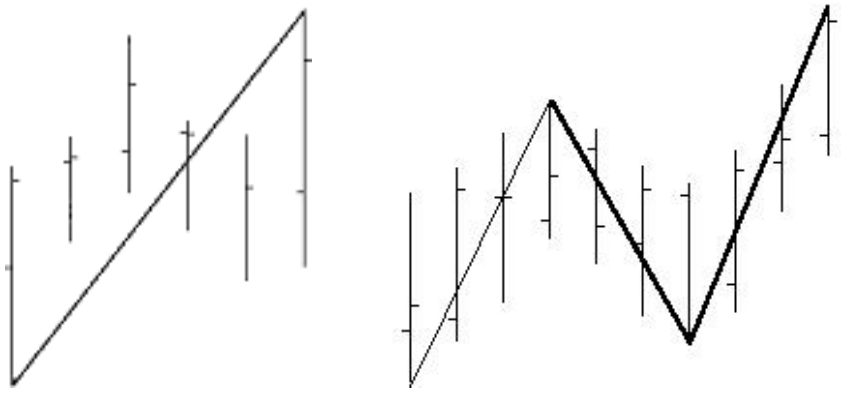
If the MinSize = 2 there must be two falling bars and two rising bars in order for a swing to be drawn, as shown in the right sketch. Otherwise, as shown on the left, if there is only one falling bar and then another rising bar no swing is drawn.

Drawing MinSize = 2



For MinSize = 3 the same rules as above apply, but in this case there must be at least three rising or falling bars before a swing can be drawn.

Drawing MinSize = 3



By default a Size of "2" is normally used, but "1" and "3" are commonly used as well. The lower the number the more detail the indicator shows.

4.2.3.1 KaseSwing Inputs

`MinSize`: changes the tolerance for the number of bars that must take place between high and low swings. The most sensitive setting is 1. Settings of 2 and 3 are also allowable. A setting of 3 is the least sensitive.

`ConsiderInsides`: uses special inside bar rules when drawing swings.

4.2.4 The Kase Reversal Amounts (KRevAmounts)

KRevAmounts plots the absolute value of the stop amounts – the amount in dollars and/or cents of a reversal that must take place to hit the warning, Dev1, Dev2, and Dev3 lines.

4.2.4.1 Kase Reversal Amounts Inputs

The inputs for KRev are the same as for the Kase DevStops, expect that it does not include BarsInFMA or BarsInSMA.

`NumBars`, `Dev1`, `Dev2`, and `Dev3` are all as described above for the Kase DevStops Indicator.

4.3 Candlestick Indicators (KaseCandles)

Kase color-codes five important candlestick patterns for easy identification. Candlestick patterns can be used to identify danger of possible turns, to confirm turns, determine support and resistance points, to accelerate exits. Given that meaningful reversals generally take place at the top or bottom of extended moves or trends, to filter out patterns occurring after less meaningful moves, Kase's filters candlestick patterns with the Stochastic, only identify the patterns meeting "overbought" (bearish) or "oversold" (bullish) conditions. These patterns are especially significant when accompanied by divergences and/or PeakOut signals.

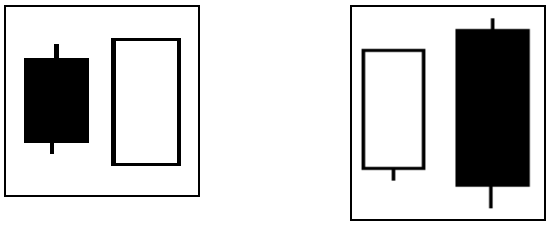
4.3.1 Candlestick Inputs

`Thold` identifies the overbought and oversold thresholds used in the in the slow Stochastic filter. A default of 65 means that bearish formations will only be identified when the Stochastic is above 65 and bullish formations below 35. A `Thold` value of 90 would identify candlestick patterns only if the Stochastic is above 90 or below 10. The lower the setting, the fewer patterns will be filtered. Setting `Thold` to 0 turns the filter off so that all patterns are identified.

