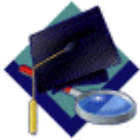


Trading Strategies



John Murphy is a very popular author, columnist, and speaker on the subject of Technical Analysis. StockCharts.com is very glad to include his Ten Laws of Technical Trading in our educational material. If you find this information useful, please visit [the MurphyMorris web site](#) for additional examples of John's insight.

John Murphy's Ten Laws of Technical Trading

Which way is the market moving? How far up or down will it go? And when will it go the other way? These are the basic concerns of the technical analyst. Behind the charts and graphs and mathematical formulas used to analyze market trends are some basic concepts that apply to most of the theories employed by today's technical analysts.

John Murphy, a leader in technical analysis of futures markets, has drawn upon his thirty years of experience in the field to develop ten basic laws of technical trading: rules that are designed to help explain the whole idea of technical trading for the beginner and to streamline the trading methodology for the more experienced practitioner. These precepts define the key tools of technical analysis and how to use them to identify buying and selling opportunities.

Mr. Murphy was the technical analyst for CNBC-TV for seven years on the popular show "Tech Talk" and has authored three best-selling books on the subject -- [Technical Analysis of the Financial Markets](#), [Intermarket Technical Analysis](#) and [The Visual Investor](#).

His most recent book demonstrates the essential "visual" elements of technical analysis. The fundamentals of Mr. Murphy's approach to technical analysis illustrate that it is more important to determine *where* a market is going (up or down) rather than the *why* behind it.

The following are Mr. Murphy's ten most important rules of technical trading:

1. [Map the Trends](#)
2. [Spot the Trend and Go With It](#)
3. [Find the Low and High of It](#)

4. [Know How Far to Backtrack](#)
5. [Draw the Line](#)
6. [Follow That Average](#)
7. [Learn the Turns](#)
8. [Know the Warning Signs](#)
9. [Trend or Not a Trend?](#)
10. [Know the Confirming Signs](#)

1. Map the Trends

Study long-term charts. Begin a chart analysis with monthly and weekly charts spanning several years. A larger scale "map of the market" provides more visibility and a better long-term perspective on a market. Once the long-term has been established, then consult daily and intra-day charts. A short-term market view alone can often be deceptive. Even if you only trade the very short term, you will do better if you're trading in the same direction as the intermediate and longer term trends.

2. Spot the Trend and Go With It

Determine the trend and follow it. Market trends come in many sizes -- long-term, intermediate-term and short-term. First, determine which one you're going to trade and use the appropriate chart. Make sure you trade in the direction of that trend. Buy dips if the trend is up. Sell rallies if the trend is down. If you're trading the intermediate trend, use daily and weekly charts. If you're day trading, use daily and intra-day charts. But in each case, let the longer range chart determine the trend, and then use the shorter term chart for timing.

3. Find the Low and High of It

Find [support](#) and [resistance](#) levels. The best place to buy a market is near support levels. That support is usually a previous reaction low. The best place to sell a market is near resistance levels. Resistance is usually a previous peak. After a resistance peak has been broken, it will usually provide support on subsequent pullbacks. In other words, the old "high" becomes the new "low." In the same way, when a support level has been broken, it will usually produce selling on subsequent rallies -- the old "low" can become the new "high."

4. Know How Far to Backtrack

Measure percentage retracements. Market corrections up or down usually retrace a significant portion of the previous trend. You can measure the corrections in an existing trend in simple percentages. A fifty percent retracement of a prior trend is most common. A minimum retracement is usually one-third of the prior trend. The maximum retracement is usually two-thirds. [Fibonacci](#) retracements of 38% and 62% are also worth watching. During a pullback in an uptrend, therefore, initial buy points are in the 33-38% retracement area.

5. Draw the Line

Draw [trend lines](#). Trend lines are one of the simplest and most effective charting tools. All you need is a straight edge and two points on the chart. Up trend lines are drawn along two successive lows. Down trend lines are drawn along two successive peaks. Prices will often pull back to trend lines before resuming their trend. The breaking of trend lines usually signals a change in trend. A valid trend line should

be touched at least three times. The longer a trend line has been in effect, and the more times it has been tested, the more important it becomes.

6. Follow that Average

Follow [moving averages](#). Moving averages provide objective buy and sell signals. They tell you if existing trend is still in motion and help confirm a trend change. Moving averages do not tell you in advance, however, that a trend change is imminent. A combination chart of two moving averages is the most popular way of finding trading signals. Some popular futures combinations are 4- and 9-day moving averages, 9- and 18-day, 5- and 20-day. Signals are given when the shorter average line crosses the longer. Price crossings above and below a 40-day moving average also provide good trading signals. Since moving average chart lines are trend-following indicators, they work best in a trending market.

7. Learn the Turns

Track [oscillators](#). Oscillators help identify overbought and oversold markets. While moving averages offer confirmation of a market trend change, oscillators often help warn us in advance that a market has rallied or fallen too far and will soon turn. Two of the most popular are the [Relative Strength Index \(RSI\)](#) and [Stochastics](#). They both work on a scale of 0 to 100. With the RSI, readings over 70 are overbought while readings below 30 are oversold. The overbought and oversold values for Stochastics are 80 and 20. Most traders use 14-days or weeks for stochastics and either 9 or 14 days or weeks for RSI. Oscillator divergences often warn of market turns. These tools work best in a trading market range. Weekly signals can be used as filters on daily signals. Daily signals can be used as filters for intra-day charts.

8. Know the Warning Signs

Trade [MACD](#). The Moving Average Convergence Divergence (MACD) indicator (developed by Gerald Appel) combines a moving average crossover system with the overbought/oversold elements of an oscillator. A buy signal occurs when the faster line crosses above the slower and both lines are below zero. A sell signal takes place when the faster line crosses below the slower from above the zero line. Weekly signals take precedence over daily signals. An [MACD histogram](#) plots the difference between the two lines and gives even earlier warnings of trend changes. It's called a "histogram" because vertical bars are used to show the difference between the two lines on the chart.

9. Trend or Not a Trend

Use ADX. The Average Directional Movement Index (ADX) line helps determine whether a market is in a trending or a trading phase. It measures the degree of trend or direction in the market. A rising ADX line suggests the presence of a strong trend. A falling ADX line suggests the presence of a trading market and the absence of a trend. A rising ADX line favors moving averages; a falling ADX favors oscillators. By plotting the direction of the ADX line, the trader is able to determine which trading style and which set of indicators are most suitable for the current market environment.

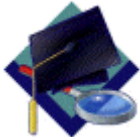
10. Know the Confirming Signs

Include [volume](#) and open interest. Volume and open interest are important

confirming indicators in futures markets. Volume precedes price. It's important to ensure that heavier volume is taking place in the direction of the prevailing trend. In an uptrend, heavier volume should be seen on up days. Rising open interest confirms that new money is supporting the prevailing trend. Declining open interest is often a warning that the trend is near completion. A solid price uptrend should be accompanied by rising volume and rising open interest.

