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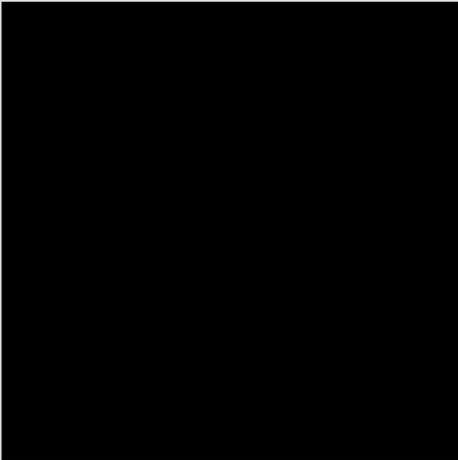
Opening Bell

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Dr. J.D. Smith
1940 - 2003

We are saddened to announce that AIQ's founder, Dr. J.D. Smith, passed away April 25, 2003. Dr. Smith founded AIQ in 1985 to develop the first Artificial Intelligence-based stock market system for use on desktop personal computers. Most of AIQ TradingExpert's reports, including the Weighted Action List, Group Analysis, and Market Log reports, came from Dr. Smith's research. He developed MatchMaker and Expert Rating technology.

Dr. Smith sold AIQ Systems to Track Data Corporation, New York City, in 1994. His efforts then turned to his passion for sailing. In 1995, he and his wife launched their new 48-foot catamaran and completed their maiden voyage from Texas to the Florida Keys. Since then, Dr. Smith spent six months of every year on the boat sailing to new destinations, culminating in his first trans-Atlantic voyage in 2002. He passed away doing what he loved best—sailing and deep sea diving. Dr. Smith is survived by his wife and AIQ co-founder Diana Kincade.

Although Dr. Smith was the Knowledge Engineer for AIQ, he came to realize that the most important part of being a successful trader had little to do with detailed analytical research. Instead, it dealt with an investor's personal trading habits. As a tribute to Dr. Smith, we are reprinting his most important article on the winning attributes found in successful traders.

The Winning Attitude

A Personal Trading Process

By Dr. J.D. Smith
Opening Bell, Summer 1992

The seminars we present are an excellent opportunity for me to meet and talk with many successful AIQ users. During the last two years, the experience has been extremely valuable to me because of the ideas for new features and systems that come from our users.

The seminars are also valuable to me because I am made aware of numerous examples of exactly how these successful top traders use our systems on a daily basis. That exposure plus the recent rash of speeches, articles, and books published on trading discipline, the psychology of trading, and profiles of market wizards has caused me to explore the human side of trading with AIQ systems.

What is it about our best users that causes them to be successful traders month after month, year after year? The

answer is not how they use our systems, because there are almost as many ways of using them as there are successful traders. The answer lies in personal trading habits.

I have found that the successful trader has a detailed personal trading process that is executed in exactly the same way all the time. That is the answer, a personal trading process that never varies. Without such a trading process, the chance of consistent success is severely reduced. The

“What is it about our best users that causes them to be successful traders month after month, year after year? The answer lies in personal trading habits.”

question now becomes — how does one develop a trading process?

Developing a trading process can be an interesting challenge because, to be useful, it must be personal. Each of us must develop our own in our own way. This is important because in order for our trading process to be effective it must match our personality; it

must take advantage of our strengths and it must compensate for our weaknesses. We must believe in it, and believe what it will do for us. We must own our own process.

A trading process is a detailed, step by step implementation of our personal trading plan. Thankfully, there exists a body of knowledge to assist in developing such a plan.

The general theory of *command systems* offers useful concepts of planning and control. The literature on trading techniques and trading discipline offers numerous personal qualities which have an impact on trading success. Combining planning and control concepts with the qualities of good trading practice provides us with a suitable framework upon which to build our own trading process.