4.3.2 The Kase Engulfing Candlestick Lines

Bullish and bearish engulfing lines entirely "engulf" the previous candlestick as shown below. The Engulfing line opens beyond the previous bar's close and closes beyond the previous bar's open.

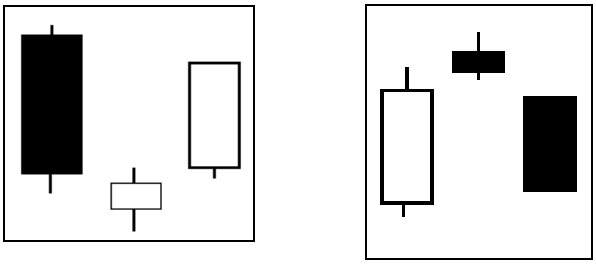
Bullish Engulfing **Bearish Engulfing**



4.3.3 The Kase Evening & Morning Star

This three-bar candlestick pattern includes a Harami line, which is a large body candlestick, in the direction of the original trend, a gap, which is usually an exhaustion gap, a star followed by another gap, usually a breakaway gap, and then another Harami line in the opposite direction. For this pattern to be considered complete the second Harami line must close at or beyond the midpoint of the initial Harami line's body.

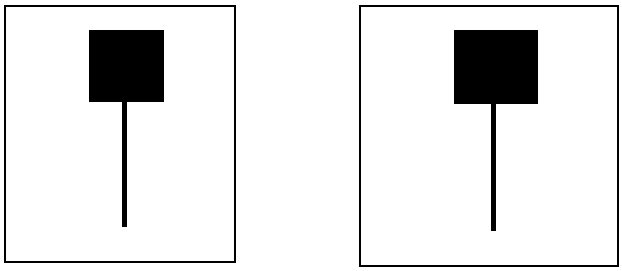
Morning Star - Bullish **Evening Star - Bearish**



4.3.4 The Kase Hammer and Hanging Man Patterns

These patterns are stars with long lower shadows. A hammer occurs after down moves and is bullish and the Hanging Man occurs after up moves and is bearish. Often these patterns are leading indicators that occur two or three bars prior to a reversal. Also, they are often found as components of larger patterns such as morning and evening stars.

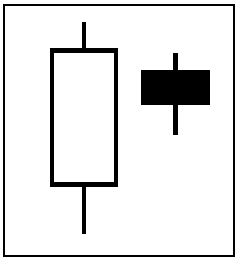
Hammer - Bullish **Hanging Man - Bearish**



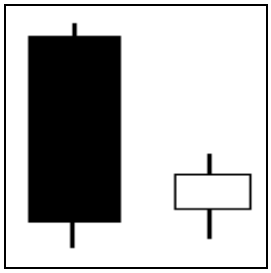
4.3.5 The Kase Harami Line and Stars

A Harami line and star is a two bar pattern. It consists of a Harami line followed by a star, where the body of the star is within the body, the open close range, of the Harami line.

Harami Line & Star - Bearish



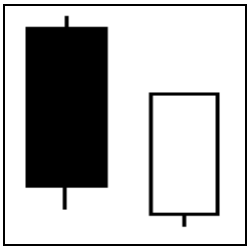
Harami Line & Star - Bullish



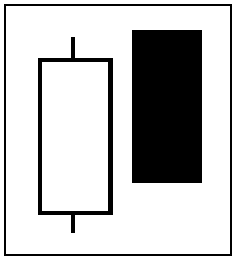
4.3.6 The Kase Piercing and Dark Cloud Cover

These patterns are similar to engulfing line, except here, the second Harami line only must close at or beyond the midpoint of the first Harami line's body. A piercing pattern is similar to a bullish engulfing line, and a dark cloud cover similar to a bearish engulfing line.

Piercing Pattern - Bullish



Dark Cloud Cover - Bearish



CHAPTER 5 - Trading Guidelines

5.1 Introduction to Trading with Kase StatWare

StatWare is a set of trading indicators that can be combined in a systematic manner. The guidelines below are meant to give guidance as to how to put together an initial system to get started. Once comfortable with StatWare, you can modify our suggested guidelines to suit your individual style. The guidelines outlined revolve around three basic steps: Entering the trade, managing the trade and exiting the trade.