"11."

Technical analysis is a skill that improves with experience and study. Always be a student and keep learning.



Richard Rhodes' Trading Rules

I must admit, I am not smart enough to have devised these ridiculously simple trading rules. A great trader gave them to me some 15 years ago. However, I will tell you, they work. If you follow these rules, breaking them as infrequently as possible, you will make money year in and year out, some years better than others, some years worse - but you will make money. The rules are simple. Adherence to the rules is difficult.

"Old Rules...but Very Good Rules"

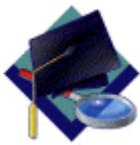
If I've learned anything in my 17 years of trading, I've learned that the simple methods work best. Those who need to rely upon complex stochastics, linear weighted moving averages, smoothing techniques, fibonacci numbers etc., usually find that they have so many things rolling around in their heads that they cannot make a rational decision. One technique says buy; another says sell. Another says sit tight while another says add to the trade. It sounds like a cliché, but simple methods work best.

1. The first and most important rule is - in bull markets, one is supposed to be long. This may sound obvious, but how many of us have sold the first rally in every bull market, saying that the market has moved too far, too fast. I have before, and I suspect I'll do it again at some point in the future. Thus, we've not enjoyed the profits that should have accrued to us for our initial bullish outlook, but have actually lost money while being short. In a bull market, one can only be long or on the sidelines. Remember, not having a position is a position.
2. Buy that which is showing strength - sell that which is showing weakness. The public continues to buy when prices have fallen. The professional buys because prices have rallied. This difference may not sound logical, but buying strength works. The rule of survival is not to "buy low, sell high", but to "buy higher and sell higher". Furthermore, when comparing various stocks within a group, buy only the strongest and sell the weakest.

3. When putting on a trade, enter it as if it has the potential to be the biggest trade of the year. Don't enter a trade until it has been well thought out, a campaign has been devised for adding to the trade, and contingency plans set for exiting the trade.
4. On minor corrections against the major trend, add to trades. In bull markets, add to the trade on minor corrections back into support levels. In bear markets, add on corrections into resistance. Use the 33-50% corrections level of the previous movement or the proper moving average as a first point in which to add.
5. Be patient. If a trade is missed, wait for a correction to occur before putting the trade on.
6. Be patient. Once a trade is put on, allow it time to develop and give it time to create the profits you expected.
7. Be patient. The old adage that "you never go broke taking a profit" is maybe the most worthless piece of advice ever given. Taking small profits is the surest way to ultimate loss I can think of, for small profits are never allowed to develop into enormous profits. The real money in trading is made from the one, two or three large trades that develop each year. You must develop the ability to patiently stay with winning trades to allow them to develop into that sort of trade.
8. Be patient. Once a trade is put on, give it time to work; give it time to insulate itself from random noise; give it time for others to see the merit of what you saw earlier than they.
9. Be impatient. As always, small losses and quick losses are the best losses. It is not the loss of money that is important. Rather, it is the mental capital that is used up when you sit with a losing trade that is important.
10. Never, ever under any condition, add to a losing trade, or "average" into a position. If you are buying, then each new buy price must be higher than the previous buy price. If you are selling, then each new selling price must be lower. This rule is to be adhered to without question.
11. Do more of what is working for you, and less of what's not. Each day, look at the various positions you are holding, and try to add to the trade that has the most profit while subtracting from that trade that is either unprofitable or is showing the smallest profit. This is the basis of the old adage, "let your profits run."
12. Don't trade until the technicals and the fundamentals both agree. This rule makes pure technicians cringe. I don't care! I will not trade until I am sure that the simple technical rules I follow, and my fundamental analyses, are running in tandem. Then I can act with authority, and with certainty, and patiently sit tight.
13. When sharp losses in equity are experienced, take time off. Close all trades and stop trading for several days. The mind can play games with itself following sharp, quick losses. The urge "to get the money back" is extreme, and should not be given in to.
14. When trading well, trade somewhat larger. We all experience those incredible periods of time when all of our trades are profitable. When that

happens, trade aggressively and trade larger. We must make our proverbial "hay" when the sun does shine.

15. When adding to a trade, add only 1/4 to 1/2 as much as currently held. That is, if you are holding 400 shares of a stock, at the next point at which to add, add no more than 100 or 200 shares. That moves the average price of your holdings less than half of the distance moved, thus allowing you to sit through 50% corrections without touching your average price.
16. Think like a guerrilla warrior. We wish to fight on the side of the market that is winning, not wasting our time and capital on futile efforts to gain fame by buying the lows or selling the highs of some market movement. Our duty is to earn profits by fighting alongside the winning forces. If neither side is winning, then we don't need to fight at all.
17. Markets form their tops in violence; markets form their lows in quiet conditions.



18. The final 10% of the time of a bull run will usually encompass 50% or more of the price movement. Thus, the first 50% of the price movement will take 90% of the time and will require the most backing and filling and will be far more difficult to trade than the last 50%.

There is no "genius" in these rules. They are common sense and nothing else, but as Voltaire said, "Common sense is uncommon." Trading is a common-sense business. When we trade contrary to common sense, we will lose. Perhaps not always, but enormously and eventually. Trade simply. Avoid complex methodologies concerning obscure technical systems and trade according to the major trends only.

The "Last" Stochastic Technique

The Stochastic oscillator is a momentum or price velocity indicator developed by George Lane. The calculation is very simple:

$$K = [(C-L)/(H-L)] * 100$$

Where:

K = Lane's Stochastic

C = latest closing price

L = then-period low price

H = the n-period high price

Additionally, Lane's methods specifically required that the K be smoothed twice with three-period simple moving averages. Two other calculations are then made:

SK = three period simple moving average of K

SD = three period simple moving average of SK

The classic interpretation of a stochastic can be complicated. The basic method is to buy when the SK is above the SD, and sell when the SK moves below the SD. However, the stochastic employs a fixed period-to-period calculation that can move about erratically as the earliest data point is dropped for the next day's calculation. Due to this instability and false signals generated, using a stochastic for entry and exit signals can incur a lot of unprofitable trades. To compensate for this inherent weakness, buy signals are generally reinforced when the crossover occurs in the 10-15% ranges, and sells in the 85-90% range.



Unfortunately, many techniques for using the stochastic oscillator can produce consistent losses over time. Some analysts have recommended smoothing the data further, or looking for a confirming [overbought/oversold](#) ratio prior to selling or buying. Most secondary filters such as overbought/oversold indicators degrade the performance of the stochastic in that one does not take advantage of major trends, getting [whipsawed](#) in and out.

