

## **Bollinger On Bollinger Bands**

<http://www.bbands.com/support/?s=methods>

### **Methods Introduction**

The three Methods of using Bollinger Bands presented in "[Bollinger On Bollinger Bands](#)" illustrate three completely different philosophical approaches. Which one is for you we cannot say, as it is really a matter of what you are comfortable with. Try each out. Customize them to suit your tastes. Look at the trades they generate and see if you can live with them.

Though these techniques were developed on daily charts--the primary time frame we operate in--short-term traders may deploy them on five-minute bar charts, swing traders may focus on hourly or daily charts, while investors may use them on weekly charts. There is really no material difference as long as each is tuned to fit the user's criteria for risk and reward and each tested on the universe of securities the user trades, in the way the user trades.

Why the repeated emphasis on customization and fitting of risk and reward parameters? Because, no system no matter how good it is will be used if the user isn't comfortable with it. If you do not suit yourself, you will find out quickly that these approaches will not suit you.

"If these methods work so well, why do you teach them?" This is a frequent question and the answers are always the same. First, I teach because I love to teach. Second, and perhaps most important, because I learn as I teach. In researching and preparing the material for this book I learned quite a bit and I learned even more in the process of writing it.

"Will these Methods still work after they are published?" The question of continued effectiveness seems troublesome to many, but it is not really; these techniques will remain useful until the market structure changes sufficiently to render them moot. The reason effectiveness is not destroyed--no matter how widely an approach is taught, is that we are all individuals. If an identical trading system was taught to 100 people, a month later not more than two or three, if that many, would be using it as it was taught. Each would have taken it and modified it to suit their tastes, and incorporated into their unique way to doing things. In short no matter how specific/declarative a book gets, every reader will walk away from reading it with unique ideas and approaches, and that, as they say, is a good thing.

The greatest myth about Bollinger Bands is that you are supposed to sell at the upper band and buy at the lower band; it can work that way, but it doesn't have to. In Method I we'll actually buy when the upper band is exceeded and short when the lower band is broken to the downside. In Method II we'll buy on strength as we approach the upper band only if an indicator confirms and sell on weakness as the lower band is approached, again only if

confirmed by our indicator. In Method III we'll buy near the lower band, using a W pattern and an indicator to clarify the setup. Then we'll present a variation of Method III for sells.

## **Chapter 16**

### **Method I – Volatility Breakout**

Years ago the late Bruce Babcock of Commodity Traders Consumers Review interviewed me for that publication. After the interview we chatted for a while--the interviewing gradually reversed--and it came out that his favorite commodity trading approach was the volatility breakout. I could hardly believe my ears. Here is the fellow who had examined more trading systems--and done so rigorously--than anyone with the possible exception of John Hill of Futures Truth and he was saying that his approach of choice to trading was the volatility-breakout system? The very approach that I thought best for trading after a lot of investigation?

Perhaps the most elegant direct application of Bollinger Bands is a volatility breakout system. These systems have been around a long time and exist in many varieties and forms. The earliest breakout systems used simple averages of the highs and lows, often shifted up or down a bit. As time went on average true range was frequently a factor.