5.2 Entering a Trade

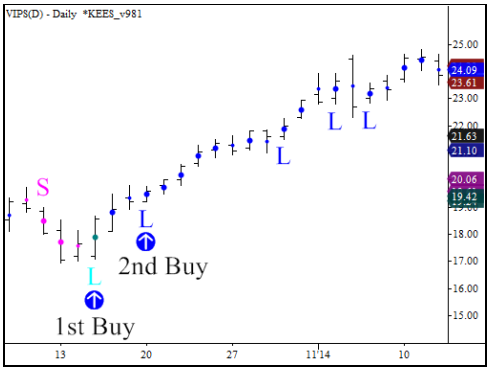
The KEES indicator shows entry signals. As described earlier, small points are used on bars that do not have the proper structure to allow an entry, for example, a first class buy bar with a down close, or a lower high or low. Large points are used on bars that do have the proper structure to allow an entry such as a first class buy bar that had a higher high, higher low and closed up. Further the indicator marks first and second buy and sell signals to make identifying entries easier.

A first signal is the initial instance of a long or short signal. A second buy signal is one that occurs after a pullback wherein the previous swing low is held. A second sell signal is one that occurs after a pullback wherein the previous swing high is held. Both first and second signals are also marked with an ‘L’ for buy signals and an ‘S’ for sell signals. Kase recommends waiting for second signals most of the time; however, valid entries can be used at any time when traders wish to exercise discretion.

5.2.1 Initiating a Trade from a Flat Position

Entries are normally taken on the fast monitor chart. This is the shortest bar length chart and is the most active. Look for an L followed by an L or an S followed by an S, where the swing high or low holds the initial swing high or low. The chart below shows a first buy signal followed by a pullback and then a second buy signal.

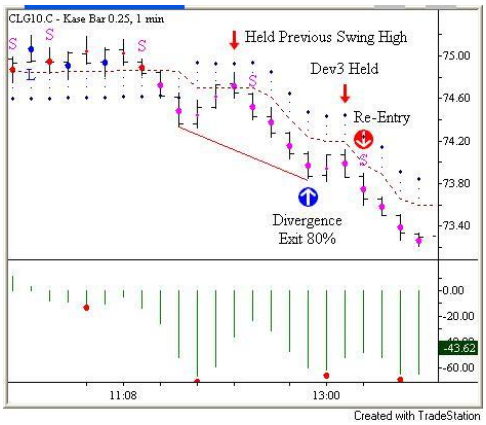
Second Buy Signal



5.2.2 Re-Entry System

After an exit of any volume, if Dev3 has not been broken and there is a new valid entry with an 'L' or 'S' consecutive to an earlier L or S, get back in. In the example below a bullish divergence prompts an exit of 80% and stops are pulled into Dev1 for the remaining 20%. A new "S" is generated, while Dev3 holds and the previous swing high holds. Upon this sell signal the position is re-entered fully.

Re-Entry Signal

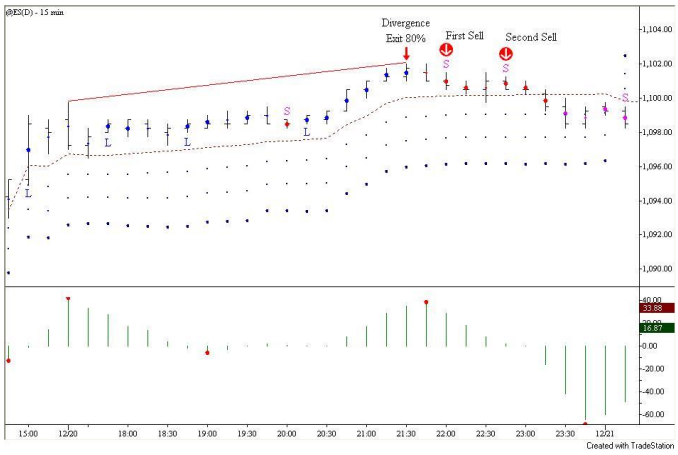


5.2.3 Reversal Signals

Similar to the re-entry signal after a partial exit has been taken should there be second entry signal generated on the timing chart in the opposite direction of the original trade before stops are hit then a reversal can be taken. The chart below shows an 80% exit after a divergence, and

then a second sell signal before Dev1 is hit. At this point the remainder of the long trade is exited and a short trade is established.