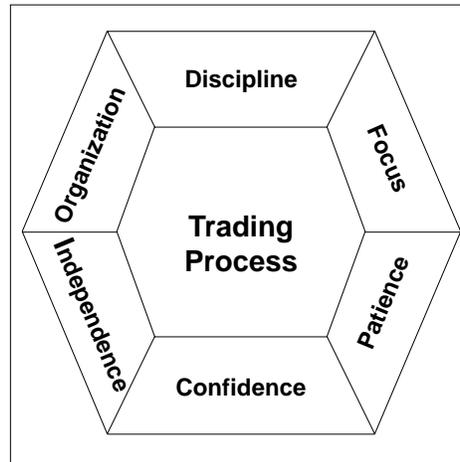
None of these personal qualities are particularly new. They are heavily discussed in the literature on personal behavior as well as trading. None of the planning concepts are new. They have been developed over many years of study of command and control theory. What is new is the handle I have given to this combined approach. I call it DOFPIC, which stands for the qualities necessary for successful trading: discipline, organization, focus, patience, independence, and confidence.

We must develop the discipline to organize and focus our trading activities into an intelligent process. With discipline comes the patience, independence, and confidence essential to successful trading. In a word, DOFPIC. I find it much easier to just say (to myself of course) that I am a DOFPIC kind of guy. However you may do it, I find it beneficial to use DOFPIC as a personal "mantra," and I suggest repeating it often as positive self-talk.

The design of a trading process is critical to the development and nurturing of the DOFPIC qualities. As we approach this objective, it is useful to remember the principles used for designing command and control systems:

The first principle is goal orientation – having a clear understanding as to the goals of the process and constantly reviewing those goals to insure their applicability over time.

The second principle is understanding the transformation from market



information to decisions to action, a rule inherent in any trading process.

The third principle is the need for control over the execution of the process, and control over the outcome of the process – the return.

The last major principal is the requirement for periodic evaluation and review of the process. The environment, the information, the technology, the trader, and the market itself will change over time. The trading process will need to be modified to reflect these changes.

The qualities represented by DOFPIC transcend trading the stock market, but they have special significance here because adroit application of these qualities will allow us to meet some of our personal objectives.

Discipline is the ability to follow our trading plan, which allows us to control the fear and greed that are the prime motivations moving the market.

Organization is the specific process – the daily logs, the money management rules and the risk management stops we use to execute the plan.

Focus is the quality that allows us to be specific on which market

instruments we trade and our role in the trading process.

Patience is a constant reminder to trade carefully and to wait until our market has a shape that offers a very good chance of success.

Independence is the ability to ignore advice and tips from people outside of the AIQ world, people who most certainly know less about what is going on than we do.

Confidence in ourself and in our trading process follows from the other qualities, and is absolutely required for successful trading.

The DOFPIC trading process schema is shown in the figure at left. It illustrates the interaction between DOFPIC qualities and the trading process itself. In one sense, the figure could be drawn with fuzzy lines in place of the solid interior lines to represent the fact that all six qualities revolve around and through each other and through the trading process.

There is no one starting point. It is just as meaningful to start, for example, with *confidence* and to ask what qualities are needed to be a confident trader. Not surprising, the answer is independence, patience, focus, organization, discipline, and an intelligent trading process.

Future articles in the Opening Bell and lectures in our seminar series will explore how to design a personal trading process that encompasses AIQ software and DOFPIC. These articles and lectures will include examples of the various elements and procedures within the process, and will be intended as examples only.

In the final analysis, it is up to each one of us to design our own personal trading process that we believe in and trust. A trading process that matches our personality, and that takes advantage of our strengths and compensates for our weaknesses. In the end, this process will help us reach our personal objectives.

Expert Design Studio Techniques

Manipulating Pre-Built Rules Can Broaden Your EDS Trading Systems

By David Vomund

In This Issue

How to broaden your Expert Design Studio trading models:

- 1) Incorporate market timing.
- 2) Screen for stocks that have passed a rule within the last five days rather than the current day only.
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The Expert Design Studio (EDS) package was designed to be easy to use, allowing users to build their own trading systems by cutting and pasting pre-built screening rules. There are cases, however, when you want to do a bit more manipulation of the rules when developing a model.

For instance, some people want to include market timing rules in their stock selection systems. EDS can do that. Some people want to screen for stocks that have recently passed a rule rather than simply listing the stocks that pass the rule on the current day only. EDS can do that. In this article, we'll explain how to accomplish these tasks and we will also show you how to build an EDS report.