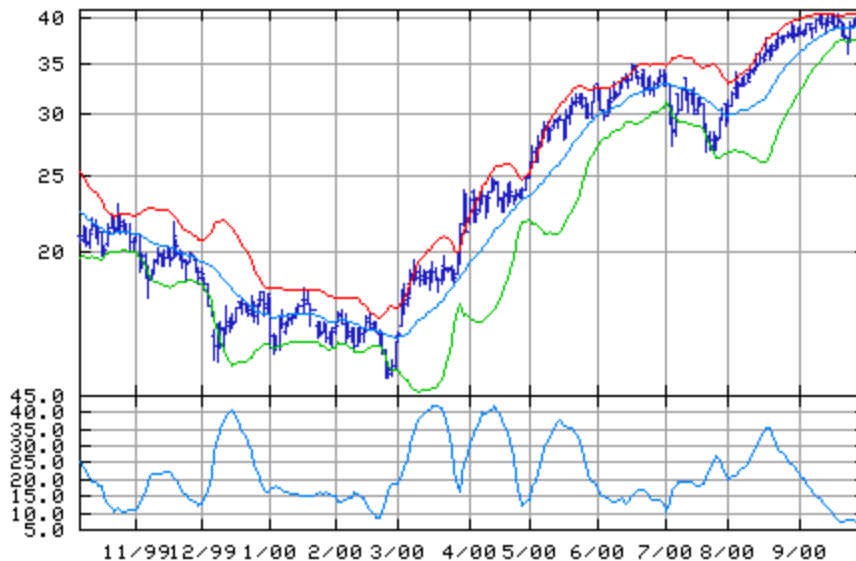
There is no real way of knowing when volatility, as we use it now, was incorporated as a factor, but one would surmise that one day someone noticed that breakout signals worked better when the averages, bands, envelopes, etc., were closer together and the volatility breakout system was born. (Certainly the risk-reward parameters are better aligned when the bands are narrow, a major factor in any system.)

Our version of the venerable volatility breakout system utilizes BandWidth to set the precondition and then takes a position when a breakout occurs. There are two choices for a stop/exit for this approach. First, Welles Wilder's Parabolic3, a simple, but elegant, concept. In the case of a stop for a buy signal, the initial stop is set just below the range of the breakout formation and then incremented upward each day the trade is open. Just the opposite is true for a sell. For those willing to pursue larger profits than those afforded by the relatively conservative Parabolic approach, a tag of the opposite band is an excellent exit signal. This allows for corrections along the way and results in longer trades. So, in a buy use a tag of the lower band as an exit and in a sell use a tag of the upper band as an exit.

The major problem with successfully implementing Method I is something called a head fake--discussed in the prior chapter. The term came from hockey, but it is familiar in many other arenas as well. The idea is a player with the puck skates up the ice toward an opponent. As he skates he turns his head in preparation to pass the defender; as soon as the defenseman commits, he turns his body the other way and safely snaps his shot. Coming out of a Squeeze, stocks often do the same; they'll first feint in the wrong direction and then make the real move. Typically what you'll see is a Squeeze, followed by a band tag, followed in turn by the real move. Most often this will occur within the bands and you

won't get a breakout signal until after the real move is under way. However, if the parameters for the bands have been tightened, as so many who use this approach do, you may find yourself with the occasional small whipsaw before the real trade appears.

Figure 16.1



Some stocks, indices, etc are more prone to head fakes than others. Take a look at past Squeezes for the item you are considering and see if they involved head fakes. Once a faker...

For those who are willing to take a non-mechanical approach trading head fakes, the easiest strategy is to wait until a Squeeze occurs--the precondition is set--then look for the first move away from the trading range. Trade half a position the first strong day in the opposite direction of the head fake, adding to the position when the breakout occurs and using a parabolic or opposite band tag stop to keep from being hurt.

Where head fakes aren't a problem, or the band parameters aren't set tight enough for those that do occur to be a problem, you can trade Method I straight up. Just wait for a Squeeze and go with the first breakout.

Volume indicators can really add value. In the phase before the head fake look for a volume indicator such as Intraday Intensity or Accumulation Distribution to give a hint regarding the ultimate resolution. MFI is another indicator that can be useful to improve success and confidence. These are all volume indicators and are taken up in Part IV.

The parameters for a volatility breakout system based on The Squeeze can be the standard parameters: 20-day average and +/- two standard deviation bands. This is true because in this phase of activity the bands are quite close together and thus the triggers are very close by. However, some short-term traders may want to shorten the average a bit, say to 15 periods and tighten the bands a bit, say to 1.5 standard deviations.

