AIQ Opening Bell® Monthly

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Feature

Sections

The *Opening Bell Monthly* is a publication of
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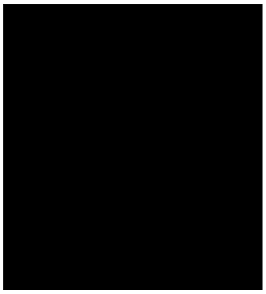
USING AIQ REPORTS

MECHANICAL TRADING STRATEGY APPLIED TO THREE AIQ REPORTS



DAVID VOMUND

By David Vomund

Last month, we reported on a mechanical trading technique that combines the Weighted Action List report with AIQ's market timing model. This technique has shown an average annual return of 21% since 1992 and is already up 7.2% in the first quarter of this year. This month, we will apply the same mechanical test to three popular AIQ screening reports. The reports we will test are Persistence of Money Flow, Crossover of Two Moving Averages, and Relative Strength.

Our testing employs a simple mechanical trading strategy. Using a database of the stocks that comprise today's S&P 500 index, we ran the three AIQ reports every time there was an AIQ market timing buy signal (an Expert Rating of 95 or greater). Only the first signal in a string of buy signals was used and no confirmation was applied to the market timing signals. The top five stocks that appeared on each report were purchased and held until a market sell signal was registered, at which time all positions were moved to cash.

> *"We found very impressive results when using the Relative Strength - Strong report...buying S&P 500 stocks with strong relative strength is a winning strategy."*

To obtain percentage return figures, we made the following assumptions:

- The portfolio started with $25,000 with the buy signal on 09/10/92.
- All profits/losses were reinvested in the next block of trading with each of the five stocks receiving an equal amount of capital.
- The buy and sell points for the stocks were the opening prices the day after the market timing Expert Rating.
- Commissions were factored in using deep discount brokerage rates ($33 per stock trade).

Using AIQ Reports continued on page 2

USING AIQ REPORTS *continued . . .*

- Slippage, dividends, and money market interest received were not factored in.

Table 1 lists the yearly results computed by using each report as a means of selecting which stocks to buy. We see that over the testing time period, the S&P 500 gained an average of 12.9% per year.

The results for the Persistence of Money Flow report were poor, losing money in four of the five years. This is not surprising since it is consistent with our earlier testing of this report which was documented in the May, 1966 *Opening Bell Monthly*. This study revealed that Persistence of Money Flow does not perform well under short-term trading conditions. The market timing signals which governed the holding periods for the current study resulted in a fairly short-time average hold of 48 days. Persistence of Money Flow is most effective with a six month to one year holding period and is best applied to small company growth stocks rather than the S&P 500 type of stocks. In our

Table 1

Report Testing Results
Annual Returns

	S&P 500	Persistence of Money Flow	Crossover of Two MA's	Relative Strength
1992*	4.58	-5.53	-1.61	47.18
1993	7.06	-3.75	8.01	20.38
1994	-1.54	-5.88	-17.25	28.94
1995	34.11	-3.56	19.23	37.36
1996	20.26	18.23	-4.64	30.16
Average =	12.89	-0.10	0.75	32.80

* Partial Year Results

Table 2

Relative Strength-Strong Report Details

ER Buy Signal	ER Sell Signal	S&P 500 (% ch)	Rel. Str. (% ch)	Stocks Held (ticker symbols)
09/10/92	09/22/92	-0.67	0.26	DIGI,UIS,NSM,CSCO,CA
09/28/92	12/14/92	3.89	40.81	DIGI,AMD,FTL,AMAT,ENC
12/18/92	01/07/93	-2.39	8.57	DIGI,EMC,COMS,DELL,C
01/12/93	02/16/93	0.67	-8.40	DIGI,HET,EMC,COMS,DELL
07/06/93	10/22/93	4.95	33.63	DIGI,ECO,EMC,MU,HET
12/17/93	02/04/94	0.74	3.36	ECO,TLAB,HM,COMS,THC
02/28/94	03/24/94	-0.05	4.76	EMC,MU,TLAB,COL,THC
03/28/94	06/20/94	-0.99	-7.05	MU,TLAB,EMC,AMAT,ANDW
06/27/94	08/05/94	2.17	10.40	TLAB,MU,STO,ANDW,CPQ
08/23/94	09/19/94	1.36	6.98	MU,COMS,THC,LSI,STO
09/26/94	09/29/94	0.31	1.27	COMS,STO,AMH,LSI,DELL
10/10/94	10/20/94	1.67	0.61	LSI,COMS,STO,TLAB,DELL
11/07/94	04/20/95	9.19	32.96	LSI,AMH,COMS,TLAB,ANDW
04/21/95	06/16/95	6.16	18.66	LSI,MU,DEC,BSC,ANDW
08/25/95	10/02/95	3.86	4.82	MU,LSI,CSCO,BSX,AMAT
10/12/95	10/19/95	1.29	3.01	MU,U,MDT,BSX,COMS
11/16/95	12/18/95	1.59	-4.18	HFS,SUNW,BAY,U,INGR
01/16/96	04/03/96	7.80	23.23	HFS,SUNW,BSX,NKE,RDC
04/15/96	04/17/96	-0.14	0.50	CHRS,HFS,RDC,DELL,TJX
05/08/96	06/07/96	4.32	17.01	HFS,CHRS,NKE,TJX,DELL
07/09/96	08/29/96	0.41	-4.60	HFS,RDC,TJX,NKE,SUNW
09/09/96	01/06/97	12.64	12.33	NAE,CHRS,TJX,DELL,CA
	Average =	2.67	9.04	