Incorporating Market Timing

Nearly all of the EDS models that we've discussed in past issues of the *Opening Bell* are pure stock screening models. If a stock passed the screening it was purchased. However, many people want to incorporate market timing in their trading. When the market is poor,

no long selections are analyzed. EDS has the ability to incorporate market timing rules.

Market timing rules can be created based on any of AIQ's technical indicators applied to a market index. For this article, we'll use the SK-SD indicator and the S&P 500 index. Our rule states that

"Some people want to include market timing rules in their stock selection systems... Some people want to screen for stocks that have recently passed a rule rather than simply listing the stocks that pass the rule on the current day only. EDS can do these tasks."

we only want EDS to analyze stocks when the SK line, the faster of the two lines, is above the SD line. **Figure 1** shows that a backtest of this rule will have us in the market about half the time.

Here is the EDS code for our market timing system:

```
rule1 if [sk]>[sd].
rule2 if tickerrule("spq",rule1).
```

In this simple code, the first rule defines the market timing indicator and the second rule allows the indicator to be run on



DAVID VOMUND

the S&P 500 (ticker SPX). If you want the market timing model to use a different indicator, then you would modify rule1.

For example, if you only want to run an EDS system when the S&P 500's Velocity indicator is above zero, then the code for the first rule would be:

rule1 if [velocity]>0.

If you want to run an EDS system when the S&P 500's Phase indicator is increasing, then you would change the code to:

rule1 if [phase]>val([phase],1).

To incorporate this market timing code into a stock screening model, simply include rule2 as part of the final screening rule. By incorporating market timing code in EDS, you can test various market

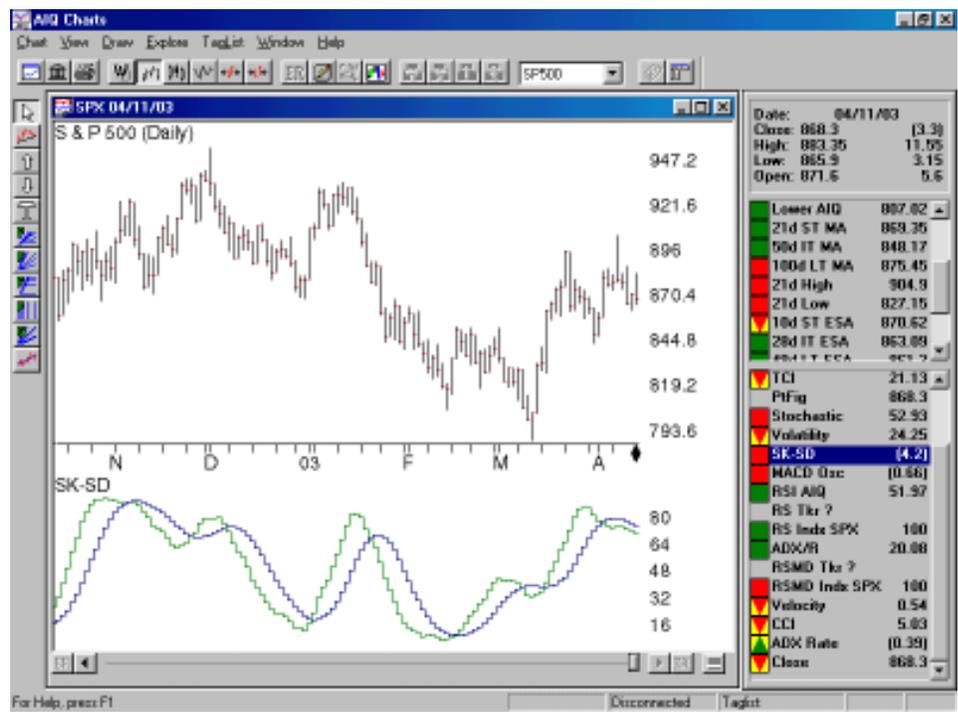


Figure 1. Chart of S&P 500 with SK-SD indicator displayed in lower window. Market timing rule allows long buys only while the SK line (lighter shade) is above SD line.