Reversal Signal



5.3 Placing and Managing Stops

After entering a trade, an "emergency" stop should always be placed at Dev3. The other stop levels, as well as stops based on candlesticks may then be used to manage the risk if exit setups and exit signals are triggered. These danger and exits signals, and the suggested stop levels should danger or exit signals take place, are set forth below.

5.4 Scaling Up

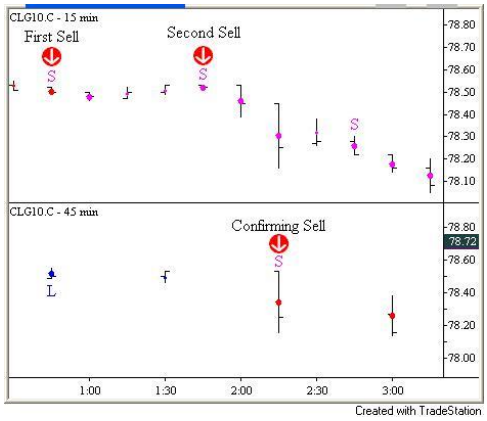
Once a trade has been entered and at stop placed at Dev3 monitor for exits on the timing chart. At the same time check the fast monitor for a confirming entry signal in the direction of the trade (i.e. long or short). Once a confirming signal is received on the longer bar length, the trade can be scaled up to that chart by moving the stop to the respective Dev3 for the fast monitor. The fast monitor may then be used to watch for exits. Now begin to look for a confirming entry signal on the normal monitor chart and repeat the scaling process.

The goal is to continue scaling a trade to longer bar lengths so that premature exits or whipsaws can be avoided and profits can run as markets trend. More risk is taken when stops are moved to

Dev3 on the longer bar lengths, but the confirming entry signals usually indicate the market is continuing to move in the profitable direction. If no confirming signal is triggered on the longer bar lengths and there is an exit signal generated, drop back to the flat position and monitor for a reentry.

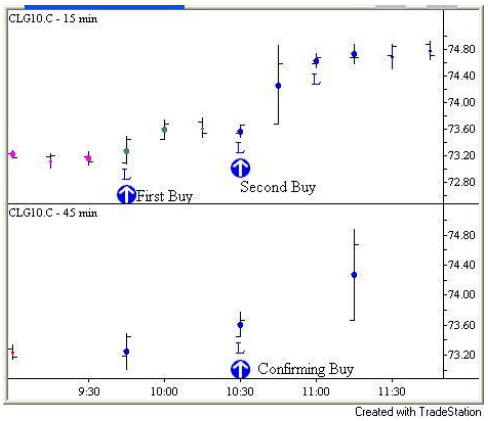
The chart below shows a scaling situation where the confirming entry signal comes after a trade has been entered. A 15-minute chart is shown on top and the 45-minute chart on the bottom. Here a second sell signal triggered a short entry at 1:45 PM. On the next 45-minute bar at 2:15 PM a confirming sell signal formed. Confirming signals must be designated by an 'S' for short and an 'L' for long, but can be first signals. At that point the trade is scaled to the 45-minute chart and the stop placed at Dev3, and accelerated thereafter as appropriate.

Scaling Up – Confirmation Late

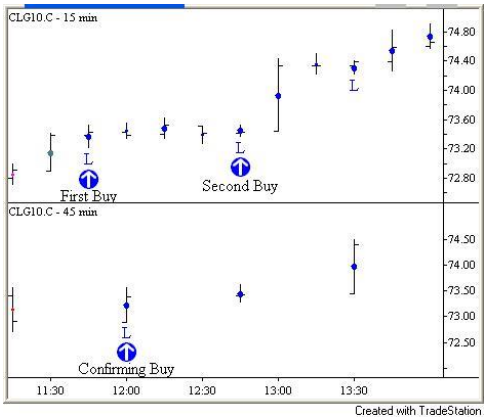


The confirmation signal does not always come after the entry signal. As shown on the left below, the confirmation signal formed on the same bar as the second entry signal. In this case the trade can be scaled to the longer bar length upon entry.