There is one other parameter that can be set, the look-back period for the Squeeze. The longer you set the look-back period--recall that the default is six months--the greater the compression you'll achieve and the more explosive the set ups will be. However, there will

be fewer of them. There is always a price to pay it seems.

Method I first detects compression through The Squeeze and then looks for range expansion to occur and goes with it. An awareness of head fakes and volume indicator confirmation can add significantly to the record of this approach. Screening a reasonable size universe of stocks--at least several hundred--ought to find at least several candidates to evaluate on any given day.

Look for your Method I setups carefully and then follow them as they evolve. There is something about looking at a large number of these setups, especially with volume indicators, that instructs the eye and thus informs the future selection process as no hard and fast rules ever can. I present here five charts of this type to give you an idea of what to look for.

Figure 16.2

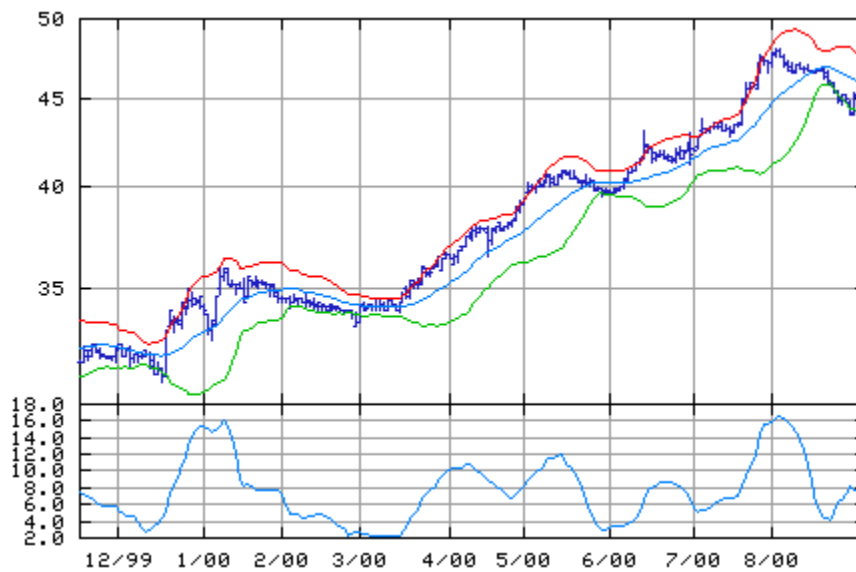


Figure 16.3



Figure 16.4

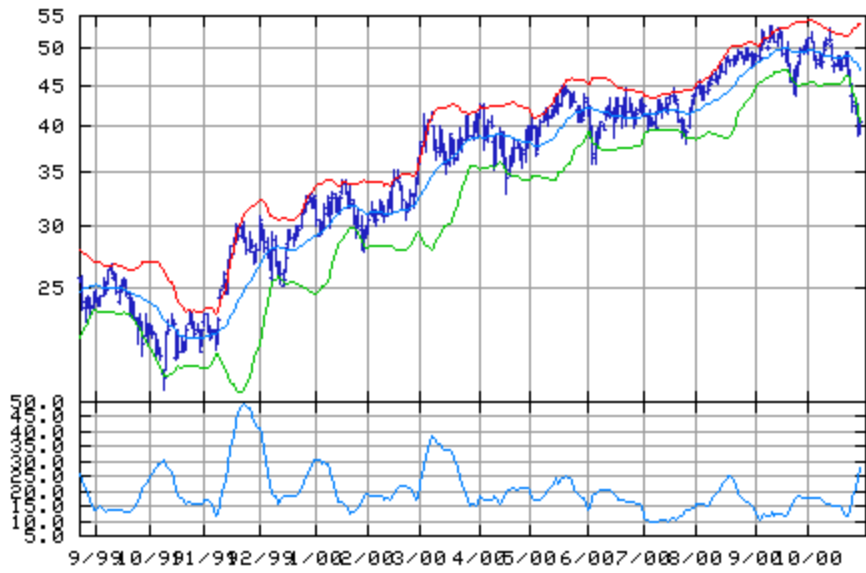
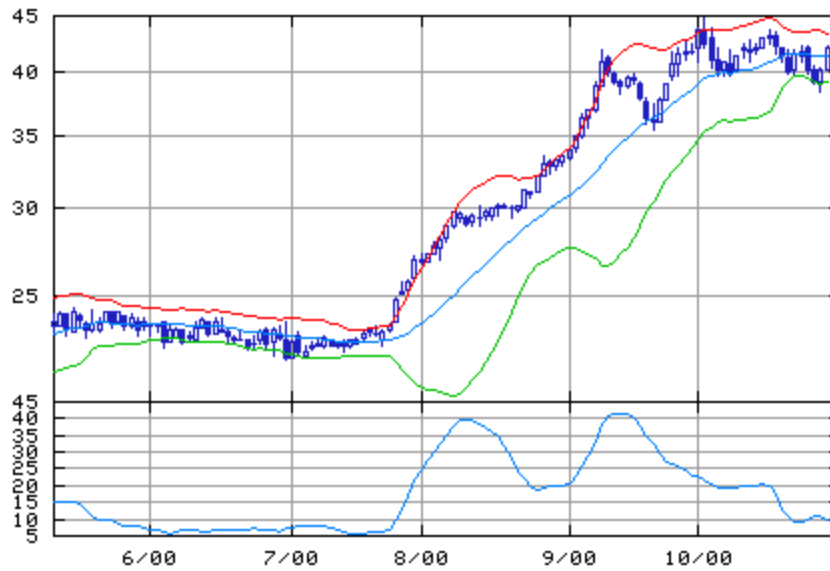


Figure 16.5



Figure 16.6



- Use the Squeeze as a set up
- Then go with an expansion in volatility
- Beware the head fake
- Use volume indicators for direction clues
- Adjust the parameters to suit yourself

## Chapter 19

### Method II – Trend Following

Our second Bollinger Band demonstration method relies upon the idea that strong price action accompanied by strong indicator action is a good thing. It is a confirmation approach that waits for these two conditions to be met before giving an entry signal. Of course, the opposite, weakness confirmed by weak indicators, generates a sell signal.

Figure 19.1



Figure 19.2