“By incorporating market timing code in EDS, you can test various market timing systems and see how these systems affect the overall performance compared to stock screening models.”

timing systems and see how they affect the overall performance of a stock screening model.

Screening for Recent Activity

When you build an Expert Design Studio model, the screening techniques are usually based on the activity of the most current data. There are times, however, when you may want to allow a stock to pass the screening if the rule has fired within a fixed period of time. That will produce more trades than if we state that the rule must fire on the current day only.

Let's look at an example. Suppose we want to screen for stocks whose Positive Volume Index (P-Vol) indicator has crossed above its Signal line. We would use the following code:

rule1 if val([p-vol],1) < val([p-vol esa],1) and [p-vol] > [p-vol esa].

The first part of this rule states that the P-Vol indicator was below its exponentially smoothed moving average yesterday while the second

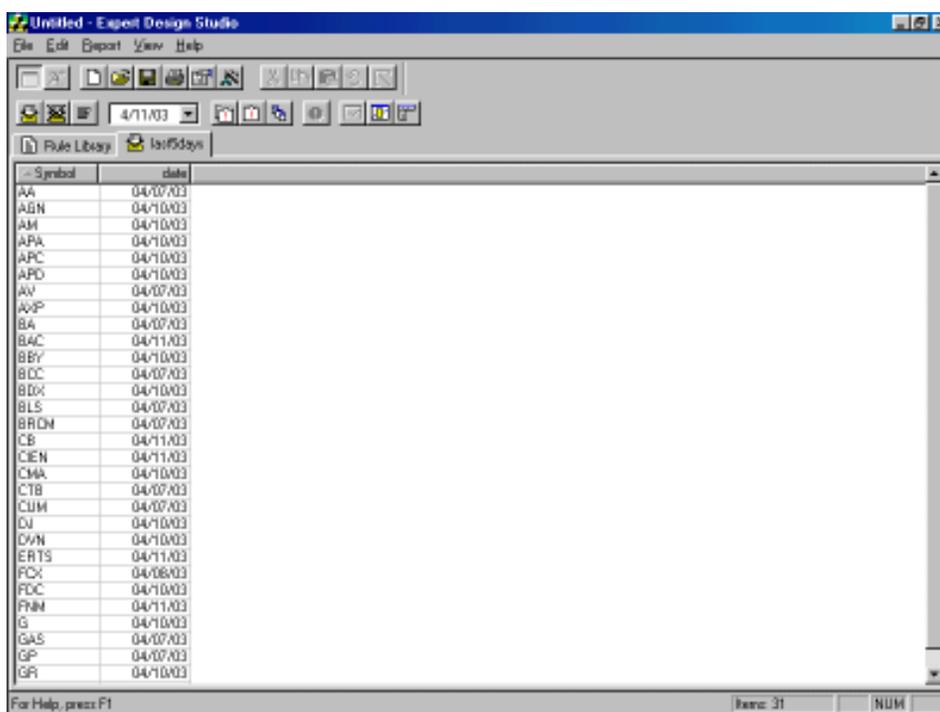


Figure 2. Expert Design Studio window with contents of Last5days folder displayed. Symbols of all stocks that passed the screen are listed along with the date when the screen criteria was met.

part of the rule states that the indicator is above its exponentially smoothed moving average today.

As we build a trading system we may find that a rule such as this eliminates too many trades. When this is the case, we can change the model to allow stocks to pass the screening rule anytime in the last five days. In our example, we can screen for stocks whose P-Vol indicator moved above its exponentially smoothed moving average anytime in the last five days. Here is the code:

```
rule1 if val([p-vol],1) < val([p-vol esa],1) and [p-vol] > [p-vol esa].
```

```
last5days if scanany(rule1,5).
```

In EDS we can insert a

```
date is ruledate().
```

After this rule is added, go to EDS and click on the "last5days" folder. On the title bar, right-click on *Symbol* and select the *Insert* choice. Choose *User Defined Functions*, highlight the *Date* rule and click OK.

With this completed, you can scan your

"last5days" folder and run the scan on our database of stocks. A list of the stocks that pass the screening will be added to this folder.