K39 - The Last Stochastic Technique

A study published in "[The Encyclopedia of Technical Market Indicators](#)" found that some very good signals were given by an unsmoothed 39 period stochastic oscillator (K = 39, no signal line). A buy signal is generated when K crosses above 50% and the closing price is above the previous week's high close. Sell and/or sell short signals are created when the K line crosses below 50% and the closing price is below the previous week's low close. Taking a longer period, and not smoothing the data over a 3-period moving average allows the analyst to view Lane's Stochastic.

Note: You can add the Last Stochastic to our SharpChart charting tool by adding the "Slow Stochastic" indicator with parameters of 39 and 1. [Here is an example](#). Alternately, you can click on the link labelled "Scott McCormick's recommended settings for mutual funds" which is located below the chart.

In the chart below for MSFT, we see that the 39 period K crossed above 50% on June 14, at around \$72.00.



Weekly, Daily and Hourly through Minute data can all be used effectively for the 39 period stochastic. Using weekly data for three years, we see that the 39-Week Stochastic for MSFT didn't cross below 50% until late February, 2000.



The whipsaw that occurred for MSFT the following month shows the need for signal confirmation. If we look at CSCO for the last year on daily data, we see that by the 39 day stochastic, it was a hold from November 1999 at \$35 through early April 2000 at \$65 a share. Here again, we see a false rally at the end of April. What can be used for confirmation?



Confirmation

Since the Stochastic is a price momentum indicator, one should pair it with a volume assessment for trade confirmation. In the chart below, the [On Balance Volume \(OBV\)](#) indicator has been added along with a 30 day MA as a signal line.

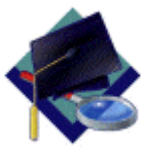
Cisco Systems, Inc. (CSCO) Nasdaq Nat. Mkt. © StockCharts.com
CSCO daily 11-Jul-2000 O:63.00 H:64.56 L:61.62 C:62.12 V:33.0M Chg:-1.00



[Current version](#) of this chart.

Notice that there was a bullish OBV crossover in early November 1999 and again in early June 2000 soon after the K line moved back above 50%. Although the Last Stochastic reversed in April, the OBV crossover did not occur. When the K line moved above 50% again in early June, confirmation soon followed.

One last point to remember is that all stocks are unique, and while the 39 period Stochastic is a useful technical indicator, one should always map the performance against your specific stock. Recently, most Tech stocks have evidenced a tendency to signal entry at a K crossover above 40% and a sell with K crossing below 60%. However, in volatile equities a second price or sentiment indicator along with a volume indicator provides the best confirmation.



Arthur Hill On Goals, Style and Strategy

Before investing or trading, it is important to develop a strategy or game plan that is consistent with your goals and style. The ultimate goal is to make money (win), but there are many different methods to go about it.

As with many aspects of trading, many sports offer a good analogy. A football team with goals geared towards ball control and low-scoring games might adapt a conservative style that focuses on the run. Teams that want to score often and score quickly are more likely to pursue an aggressive style geared towards passing. Teams are usually aware of their goal and style before they develop a game plan. Investors and traders can also benefit by keeping in mind their goals and style when developing a strategy.

Goals

First and foremost are goals. The first set of questions regarding goals should center on risk and return. One cannot consider return without weighing risk. It is akin to counting your chickens before they are hatched. Risk and return are highly correlated. The higher the potential return, the higher the potential risk. At one end of the spectrum are US Treasury bonds, which offer the lowest risk (so-called risk free rate) and a guaranteed return. For stocks, the highest potential returns (and risk) center around growth industries with stock prices that exhibit high [volatility](#) and high price multiples (PE, Price/Sales, Price/Hope). The lowest potential returns (and risk) come from stocks in mature industries with stock prices that exhibit relatively low volatility and low price multiples.

Style

After your goals have been established, it is time to develop or choose a style that is consistent with achieving those goals. The expected return and desired risk will affect your trading or investing style. If your goal is income and safety, buying or selling at extreme levels (overbought/oversold) is an unlikely style. If your goals center on quick profits, high returns and high risk, then bottom picking strategies and gap trading may be your style.

Styles range from aggressive day traders looking to scalp 1/4-1/2 point gains to investors looking to capitalize on long-term macro economic trends. In between,

there are a whole host of possible combinations including swing traders, position traders, aggressive growth investors, value investors and contrarians. Swing traders might look for 1-5 day trades, position traders for 1-8 week trades and value investors for 1-2 year trades.

Not only will your style depend on your goals, but also on your level of commitment. Day traders are likely to pursue an aggressive style with high activity levels. The goals would be focused on quick trades, small profits and very tight stop-loss levels. Intraday charts would be used to provide timely entry and exit points. A high level of commitment, focus and energy would be required.

On the other hand, position traders are likely to use daily end-of-day charts and pursue 1-8 week price movements. The goal would be focused on short to intermediate price movements and the level of commitment, while still substantial, would be less than a day trader. Make sure your level of commitment jibes with your trading style. The more trading involved, the higher the level of commitment.

Strategy

Once the goals have been set and preferred style adopted, it is time to develop a strategy. This strategy would be based on your return/risk preferences, trading/investing style and commitment level. Because there are many potential trading and investing strategies, I am going to focus on one hypothetical strategy as an example.

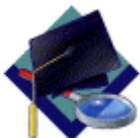
GOAL: First, the goal would be a 20-30% annual return. This is quite high and would involve a correspondingly high level of risk. Because of the associated risk, I would only allot a small percentage (5-10%) of my portfolio to this strategy. The remaining portion would go towards a more conservative approach.

STYLE: Although I like to follow the market throughout the day, I cannot make the commitment to day trading and use of intraday charts. I would pursue a position trading style and look for 1-8 week price movements based on end-of-day charts. Indicators will be limited to three with price action (candlesticks) and chart patterns will carry the most influence.

Part of this style would involve a strict money management scheme that would limit losses by imposing a stop-loss immediately after a trade is initiated. An exit strategy must be in place before the trade is initiated. Should the trade become a winner, the exit strategy would be revised to lock in gains. The maximum allowed per trade would be 5% of my total trading capital. If my total portfolio were 300,000, then I might allocate 21,000 (7%) to the trading portfolio. Of this 21,000, the maximum allowed per trade would be 1050 (21,000 * 5%).

STRATEGY: The trading strategy is to go long stocks that are near support levels and short stocks near resistance levels. To maintain prudence, I would only seek long positions in stocks with weekly (long-term) bull trends and short positions in stocks with weekly (long-term) bear trends. In addition, I would look for stocks that are starting to show positive (or negative) divergences in key momentum indicators as well as signs of accumulation (or distribution). My indicator arsenal would consist of two momentum indicators (PPO and Slow Stochastic Oscillator) and one volume indicator (Accumulation/Distribution Line). Even though the PPO and the Slow Stochastic Oscillator are momentum oscillators, one is geared towards the direction of momentum (PPO) and the other towards identifying overbought and oversold levels (Slow Stochastic Oscillator). As triggers, I would use key candlestick patterns, price reversals and gaps to enter a trade.