In essence this is a variation on Method I, with an indicator, MFI, being used for confirmation and no requirement for a Squeeze. This method may anticipate some Method I signals.

We'll use the same exit techniques, a modified version of Parabolic or a tag of the Bollinger Band on the opposite side of the trade. The idea is that both %b for price and MFI must rise above our threshold. The basic rule is: If %b is greater than 0.8 and MFI(10) is greater than 80, then buy.

Recall that %b shows us where we are within the bands; at 1 we are at the upper band and at 0 we are at the lower band. So, at 0.8 %b is telling us that we are 80% of the way up from the lower band to the upper band. Another way of looking at that is that we are in the top 20% of the area between the bands. MFI is a bounded indicator running between 0 and 100. 80 is a very strong reading representing the upper trigger level, similar in significance to 70 for RSI.

So, Method II combines price strength with indicator strength to forecast higher prices, or price weakness with indicator weakness to forecast lower prices.

We'll use the basic Bollinger Band settings of 20 periods and +/- two standard deviations. To set the MFI parameters we'll employ an old rule; indicator length should be approximately half the length of the calculation period for the bands. Though the exact origin of this rule is unknown to me, it is likely an adaptation of a rule from cycle analysis that suggests using moving averages a quarter the length the dominant cycle. Experimentation showed that periods a quarter of the calculation period for the bands were generally too short, but that a half-length period for the indicators worked quite well. As with all things these are but starting values. This approach offers many variations you can explore. Also, any of the inputs could be varied as a function of the characteristics of the vehicle being traded to create a more adaptive system.

Table 19.1 - Method II Variations

Volume-Weighted MACD could be substituted for MFI.