We can also add a User Defined Function that finds the date the rule was passed. To do this, we add the following code to the EDS model:

database of stocks and this model will give you a list of stocks that had their P-Vol indicators rise above their moving averages and it will tell you the date of each occurrence (**Figure 2**).

Creating an EDS Report

In the previous section, we briefly described how to manually

add a date column to our EDS model. In this section, we'll expand the columns and build a

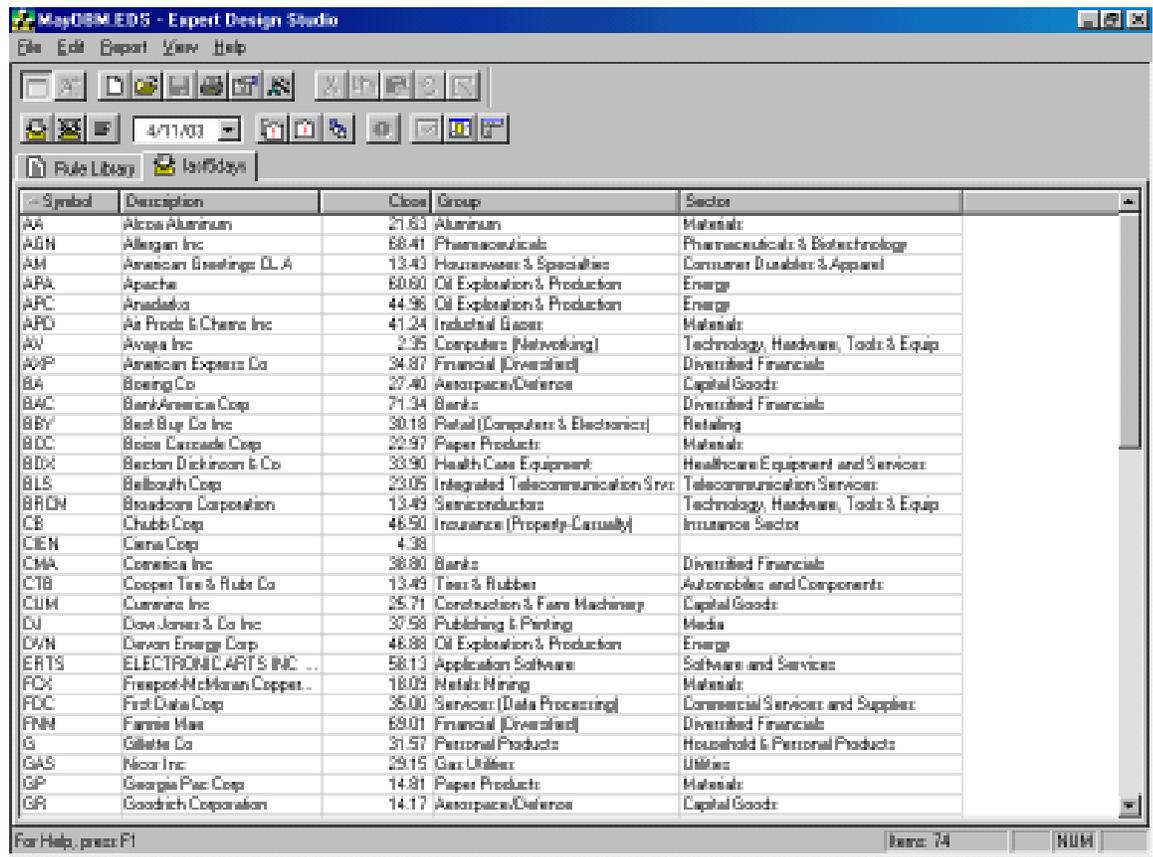


Figure 3. Expert Design Studio window with contents of Last5days folder displayed. Note that four information fields have been added by pasting UDF's into the original screening rule file.

"As we build a trading system we may find that a rule eliminates too many trades. When this is the case, we can change the model to allow stocks to pass the screening rule anytime in the last five days."

AIQ Opening Bell Newsletter

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While the information in this newsletter is believed to be reliable, accuracy cannot be guaranteed. Past performance does not guarantee future results.

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report that displays more information on the stocks that pass the screening. Even better, we can accomplish this by copying and pasting rather than manually typing.