Scaling Up – Confirmation Same



Scaling Up – Confirmation Early



It is rare, but in some instances the confirmation signal will trigger before the second buy signal on the smaller bar length. This is shown in the chart on the right above. In this case, once the second buy has been triggered on the timing chart, and a trade entered long, it can be immediately scaled to the longer bar length.

5.5 Exiting a Trade

For exits use of three Kase indicators is recommended. These indicators are the KasePO, the KaseCD, and the DevStops. The KasePO and KaseCD are used to identify potential turns through divergences, PeakOuts and KCDpeaks. The DevStops are used to identify exit points. As discussed earlier, anytime a trade is entered a stop is placed at Dev3 by default. Tighter stops are used to manage risk when there are danger or exit signals present.

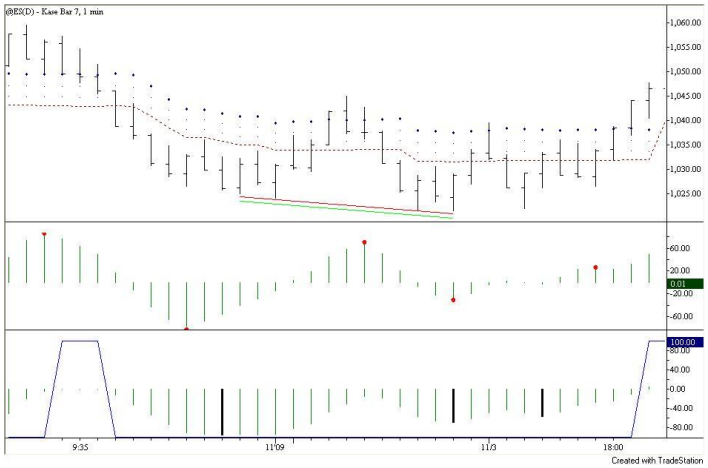
There are five exit strategies that are normally used. These signals are listed below in order of importance (highest to lowest), and a higher strategy overrides a lower. For example a dual divergence with a KCDpeak calls for a 100% exit even though a KCDpeak alone only calls for 50%. If there is a KCDpeak and an early PeakOut, then 50% is exited right away even though the PeakOut only calls for one-third at Dev1. The Recommended Action column shows how much of a trade should be exited and what stop(s) should be used after the signal takes place.

	Signal Description	Recommended Action
1.	Dual Divergence: on KasePO AND KaseCD	100%
2.	Divergence on KasePO OR KaseCD OR PeakOut late in the direction of the dominant trend	80% + Dev1
3	Any KCDpeak	50% + Dev1
4.	PeakOut early in the trend	Dev1, 2 and 3 equally
5.	No Signal	100% at Dev3

5.5.1 Exit Signal 1 - Divergence on KasePO AND KaseCD

Whenever there is a dual divergence, that is divergences on the KaseCD AND the KasePO, exit 100% of the trade. This is the strongest signal found in Kase's studies. Dev1 is hit 95% of the time following this signal.

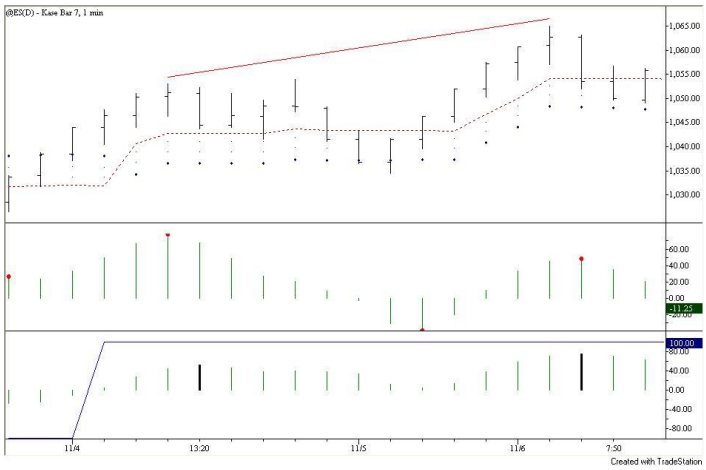
Exit Signal 1 - KasePO AND KaseCD Divergence



5.5.2 Exit Signal 2A – Single Divergence on KasePO OR KaseCD

Whenever there is a divergence on the KaseCD OR the KasePO (but not both), exit 80% of the trade and pull stops in to Dev1 for the remaining 20%. Dev1 is hit 83% of the time following this type of signal.