The strength (threshold) required for both %b and the indicator can be varied.  
The speed of the parabolic also can be varied.  
The length parameter for the Bollinger Bands could be adjusted.

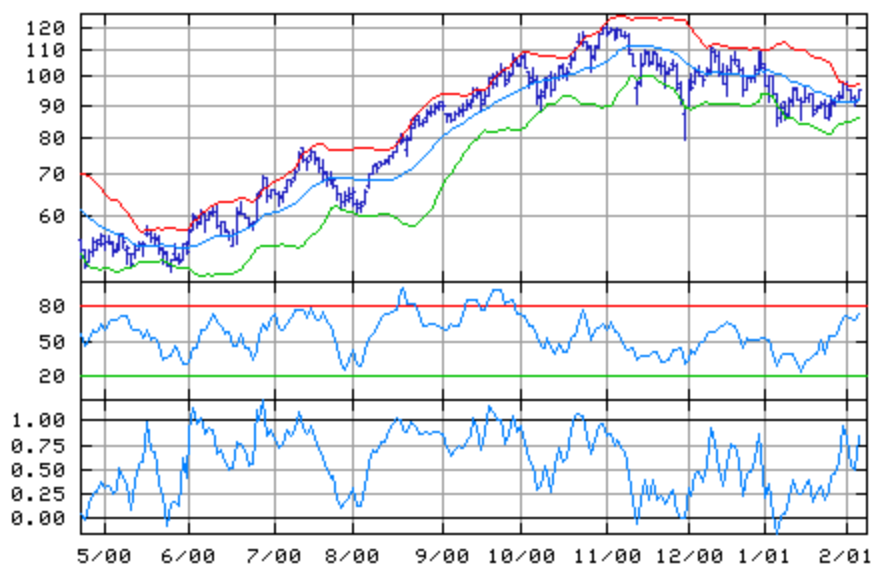
The main trap to avoid is late entry, since much of the potential may have been used up. A problem with Method II is that the risk/reward characteristics are harder to quantify, as the move may have been underway for a bit before the signal is issued. One approach to avoiding this trap is to wait for a pullback after the signal and then buy the first up day. This will miss some setups, but those remaining will have better risk /reward ratios

It would be best to test this approach on the types of stocks you actually trade or want to trade, and set the parameters according to the characteristics of those stocks and your own risk/reward criteria. For example, if you traded very volatile growth stocks you might look at higher levels for the %b (greater than one is a possibility), MFI and parabolic parameters. Higher levels of all three would pick stronger stocks and accelerate the stops more quickly. More risk adverse investors should focus on high parabolic parameters, while more patient investors anxious to give these trades more time to work out should focus on smaller parabolic constants which result in the stop-out level rising more slowly.

A very interesting adjustment is to start the parabolic not under the entry day as is common, but under the most recent significant low or turning point. For example, in buying a bottom the parabolic could be started under the low rather than on the entry day. This has the distinct advantage of capturing the character of the most recent trading. Using the opposite band as an exit allows these trades to develop the most, but may leave the stop uncomfortably far away for some.

This is worth reiterating: another variation of this approach is to use these signals as alerts and buy the first pullback after the alert is given. This approach will reduce the number of trades--some trades will be missed, but it will also reduce the number of whipsaws. In essence this is quite a robust method that should be adaptable to a wide variety of trading styles and temperaments.

Figure 19.3



There is one other idea here that can be important: Rational Analysis. This Method buys confirmed strength and sells confirmed weakness. So wouldn't it be a good idea to presort our universe of candidates by fundamental criteria, creating buy lists and sell lists? Then take only buy signals for the stocks on the buy list and sell signals for the stocks on the sell list. Such filtering is beyond the scope of this book, but Rational Analysis, the juncture of the sets of fundamental and technical analysis, offers a robust approach to the problems most investors face. Prescreening for desirable fundamental candidates or problematic stocks is sure to improve your results.