Your AIQ software comes with a file that contains several pre-built

Highlight the *How To Use Tickerrule* file and click OK.

This file contains several choices of pre-built UDFs. A rule is a UDF if the second word in the rule is "is." In this file we chose to copy the Close, Group, and Sector UDFs to the clipboard. These

UDFs can be pasted into any EDS file that you use. For this example, we pasted the UDFs into our P-Vol model.

With these UDFs placed into the EDS

model, we highlighted the folder that contained the final EDS screening rule (the last5days rule). Next, highlight *Symbol* on the title bar and right-click. Select *Insert*,

choose *User Defined Functions*, and then individually select the UDF rule names.

Your EDS screening will now appear in a report format, showing the name of each stock that passes the screening along with its closing price, industry group, and industry sector (**Figure 3, page 5**).

With the report created, you can click on any column title to sort the data by that column. In addition, you can move the file to a spreadsheet program by clicking *Report, Export*, and then save the file using a csv format.

David Vomund publishes VIS Alert, a weekly investment newsletter. For free trial issues, call 775-831-1544 or go to www.visalert.com.

"...we'll expand the columns and build a report which displays more information on the stocks that pass the screening. Even better, we can accomplish this by copying and pasting rather than manually typing."

User Defined Function (UDF) rules. To open this file, go to EDS and click *File* and then *Open*. Double-click the *EDS Strategies* folder. Next, double-click the *Pre-Built Functions Demos* folder.

STOCK DATA MAINTENANCE

The following table shows stock splits and other changes:

Stock	Ticker	Split/Div	Approx. Date
Simmons 1st National	SFNCA	2:1	05/02/03
Bank of Marin	BMRC	5%	05/06/03
Quicksilver Inc.	ZQK	2:1	05/09/03
Wilshire State Bank	WSBK	10%	05/16/03
Valley Nat'l Bancorp	VLY	5%	05/19/03
Nisson Co. Ltd. ADS	NIS	2:1	05/23/03
Ameron Int'l Corp.	AMN	2:1	05/28/03
Desert Comm. Bank	DCBK	2:1	06/02/03

Trading Suspended:

HealthSouth Corp. (HRC), Regis Corp. (RGIS), UAL Corp. (UAL), Fleming Cos. (FLM), Chart Industries (CTI), Amcast Industrial (AIZ), Pharmacia Corp. (PHA)

Name Changes:

Versicor Inc. (VERS) to Vicuron Pharm. (MICU)

S&P 500 Changes

Changes to the S&P 500 Index and Industry Groups:

Federated Investors (FII) replaced Pharmacia Corp. (PHA). FII was added to the Diversified Financials (FINANCID) group.

Symantec Corp. (SYMC) replaced Household Int'l (HI). SYMC was added to the Systems Software (COMPSYS) group.

Upcoming AIQ One-Day Seminars

Spend a day with AIQ's Chief Analyst David Vomund and find out which trading systems work and when, bear or bull markets.

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Working with Technical Indicators

Worth Watching – The Positive and Negative Volume Index Indicators

By David Vomund

There is an interesting development in today's market where two indicators that have very similar calculations are moving in opposite directions. While the market has moved sideways for most of this year, the Positive Volume Index is rallying and is hitting new highs. Meanwhile, the Negative Volume Index is falling and is hitting new lows.

The Positive Volume Index (P-Vol) and Negative Volume Index (N-Vol) are cumulative indexes. This means that each day you either add or subtract the price rate of change for that day to the previous day's sum.

In the case of P-Vol, if today's volume is less than yesterday's, don't add anything. If today's volume is greater, however, then add today's price rate of change.

"These two indicators are not widely followed by technicians... For help, we turned to Stock Market Logic, written by Normal Fosback in the mid-1980s... Fosback determined that when the trend of N-Vol is up, there is a 96% probability that it is a bull market. When the trend for P-Vol is up, there is a 79% chance that it is a bull market."

P-Vol is based on the premise that "volume is the fuel to sustain rallies."