This is just one hypothetical strategy that combines goals with style and commitment. Some people have different portfolios that represent different goals, styles and strategies. While this can become confusing and quite time consuming, separate portfolios ensure that investment activities pursue a different strategy than trading activities. For instance, you may pursue an aggressive (high-risk) strategy for trading with a small portion of your portfolio and a relatively conservative (capital preservation) strategy for investing with the bulk of your portfolio. If a small percentage (~5-10%) is earmarked for trading and the bulk (~90-95%) for investing, the equity swings should be lower and the emotional strains less. However, if too much of a portfolio (~50-60%) is at risk through aggressive trading, the equity swings and the emotional strain could be large.



Arthur Hill On Moving Average Crossovers

A popular use for [moving averages](#) is to develop simple trading systems based on moving average crossovers. A trading system using two moving averages would give a buy signal when the shorter (faster) moving average advances above the longer (slower) moving average. A sell signal would be given when the shorter moving average crosses below the longer moving average. The speed of the systems and the number of signals generated will depend on the length of the moving averages. Shorter moving average systems will be faster, generate more signals and be nimble for early entry. However, they will also generate more false signals than systems with longer moving averages.

XIRC



For Xircom, a 30/100 exponential moving average crossover was used to generate signals. When the 30-day EMA moves above the 100-day EMA, a buy signal is in force. When the 30-day EMA declines below the 100-day EMA, a sell signal is in force. A plot of the 30/100 differential is shown below the price chart by using the Percentage Price Oscillator (PPO) set to (30,100,1). When the differential is positive, the 30-day EMA is greater than the 100-day EMA. When it is negative, the 30-day EMA is less than the 100-day EMA.

As with all trend-following systems, the signals work well when the stock develops a strong trend, but are ineffective when the stock is in a trading range. Some good entry points for long positions were caught in Sept-97, Mar-98 and Jul-99. However, an exit strategy based on the moving average crossover would have given back some of those profits. All in all, though, the system would have been profitable for the time period shown.

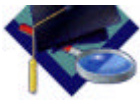
3COM



In the example for 3Com, a 20/60 EMA crossover system was used to generate buy and sell signals. The plot below the price is the 20/60 EMA differential, which is shown as a percent and displayed using the Percentage Price Oscillator (PPO) set at (20,60,1). The thin blue lines just above and below zero (the centerline) represent the buy and sell trigger points. Using zero as the crossover point for the buy and sell signals generated too many false signals. Therefore, the buy signal was set just above the zero line (at +2%) and the sell signal was set just below the zero line (at -2%). When the 20-day EMA is more than 2% above the 60-day EMA, a buy signal is in force. When the 20-day EMA is more than 2% below the 60-day EMA, a sell signal is in force.

There were a few good signals, but also a number of whipsaws. Although much would depend on the exact entry and exit points, I believe that a profit could have been made using this system, but not a large profit and probably not enough to justify the risk. The stock failed to hold a trend and tight stop-losses would have been required to lock in profits. A trailing stop or use of the parabolic SAR might have helped lock in profits.

Moving average crossover systems can be effective, but should be used in conjunction with other aspects of technical analysis (patterns, candlesticks, momentum, volume, and so on). While it is easy to find a system that worked well in the past, there is no guarantee that it will work in the future.



Gap Trading Strategies

Gap trading is a simple and disciplined approach to buying and shorting stocks. Essentially one finds stocks that have a price gap from the previous close and watches the first hour of trading to identify the trading range. Rising above that range signals a buy, and falling below it signals a short.

What is a Gap?

A gap is a change in price levels between the close and open of two consecutive days. Although most technical analysis manuals define the four types of gap patterns as Common, Breakaway, Continuation and Exhaustion, those labels are applied after the chart pattern is established. That is, the difference between any one type of gap from another is only distinguishable after the stock continues up or down in some fashion. Although those classifications are useful for a longer-term understanding of how a particular stock or sector reacts, they offer little guidance for trading.

For trading purposes, we define four basic types of gaps as follows:

A **Full Gap Up** occurs when the opening price is greater than yesterday's high price.

In the chart below for Cisco, the open price for June 2, indicated by the small tick mark to the left of the second bar in June (green arrow), is higher than the previous day's close, shown by the right-side tick mark on the June 1 bar.



A **Full Gap Down** occurs when the opening price is less than yesterday's low. The chart for Lycos, below, shows both a full gap up on May 16 (green arrow) and a full gap down the next day (red arrow).



A **Partial Gap Up** occurs when today's opening price is higher than yesterday's close, but not higher than yesterday's high.

The next chart for Earthlink depicts the partial gap up on June 1 (red arrow), and the full gap up on June 2 (green arrow).



A **Partial Gap Down** occurs when the opening price is below yesterday's close, but not below yesterday's low.

The red arrow on the chart for Offshore Logistics, below, shows where the stock opened below the previous close, but not below the previous low.



For the bulk of this tutorial, intraday charts of 2, 5 or 10 days will be used to demonstrate entry and exit signals for long and short positions. Notice that the intraday chart (below) is graphed slightly differently, showing a composite of the trades occurring every 15 minutes. Although a trade-by-trade intraday charting tool would show the exact bid and ask spread, this tutorial will refer to the left-side horizontal line of each bar as the open, and the right side horizontal bar as the close of each trade.



The beige vertical double lines represent day-to-day breaks, and the single beige vertical lines represent one or two hour divisions. Reference the time scale at the bottom of each chart.

Why Use Trading Rules?

In order to successfully trade gapping stocks, one should use a disciplined set of entry and exit rules to signal trades and minimize risk. Additionally, gap trading strategies can be applied to weekly, end-of-day, or intraday gaps. It is important for longer-term investors to understand the mechanics of gaps, as the 'short' signals can be used as the exit signal to sell holdings.

The Gap Trading Strategies

Each of the four gap types has a long and short trading signal, defining the eight gap trading strategies. The basic tenet of gap trading is to allow one hour after the market opens for the stock price to establish its range. A Modified Trading Method, to be discussed later, can be used with any of the eight primary strategies to trigger trades before the first hour, although it involves more risk. Once a position is entered, you calculate and set an 8% trailing stop to exit a long position, and a 4% trailing stop to exit a short position. A trailing stop is simply an exit threshold that follows the rising price or falling price in the case of short positions.

Long Example: You buy a stock at \$100. You set the exit at no more than 8% below that, or \$92. If the price rises to \$120, you raise the stop to \$110.375, which is approximately 8% below \$120. The stop keeps rising as long as the stock price rises. In this manner, you follow the rise in stock price with either a real or mental stop that is executed when the price trend finally reverses.