Another approach to filtering signals is to look at the EquityTrader.com Performance Ratings and take buys on stocks rated 1 or 2 and sell on stocks rated 4 or 5. These are front-weighted, risk-adjusted performance ratings, which can be thought of as relative strength compensated for downside volatility.

- The method buys strength
- Buy when %b is greater than 0.8 and MFI is greater than 80
- Use a parabolic stop
- May anticipate Method I
- Explore the variations
- Use Rational Analysis

## **Chapter 20**

### **Method III — Reversals**

Somewhere in the early 1970s the idea of shifting a moving average up and down by a fixed percentage to form an envelope around the price structure caught on. All you had to do was multiply the average by one plus the desired percent to get the upper band or divide by one plus the desired percent to get the lower band, which was a computationally easy idea at a time when computation was either time consuming or costly. This was the day of columnar pads, adding machines and pencils, and for the lucky, mechanical calculators.

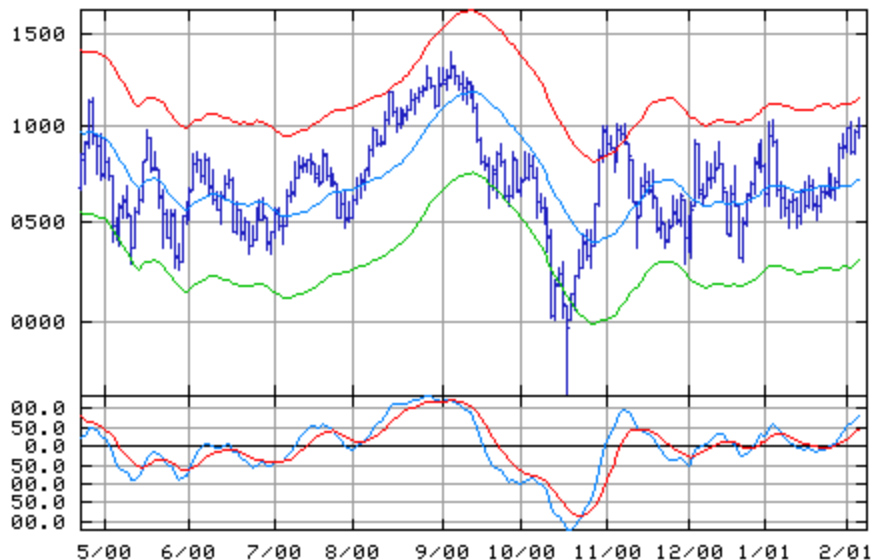
Naturally market timers and stock pickers quickly took up the idea as it gave them access to definitions of high and low they could use in their timing operations. Oscillators were very much in vogue at the time and this led to a number of systems comparing the action of price within percent bands to oscillator action. Perhaps the best known at the time--and still widely used today--was a system that compared the action of the Dow Jones Industrial Average within bands created by shifting its 21-day moving average up and down four percent to one of two oscillators based on broad market trading statistics. The first was a 21-day sum of advancing minus declining issues on the NYSE. The second, also from the NYSE, was a 21-day sum of up-volume minus down-volume. Tags of the upper band accompanied by negative oscillator readings from either oscillator were taken as sell signals. Buy signals were generated by tags of the lower band accompanied by positive oscillator readings from either oscillator. Coincident readings from both oscillators served to increase confidence. For stocks for which broad market data wasn't available, a volume indicator such as a 21-day version Bostian's Intraday Intensity was used. This approach and a myriad of variants remain in use today as useful timing guides.

Many modifications to this approach are possible and many have been made. My own contribution was to substitute a departure graph for the 21-day summing technique used for

the oscillators. A departure graph is a graph of the difference of two averages, a short-term average and a long-term average. In this case the averages are of daily advances minus declines and daily up-volume minus down-volume and the periods to use for the averages are 21 and 100. The plot is of the short-term average minus the long-term average.