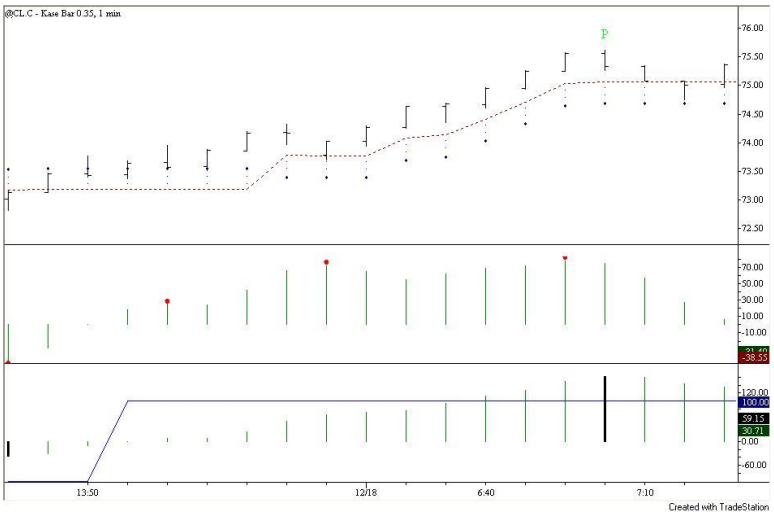
Exit Signal 2A - KasePO OR KaseCD Divergence



5.5.3 Exit Signal 2B - PeakOut Late In the Direction of Trend

Whenever there is a PeakOut late in the direction of the trend exit 80% of the trade and pull stops in to Dev1. Following this signal, Dev1 has been hit 79% of the time.

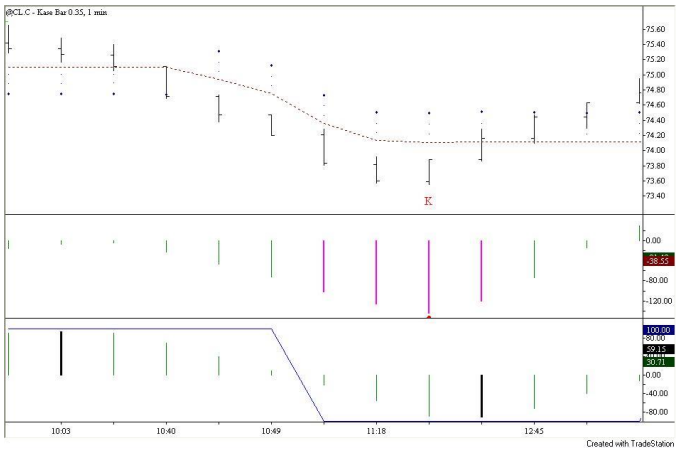
Exit Signal 2B - PeakOut late in trend



5.5.4 Exit Signal 3 - KCDpeak

Whenever there is a KCDpeak with no divergence exit 50% of the trade and pull stops in to Dev1. Following the KCDpeak, Dev1 is hit 52% of the time.