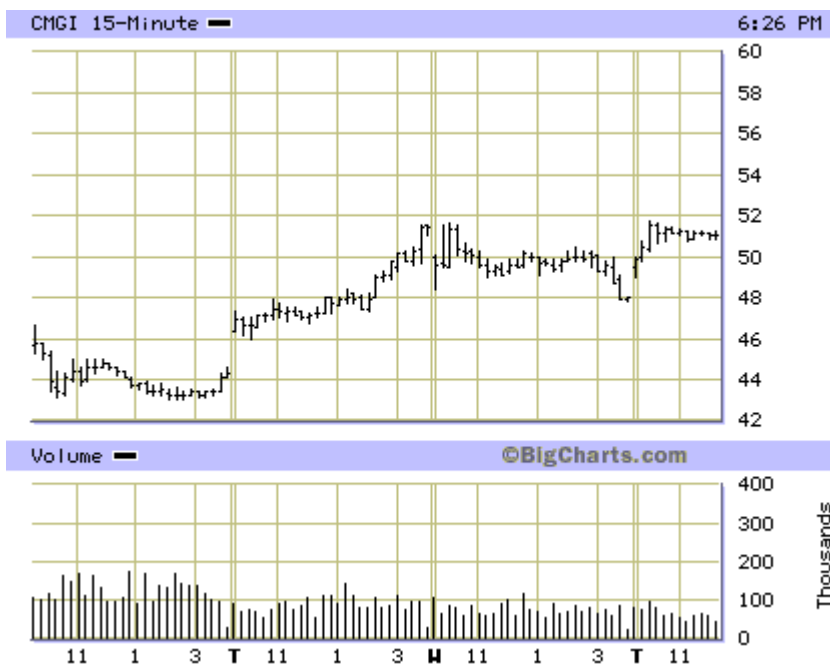
Short Example: You short a stock at \$100. You set the Buy-to-Cover at \$104 so that a trend reversal of 4% would force you to exit the position. If the price drops to \$90, you recalculate the stop at 4% above that number, or \$93 to Buy-to-Cover.

The eight primary strategies are as follows:

Full Gap Up: Long

If a stock's opening price is greater than yesterday's high, revisit the 1-minute chart after 10:30 am and set a long (buy) stop two ticks above the high achieved in the first hour of trading. (Note: A 'tick' is defined as the bid/ask spread, usually 1/8 to 1/4 point, depending on the stock.)

In the case of CMGI below, the stock gapped open on a Tuesday morning and opened at \$46.25. The high reached in the first hour of trading on the day of the gap was \$47.50. A buy stop at \$47.75, or two 1/8 ticks above the high, would have been triggered shortly before 11:00 am that day. CMGI closed at \$51.75 that day, for a \$4.00 (8.4%) gain.



An 8% protective sell stop is roughly \$44 on the day you entered, and over the next five days rises to \$53.875 (which is 8% below the final close of \$58.50). At this point, even if the sell stop is triggered, you are up over \$6, or 12.5%. At this level of price growth, however, one would normally reduce the sell stop to 5% or less to protect profit.

The chart below for AKAM shows that the high of \$83.5 was reached by 10:30 am, and a buy signal was generated when that price was broken around 2:15 PM. An entry of \$84 would have profited \$3 by the close, and the trailing stop would be set at \$80 (8% less than the \$87 close).

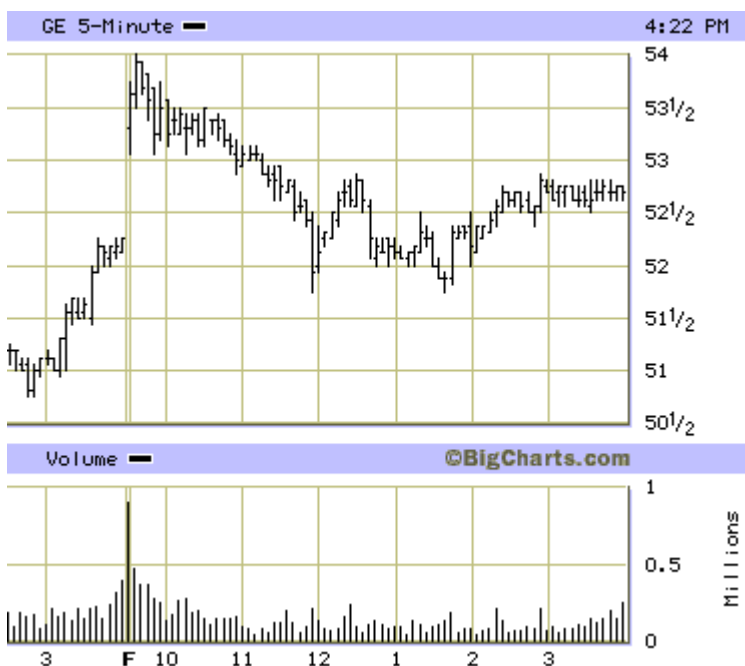


Full Gap Up: Short

If the stock gaps up, but there is insufficient buying pressure to sustain the rise, the stock price will level or drop below the opening gap price. Traders can set similar entry signals for short positions as follows:

If a stock's opening price is greater than yesterday's high, revisit the 1-minute chart after 10:30 am and set a short stop equal to two ticks below the low achieved in the first hour of trading.

In the case of General Electric, it gapped open, and established a low of \$53.25 in the first hour of trading. This support level was broken before 11:00 am and would have signaled a short entry at \$53. A trailing stop of 4% would set a Buy to Cover limit of \$55.125.

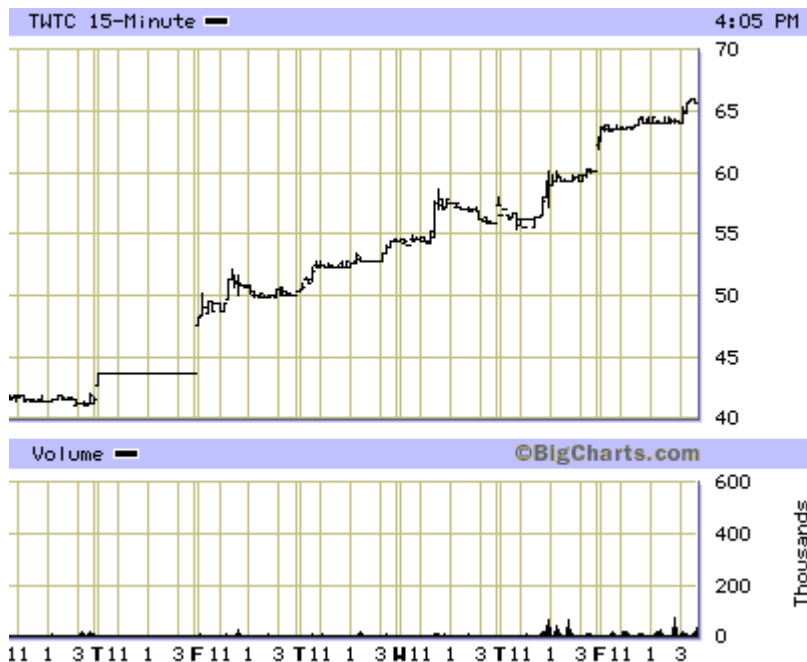


Full Gap Down: Long

Poor earnings, bad news, organizational changes and market influences can cause a stock's price to drop uncharacteristically. A full gap down occurs when the price is below not only the previous day's close, but the low of the day before as well. A stock whose price opens in a full gap down, then begins to climb immediately, is known as a "Dead Cat Bounce."