For N-Vol, add today's price rate of change only if today's

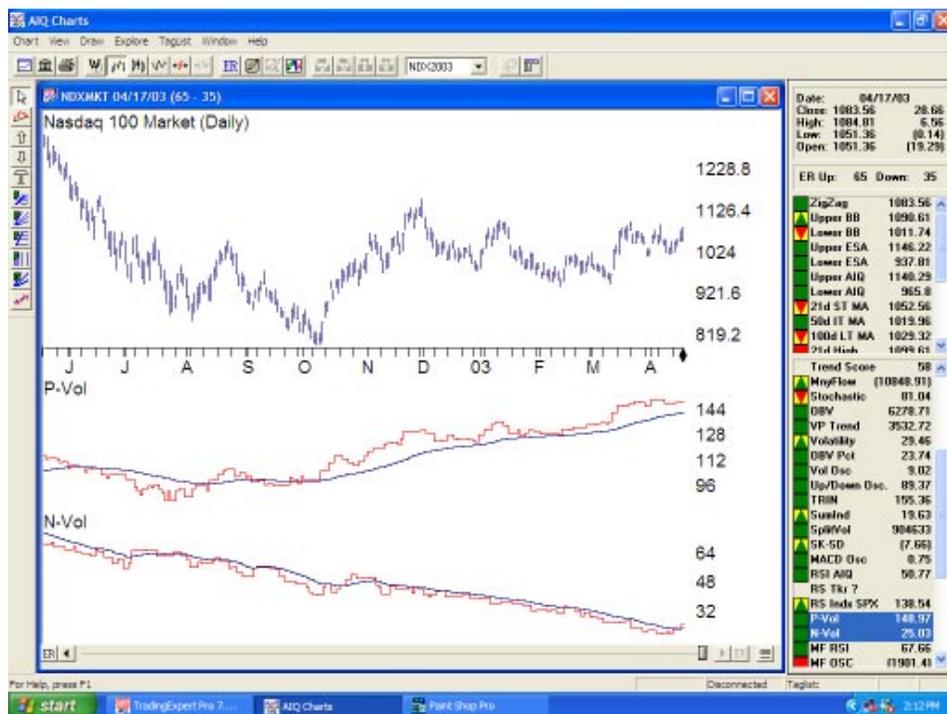


Figure 1. Market chart of Nasdaq 100 index with P-Vol and N-Vol indicators displayed in lower window. Note that two indicators are diverging while price is moving sideways.

volume is less than yesterday's. Price rate of change can be found by:

(Today's close – Yesterday's close) / Yesterday's close

As with other summation indicators, the actual numerical values that you see in the indicator

column depend upon how many total periods of data are available for accumulation. The value of the indicator can be compared to the value of other stocks only if both

stocks have the same start date. Otherwise, you are comparing apples to oranges.

More important than the value is the trend of the indicator. On the chart, look for the overall trend, non-confirmations and divergences. Both indicators compare the current value to a moving average. AIQ uses a 21-day moving average as the default.

Figure 1 shows a chart of a market that we created using the Nasdaq 100 index. Volume was calculated based on the activity of the 100 stocks that comprise the index. Normally the P-Vol and N-Vol indicators can show brief divergences but the divergences are resolved after a few weeks time. Current activity is very

different as these indicators have diverged for the last six months (the same technical picture is seen on ticker DJIA as well). To reduce crossovers, we used a 50-day moving average on the indicators.

These two indicators are not widely followed by technicians and are not found in most technical analysis books. For help in inter-

preting this divergence, we turned to *Stock Market Logic*, written by Normal Fosback in the mid-1980s. Based on data from 1941 through 1975, Fosback determined that when the trend of N-Vol is up, there is a 96% probability that it is a bull market. When the trend for P-Vol is up, then there is a 79% chance that it is a bull market.

Using these statistics, the market environment is positive as a result of the rising P-Vol indicator. It is important for the N-Vol indicator to begin rallying, however, before this indicator methodology points to a bull market. This is worth watching.

Market Review: Bullish Chart Patterns Starting to Form

The market jumped in April, propelled by better than expected earnings news and a quick war in Iraq. For the month, the S&P 500 gained 8.1% and the Nasdaq gained 9.2%. There were no AIQ market timing signals in April.