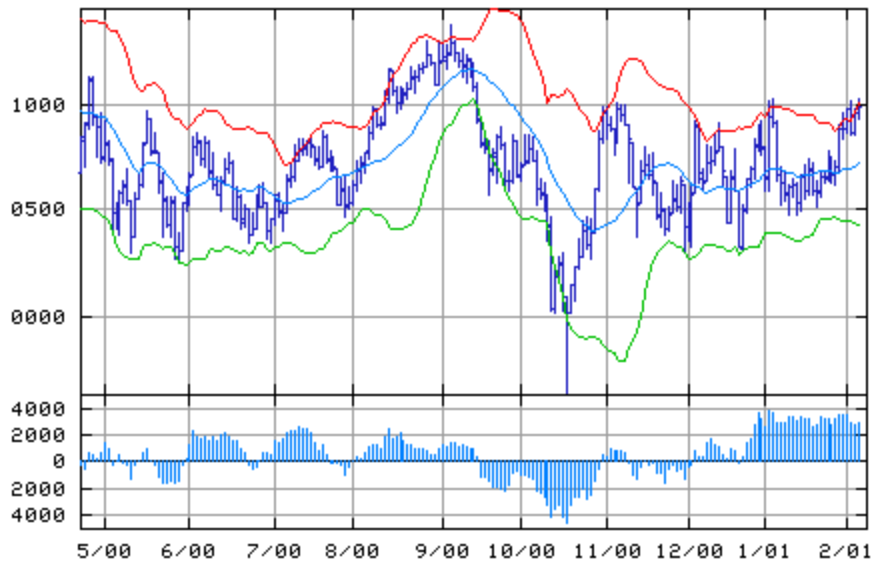
The prime benefit of using the departure technique to create the oscillators is that the use of the long-term moving average has the effect of adjusting (normalizing) for long-term biases in market structure. Without this adjustment a simple Advance-Decline oscillator or Up Volume-Down Volume oscillator will likely fool you from time to time. However, using the difference between averages very nicely adjusts for the bullish or bearish biases that cause the problem.

Figure 20.1



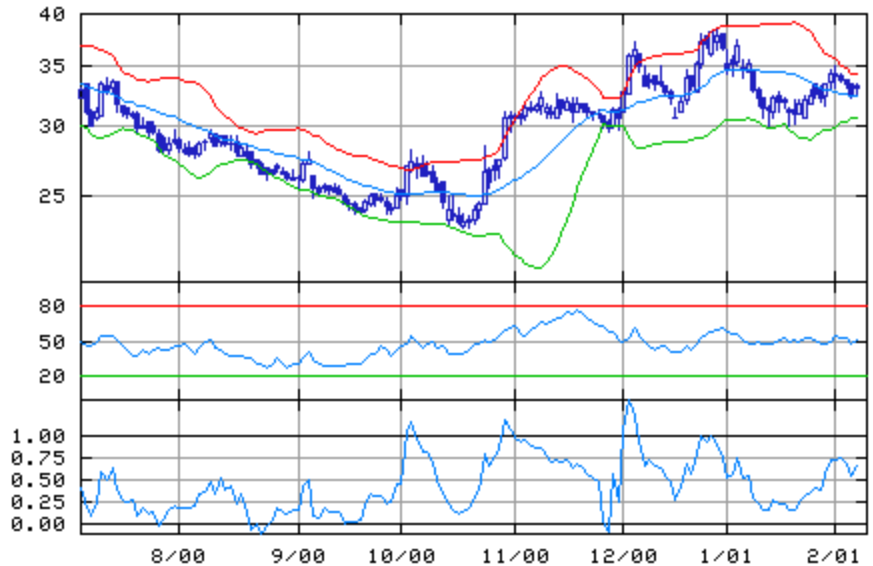
Choosing the departure technique also means that you can use the widely available MACD calculation to create the oscillators. Set the first MACD parameter to 21, the second to 100 and the third to nine. This sets the period for the short-term average to 21 days, the period for the long-term average to 100 days and leaves the period for the signal line at the default, nine days. The data inputs are advances-declines and up volume-down volume. If the program you are using wants the inputs in percents, the first should be 9%, the second 2% and the third 18%. Now substitute Bollinger Bands for the percentage bands and you have the core of a very useful reversal system for timing markets.