If a stock's opening price is less than yesterday's low, set a long stop equal to two ticks more than yesterday's low.

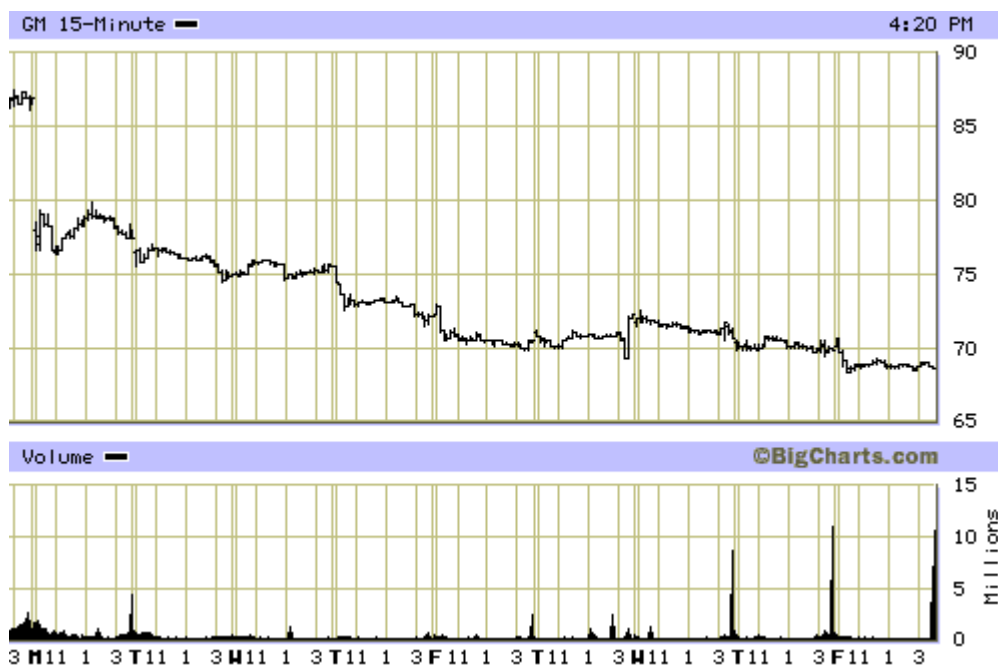
The Time Warner Telecom chart shows a full gap down 6 days ago at \$42, below the previous day's low at \$42.50. An entry signal for a long position was signaled with a gap at open to \$48, well above the \$43 buy stop. This chart illustrates why an immediate entry may be taken at open as long as it has been preceded by another gap signal. An 8% trailing stop after entry would never have forced an exit, and this trade would be up over 40% in one week.



Full Gap Down: Short

If a stock's opening price is less than yesterday's low, revisit the 1-minute chart after 10:30 am and set a short stop equal to two ticks below the low achieved in the first hour of trading.

The signal to short General Motors occurs the day after the major gap down at \$76. Although a 4% trailing stop would be calculated at \$79, the large volume spikes at close and open during the last two days of the chart would reasonably suggest accumulation and that it was time to buy to cover.



Partial Gaps

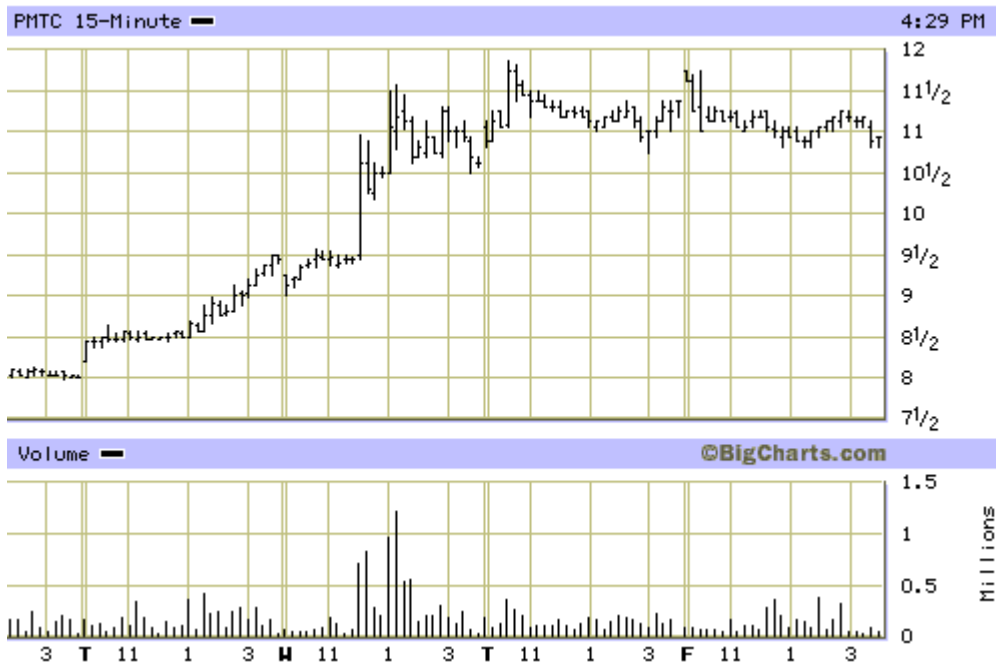
The difference between a Full and Partial Gap is risk and potential gain. In general, a stock gapping completely above the previous day's high has a significant change in the market's desire to own or sell it. Demand is large enough to force the market maker or floor specialist to make a major price change to accommodate the unfilled orders. Full gapping stocks generally trend farther in one direction than stocks which only partially gap. However, a smaller demand may just require the trading floor to only move price above or below the previous close in order to trigger buying or selling to fill on-hand orders. There is a generally a greater opportunity for gain over several days in full gapping stocks.

If there is not enough interest in selling or buying a stock after the initial orders are filled, the stock will return to its trading range quickly. Entering a trade for a partially gapping stock generally calls for either greater attention or closer trailing stops of 5-6%.