USING AIQ REPORTS *continued . . .*

May, 1996 study, the stocks selected from this report outperformed the S&P 500 by about 13% per year. We plan to update the Persistence of Money Flow study and report our findings next month.

Results were also disappointing for the Crossover of Two Moving Averages report. We had many requests for this report before we included it into the software package. Our default values for the moving averages of 21 days and 100 days was not as a result of statistical research. If you were one of those users requesting this report, we would like you to let us know your opinion of which moving average values should be used.

Table 3

Relative Strength-Weak Report Details

E.R. Buy Signal	E.R. Sell Signal	S&P 500 (% ch)	Rel. Str. (% ch)	Stocks Held (ticker symbols)
09/22/92	09/28/92	0.13	-1.20	MCL,PCCW;KR,MRO,STO
12/14/92	12/18/92	1.95	3.08	ECO,BMG,WX,INGR,IBM
01/07/93	01/12/93	0.07	0.70	IBM,AMH,ECO,HM,DEC
02/16/93	07/06/93	1.72	-20.39	BMET,IBM,STO,PAC,AMH
10/22/93	12/17/93	0.67	7.68	LIZ,SK,NKE,WMX,USS
02/04/94	02/28/94	-1.11	4.44	FTL,BRNO,DEC,CC,SLE
03/24/94	03/28/94	-0.93	-2.77	U,Z,AZA,ETX,CSR
06/20/94	06/27/94	-1.78	-2.05	DEC,NAV,U,NAE,WCOM
08/05/94	08/23/94	1.63	14.24	U,NAV,SIAL,DEC,DIGI
09/19/94	09/26/94	-2.13	-2.35	U,NMK,ORX,EIX,ETR
09/29/94	10/10/94	-0.70	2.99	U,CTX,CHRS,PHM,NMK
10/20/94	11/07/94	-0.77	-1.75	U,CHRS,TJX,LUV,PCAR
04/20/95	04/21/95	0.57	-1.69	TJX,TMC,CHRS,SB,CBB
06/16/95	08/25/95	3.75	7.13	CHRS,BG,LOW,SRR,NUE
10/02/95	10/12/95	0.24	-4.86	CHRS,BG,SFA,IAD,NUE
10/19/95	11/16/95	1.13	13.80	CHRS,BG,SFA,GIC,EMC
12/18/95	01/16/96	0.27	-5.13	KM,AMD,CHRS,BG,NAV
04/03/96	04/15/96	-2.04	0.08	NMK,FLM,BG,UIS,NOVL
04/17/96	05/08/96	0.60	7.31	NMK,FLM,AMD,AAPL,NSM
06/07/96	07/09/96	-2.76	-9.28	FLM,AAPL,SGI,IAD,AMD
08/29/96	09/09/96	0.97	-4.87	MU,CBB,LSI,AMD,AMAT
	Average =	0.07	0.32	

Average short position in the S&P 500 lost 0.07% per trade.
Average short position using Relative Strength lost 0.32% per trade.

The last report in our testing is Relative Strength - Strong. The long term section of the report was used. The results were spectacular. The average yearly gain was 32.8%. The "worst" year, 1993, produced a 20% gain. This report even performed well in 1994's difficult trading year. The outstanding performance for the partial 1992 year was due to the fortuitous selection of several high-flying tech stocks.

Real time results using the Relative Strength screening strategy would be somewhat different than our backtested results because the makeup of the S&P 500 index has changed over time. In our tests, we probably bought some stocks that were not part of the S&P 500 index at the time they were purchased. However, as can be seen from the poor performance of two of the three screening reports, use of the current S&P 500 list was not enough of a factor to make all screening techniques attractive.

It is clear that buying S&P 500 stocks with strong relative strength is a winning strategy.