Figure 20.2



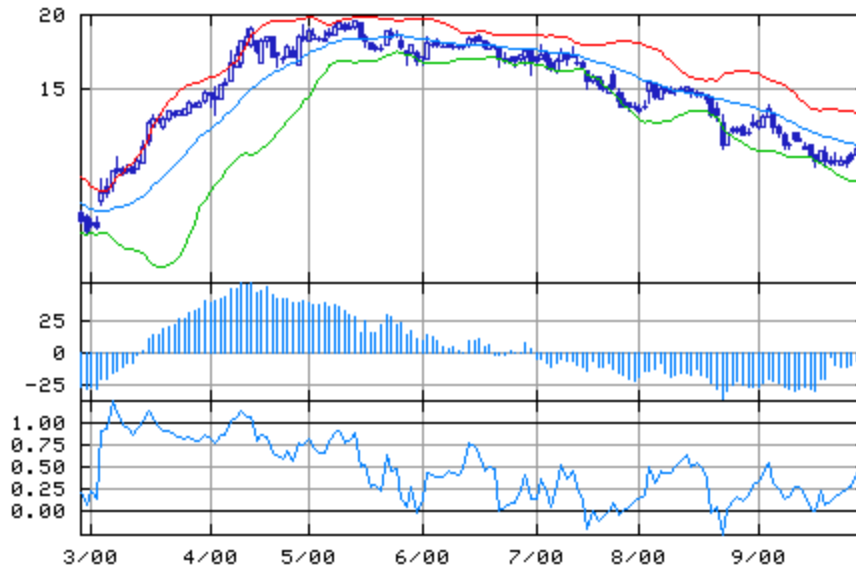
In a similar vein we can use indicators to clarify tops and bottoms and confirm reversals in trend. To wit, if we form a W2 bottom with %b higher on the retest than on the initial low-- a relative W4--check your volume oscillator, either MFI or VWMACD, to see if it has a similar pattern. If it does, then buy the first strong up day; if it doesn't, wait and look for another setup.

Figure 20.3



The logic at tops is similar, but we need to be more patient. As is typical, the top takes longer and usually presents the classic three or more pushes to a high. In a classic formation, %b will be lower on each push as will a volume indicator such as Accumulation Distribution. After such a pattern develops look at selling meaningful down days where volume and range are greater than average.

Figure 20.4



What we are doing in Method III is clarifying tops and bottoms by involving an independent variable, volume in our analysis via the use of volume indicators to help get a better picture of the shifting nature of supply and demand. Is demand increasing across a W bottom? If so, we ought to be interested in buying. Is supply increasing each time we make a new push to a high? If so, we ought to be marshalling our defenses or thinking about shorting if so inclined.

The bottom line here is clarification of patterns that are otherwise interesting, but on which you might not have the confidence to act without corroboration.

- Buy setup: lower band tag and the oscillator positive
- Sell setup: upper band tag and oscillator negative
- Use MACD to calculate the breath indicators

#### **Method IV — Confirmed Breakouts**

Bollinger on Bollinger Bands System IV, a simple and direct approach to confirmed breakouts. The basic pattern is a three-day sequence.

- Day 1: Close inside the band and bandwidth within 25% of lowest bandwidth in 6 months.
- Day 2: Close outside the band.
- Day 3: Intraday - Alert (not yet confirmed) if we trade higher (lower for sell patterns) than the close of Day 2.
- End of Day: Signal (confirmed breakout) if we close higher (lower) than the close of Day 2.
-

In essence we are looking for stocks that are strong (weak) enough to get outside the bands and then extend their moves.