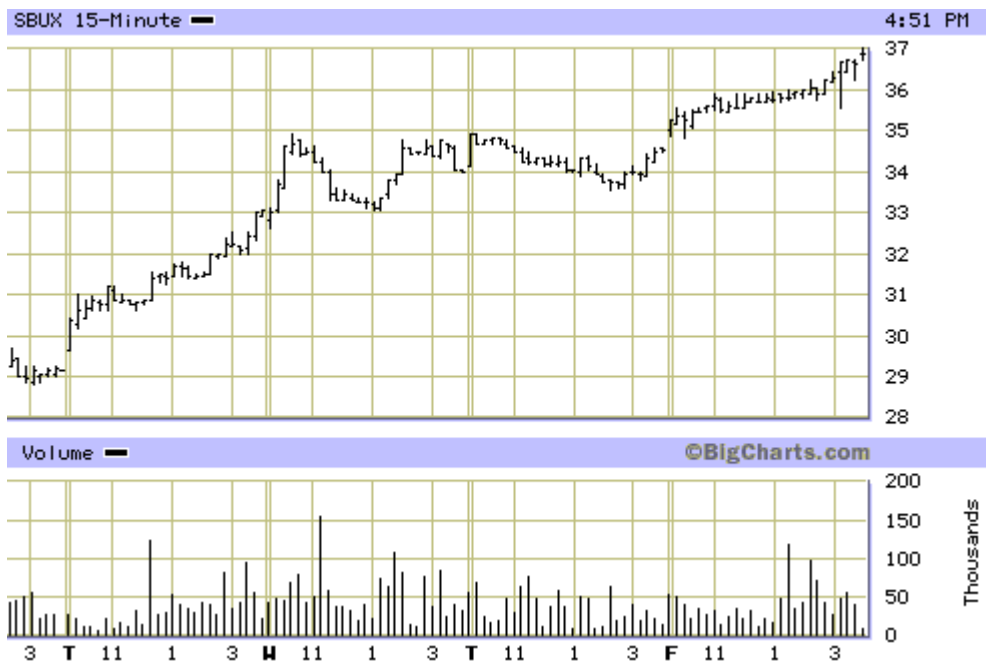
Partial Gap Up: Long

If a stock's opening price is greater than yesterday's close, but not greater than yesterday's high, the condition is considered a Partial Gap Up. The process for a long entry is the same for Full Gaps in that one revisits the 1-minute chart after 10:30 am and set a long (buy) stop two ticks above the high achieved in the first hour of trading.

Parametric Technologies chart gapped above the previous close and broke through the first hour's high around noon. The following three days provided a substantial return.



Starbucks similarly provided a partial gap up and broke through by noon on the day of the gap. It also climbed significantly for the following three days.



Partial Gap Up: Short

The short trade process for a partial gap up is the same for Full Gaps in that one revisits the 1-minute chart after 10:30 am and sets a short stop two ticks below the low achieved in the first hour of trading.

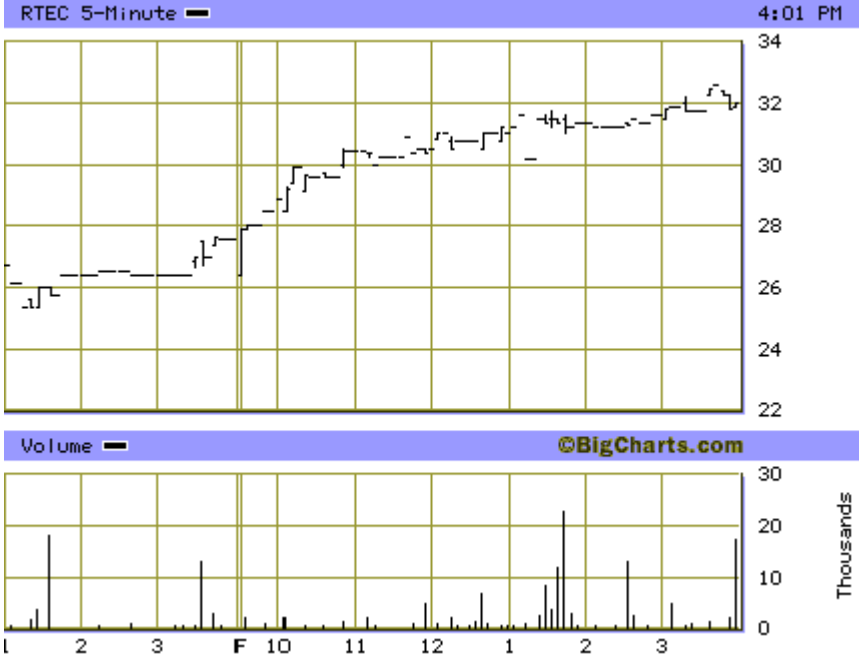
Perot System's open on the second of the two-day chart below is above the close but not above the high of the previous day. The low by 10:30 am was 15.625, broken at 11:30 am and triggering a short.



Partial Gap Down: Long

If a stock's opening price is less than yesterday's close, revisit the 1 minute chart after 10:30 am and set a buy stop two ticks above the high achieved in the first hour of trading.

Rudolph Technologies closed at \$27.50 and opened at \$26.5 the following day. The high by 10:30 am was \$30, and that was penetrated just before 11:00 am. A limit buy entry was signaled at \$30.25 and the stock closed at \$32.



Partial Gap Down: Short

The short trade process for a partial gap down is the same for Full Gap Down in

that one revisits the 1-minute chart after 10:30AM and sets a short stop two ticks below the low achieved in the first hour of trading.

If a stock's opening price is less than yesterday's close, set a short stop equal to two ticks less than the low achieved in the first hour of trading today.

Digital Insight closed at \$47 and opened as a partial gap down at \$46 the following morning. The low by 10:30 am was \$45 providing a \$44.50 short signal. DGIN sank from that entry and closed \$1 lower.



If the volume requirement is not met, the safest way to play a partial gap is to wait until the price breaks the previous high (on a long trade) or low (on a short trade).

End-of-day Gap Trading

All eight of the Gap Trading Strategies can be applied to end-of-day trading. One can use either intraday charts, such as the example for INIT below, or daily data charts like the DeBeers chart (DBRSY) further down. The trading strategy to be used should be obvious by now.



Using StockCharts.com's [Gap Scans](#), end-of-day traders can review those stocks with the best potential. Increases in volume for stocks gapping up or down is a strong indication of continued movement in the same direction of the gap. A gapping stock that crosses above resistance levels provides reliable entry signals. Similarly, a short position would be signalled by a stock whose gap down fails support levels.

What is the Modified Trading Method?

The Modified Trading Method applies to all eight Full and Partial Gap scenarios above. The only difference is instead of waiting until the price breaks above the high (or below the low for a short); you enter the trade in the middle of the rebound. The other requirement for this method is that the stock should be trading on at least twice the average volume for the last five days. This method is only

recommended for those individuals who are proficient with the eight strategies above, and have fast trade execution systems. Since heavy volume trading can experience quick reversals, mental stops are usually used instead of hard stops.