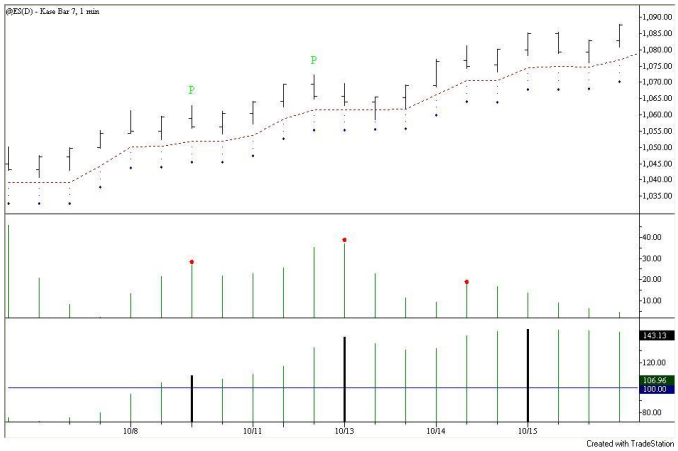
Exit Signal 3 - KCDpeak



5.5.5 Exit Signal 4 - PeakOut Early In the Direction of Trend

Whenever there is a PeakOut early in the direction of the trend (often following a sharp correction), stops are set to exit one third of the position at each of the three DevStops. In Kase's study, Dev1 was hit only 37% of the time following this signal, so taking an exit will many times result in a reentry just a few bars later. By pulling in stops and scaling out at Dev1, 2 and 3, exits are consistent with the observed probability of turns.

Exit Signal 4 - PeakOut early in trend



5.5.6 Exit Signal 5 – No Signal

Though rare, there are times when the market will reverse direction without warning, i.e. a PeakOut, KCDpeak or divergence. When this happens a full exit is take at Dev3.

5.5.7 Inactivity Exit Guidelines

At times the market will stagnate at which point an exit can be considered. If there is no profit in the trade after five to eight bars, an exit may be taken due to inactivity.

5.5.8 Position Holders - Daily Chart Exit Rules and Stops

The guidelines outlined above pertain specifically to day traders. For the most part, these rules can also be applied to position holders (traders who hold a position for days to weeks), but with minor variations to placing stops and exits. Position holders can establish a trade by scaling up from the normal monitor to the daily chart using the same scaling rules outlined in Section 5.5. Position holders can also use half- and third-day charts to monitor for exits and warning signals. The list below outlines some of the slightly modified guidelines for position holders.

1. When there are no exit signal setups, set default stop to Dev 3
2. Use candlesticks to accelerate stops as necessary (outlined in Section 5.7 below)
3. If there is no profit in the trade after 3 to 5 bars, exit on inactivity.

5.5.9 "Choppy Market" Trading Guidelines

Whenever the market is exhibiting corrective, sideways, or "coalescing" behavior, it is prudent to modify the standard trading guidelines as follows:

1. Trade lighter volume, e.g., 50% vs 100%.
2. Trade shorter bar lengths.
3. Exit more aggressively, e.g., 100% instead of 80%.
4. Default to Dev2 instead of Dev3.

5.6 Trading with the Kase Candlestick Indicators

In addition to the DevStops, Kase Candlesticks may be added to the trading strategy to fine-tune exits. Usually, Kase Candlesticks are only incorporated in the strategy when the equivalent of 90-minute bars or longer are being used. Note that the hanging man and hammer patterns cannot be used by themselves for exits, and so are not included in the discussion below.

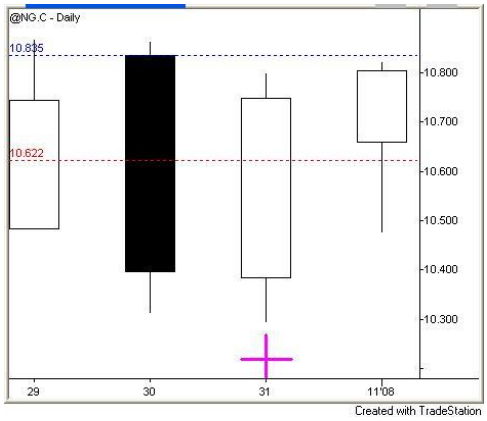
The concept with the candlesticks is that if a candlestick pattern is forming, the initial stops, either the warning line or Dev1, can be shifted to either the completion point –the midpoint of the initial Harami line, or the confirmation point – the open of the initial Harami line. When accelerating exits, for example, if the midpoint of the initial Harami line is being used instead of Dev1, then Dev1 would be used instead of Dev2, etc. Candlestick patterns should be taken into consideration, especially, if the pattern is coincident with a KCDpeak or PeakOut and/or divergence or setup(s).