Big gains were made in some low priced securities during the month of April. The Airline group led the way gaining 75%. AMR's jump from \$2 to \$4.5 played a big role. Another group aided by low-priced stocks was Multi-Utilities. Six of the seven stocks in this group are under \$10 but they all made big percentage advances and the group jumped 58%.

The market indexes would have bigger gains if it weren't for

the energy stocks. Most oil groups fell in April.

The market indexes have formed several classic chart patterns. On a short-term basis, a right triangle pattern developed in April. This formation looks like a triangle with one horizontal side. In an ascending triangle, there is a set resistance level but each sell-off is less than the previous one. In most cases, the security breaks through the horizontal trendline so

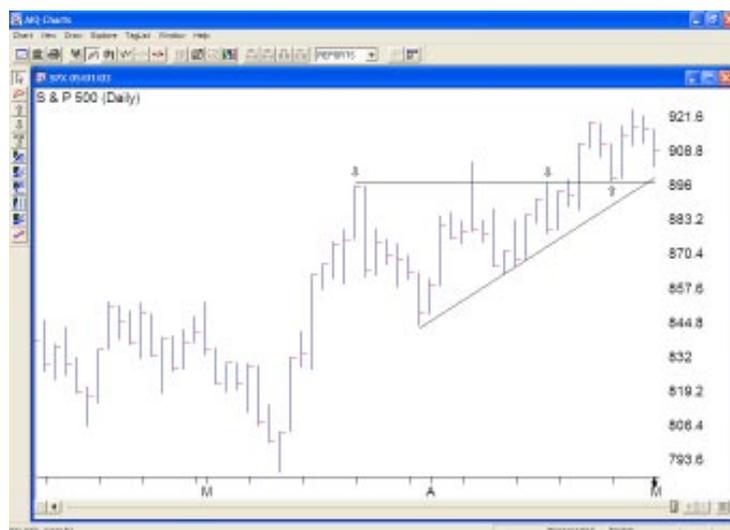


Figure 1. S&P 500 chart shows bullish ascending triangle pattern

than the previous sell-off so an upward sloping trendline is drawn. On April 25, the S&P 500 tested its breakout (see upward arrow). What was resistance became support.

Figure 2 shows a long-term chart of the market. This chart shows a bottoming process where the market has moved sideways for close to a year. A rounded bottom is forming where an initial low came in July '02, the actual low came in September '02, and a retest came in March '03.

It's too early to say this is a bull market, however. Throughout the bear market the trend was lower as seen in the pattern of lower highs (see arrows in Figure 2). The S&P 500 must rise above 965 before this downtrending pattern is violated.

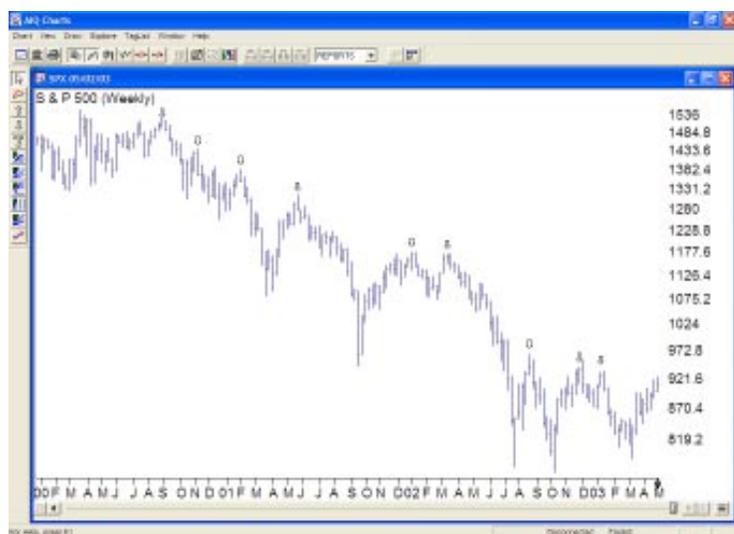


Figure 2. Long-term chart of S&P 500 shows rounded bottom forming

an ascending triangle is a bullish pattern.

Figure 1 shows this pattern with the horizontal resistance at 897. On a closing basis the S&P 500 failed to penetrate this level until April 22. Each sell-off was less extreme