Modified Trading Method: Long

If a stock's opening price is greater than yesterday's high, revisit the 1 minute chart after 10:30 am and set a long stop equal to the average of the open price and the high price achieved in the first hour of trading. This method recommends that the projected daily volume be double the 5-day average.

Modified Trading Method: Short

If a stock's opening price is less than yesterday's low, revisit the 1 minute chart after 10:30 am and set a long stop equal to the average of the open and low price achieved in the first hour of trading. This method recommends that the projected daily volume be double the 5-day average.

Where do I find gapping stocks?

StockCharts.com publishes lists of stocks that [fully gapped up](#) or [fully gapped down](#) each day based on end-of-day data. This is an excellent source of ideas for longer term investors.

Intuit Corporation acquired Hutchinson Avenue Software Corporation and redeployed the Mach6 application as their [QuickQuotesLive](#) product. The Market Trends feature of this application provides timely lists of stocks on all exchanges with Full and Partial Up and Down Gaps, as well as a PreOpen Gap Up and Gap Down listing.

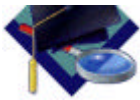
[ClearStation](#) also provides a list of Stocks gapping up and down for all major US markets under their Most Actives & Price Movers listing.

Although these are useful lists of gapping stocks, it is important to look at the longer term charts of the stock to know where the support and resistance may be, and play only those with an average volume above 500,000 shares a day until the gap trading technique is mastered. The most profitable gap plays are normally made on stocks you've followed in the past and are familiar with.

How successful is this?

In simple terms, the Gap Trading Strategies are a rigorously defined trading system that uses specific criteria to enter and exit. Trailing stops are defined to limit loss and protect profits. The simplest method for determining your own ability to successfully trade gaps is to paper trade. Paper trading does not involve any real transaction. Instead, one writes down or logs an entry signal and then does the same for an exit signal. Then subtract commissions and slippage to determine your potential profit or loss.

Gap trading is much simpler than the length of this tutorial may suggest. You will not find either the tops or bottoms of a stock's price range, but you will be able to profit in a structured manner and minimize losses by using stops. It is, after all, more important to be consistently profitable than to continually chase movers or enter after the crowd.



The Pre-Holiday Effect

Over the past century, there have been nine holidays during which the Exchanges have traditionally been closed. Historical research shows that stock prices often behave in a specific manner in each of the two trading days preceding these holidays. By becoming aware of this behavior, both short-term traders and longer-term investors can benefit.

The general strategy is to purchase equities one or two days prior to a holiday. Short-term traders would look to sell just after the holiday while longer-term investors would wait until year end. Both strategies have proven to be profitable plays. The theory behind this effect is that traders are lightening up their holdings (selling) prior to the three day holiday in order to avoid any unexpected bad news. The selling pressure drives stock prices down, making those days a good opportunity for buying lower in the range.

Here is the average pre-holiday results for the last 50 years, based on the S&P 500 Index:

Holiday	Buy two days before, sell at year end	Buy one day before, sell at year end
President's Day*	-0.1%	12.2%
Good Friday	7.3%	17.8%
Memorial Day	-4.7%	22.8%
Independence Day	13.3%	37.3%
Labor Day	16.8%	33.7%
Election Day	17.9%	4.6%
Thanksgiving	4.3%	1.1%
Christmas	-7.1%	15.2%
New Year's	31.1%	19.6%

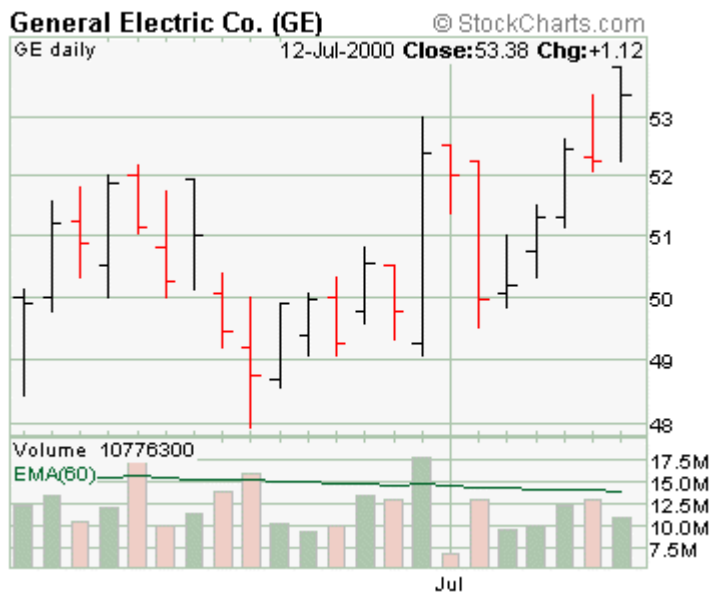
*Note: President's Day data is comprised of the aggregate of both Washington and Lincoln's Birthday prior to 1998.

The original research was based on the behavior of the S&P 500 Index around the 419 holiday market closings that occurred from 1928 to 1975.

To put those returns in perspective, if you had invested \$10,000 in the S&P 500 Index in January 1928 and sold it all in December 1975, you would have ended up with \$51,441. However, if you had invested one-ninth of your money just before each pre-holiday period (selling everything at the end of the year), you would have finished with \$1,440,716. Not bad!

The Short Term Trading Strategy

Short term trading using the this pre-holiday effect can provide excellent results. In the chart for GE, below, we see that a buy near open on June 30th would be accomplished around \$49.25. Selling at open on July 5th at \$52.50 provided excellent returns.



It is important to note that there are two holidays which often have a partial trading day during the holiday weekend - the day before Independence Day and the day after Thanksgiving. These days usually have a shortened trading session that can be extremely volatile. While they can be traded, volume is always very light and it may be difficult to get limit orders filled.

In the chart below for Motorola (MOT), we can see that a buy at \$30 on June 30th would have been a flat trade July 3rd, but rose \$2 and \$3 a share in the two days following the July 4th holiday.



For VOYN, we have a buy near close at \$8, and a sell just after the open on July 5th at \$9.5. The volume is less than 100,000 shares on average, and the stock is generally downtrending, but the method is still viable.



The Long Term Trading Strategy

Again, the theory says that stocks generally fall on those days because traders offload their holdings in order to avoid the risk of significant news appearing while the markets are closed. Longer-term investors who are willing to ride out any short-term negative news are rewarded with lower entry prices.

Here are four examples from the 2000 Memorial Day holiday (May 26th) where excellent entry points appeared:

General Magic, Inc (GMGC) © StockCharts.com

GMGC daily 12-Jul-2000 Close:6.81 Chg:+0.06



Rambus, Inc (RMBS) © StockCharts.com

RMBS daily 12-Jul-2000 Close:91.44 Chg:+4.19





Investors that took advantage of those dips should be rewarded by year end.