5.6.1 The Kase Engulfing Candlestick Lines or The Kase Piercing and Dark Cloud Cover Candlesticks

There is no way before the close of either pattern to see if the bar will close beyond the initial bar's open or only at or beyond the midpoint. When trading intra-day, with the exception of the last bar of the day, wait for the bar to complete to determine if the close satisfies candlestick pattern requirements. For the last bar of the day and for daily and longer bars, an assumption about the close a few minutes early in anticipation of the close may be made to accelerate exits.

The example below shows a bullish piercing pattern. One would anticipate that the market was going to close above the completion point (red) and accelerate the exit by changing Dev1 to the price at that point. Then if Dev1 was above the confirmation point (blue), the confirmation point would become Dev2, otherwise Dev1 would take the place of Dev2, etc.

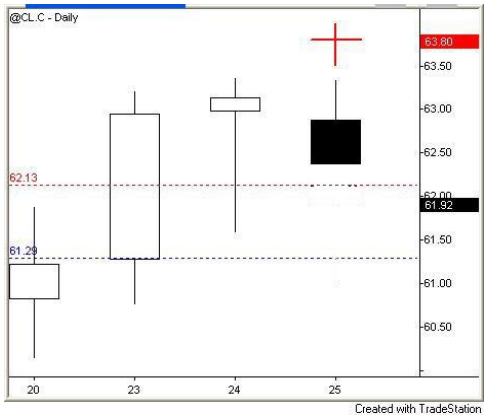
Bullish Piercing Pattern Accelerated Stops



5.6.2 The Kase Evening & Morning Star

After the formation of the first two candles – the Harami line followed by the star above or below the body of the Harami line - use accelerated stops. Both the completion and confirmation points can be used as shown in the chart below. The completion point replaces Dev1 and if Dev1 is above the confirmation point, the confirmation point replaced Dev2, otherwise Dev1 becomes Dev2 and so forth.

Evening Star Accelerated Stops



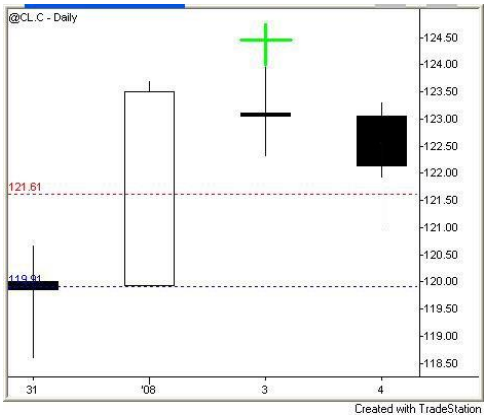
5.6.3 The Kase Harami Line and Star

In the case of the Harami Line and Stars, if the star's close is not at or beyond the midpoint of the Harami line, use the completion point for an exit on the next bar to accelerate exits. If the body straddles the midpoint or is below the midpoint, use the confirmation point on the next bar to

accelerate exits. In the first example on the left, the bearish Harami line and star is not complete because the midpoint of the Harami line has held on a closing basis. Therefore, stops can be placed at the completion point and/or the confirmation point to accelerate exits.

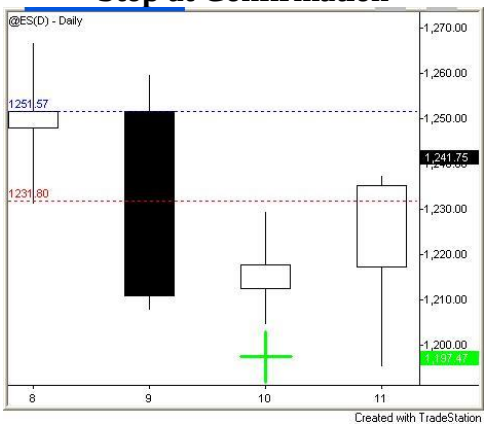
Bearish Harami Line and Star

Stops at Completion and Confirmation



Bullish Harami Line and Star

Stop at Confirmation



The example on the right shows an instance where the Harami line and star is completed, but not yet confirmed. Dev1 would be accelerated to the completion point. Dev2 would become the lower of Dev1 or the confirmation point.

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