Trade by trade details for the Relative Strength mechanical trading strategy are found in **Table 2**. This table lists the average return of the five stocks that are purchased for

Using AIQ Reports continued on page 4

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USING AIQ REPORTS *continued* . . .

each trade along with the S&P 500's return. Again, the percent change figures are based on the opening price the day after the market timing Expert Rating. Whereas the S&P 500 gained an average of 2.7% during each market timing buy signal, the top five stocks on the Relative Strength - Strong report gained an average of 9%.

The largest portfolio loss was the 8.4% drawdown in early 1993. The drawdown in between signals at times were larger than this figure. For example, the July 9, 1996 signal turned into a 4.6% loss. At one point during that trade, however, the portfolio had lost 11.5%. Anyone applying this strategy should incorporate a stop strategy. It may be appropriate to move to the sidelines if the portfolio drops by 15%.

With impressive results on the long side, we wondered how the test would work for shorting stocks. A final test was run which used the Relative Strength - Weak report to short stocks. When we received a market timing sell signal, the top five stocks on the long term section of the Relative Strength - Weak report were shorted until a market timing buy signal was registered. The results are found in **Table 3**.

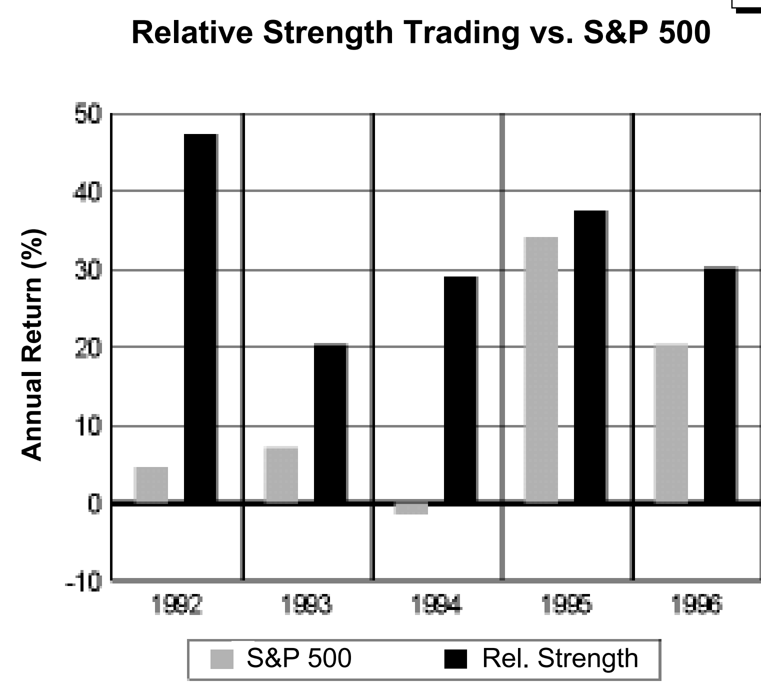
Unfortunately, the results are not as favorable as they were on the long side. The average return of the weakest S&P 500 stocks when AIQ was on a sell signal was about the same as the S&P 500 index. Picking S&P 500 stocks with poor relative strength is not an effective strategy for picking short candidates.

Summary

In our testing, which combines AIQ's market timing model with various screening reports, we found very impressive results when using the Relative Strength - Strong report. The strategy of buying the strongest stocks when a market timing buy signal is registered and moving to cash when a market timing sell signal is registered has consistently outperformed a buy-and-hold strategy (see **Figure 1**).

Keep in mind that this is a backtested strategy, however, and is only a five year test. We'll maintain a paper portfolio this year using the current S&P 500 structure at the time of the buy signal and will report the results in a future *Opening Bell*. ■

Figure 1



Past performance does not guarantee future results.

Relative Strength Report - Background

The Relative Strength report was designed using a formula similar to one that *Investor's Business Daily* uses. The long term section of the report looks at a time period of 240 business days (i.e. about 1 year). This time period is broken into quarters and the percent change for each stock is calculated for each quarter. An average of these quarterly returns is calculated with the most recent quarter receiving twice as much weight as the previous quarter. That is, the return for the most recent quarter has a weighting of 40%, and each of the other quarters has a weighting of 20%.

Investor's Business Daily adds one more step in that it compares the relative strength results to all the other stocks, weights the results, and places a score between 0 and 100 for each stock. Since AIQ users do not have all available stocks in their databases, TradingExpert does not weight the relative strength results. Nevertheless, stocks that appear at the top of AIQ's Relative Strength report will have high relative strength readings in *Investor's Business Daily*.

AIQ USERS SHARE TECHNIQUES

When to Sell? Broker Discusses What to Look for Fundamentally and Technically

By Grace Barbor
Opening Bell Editor

This is the second part of an interview with a retail broker from a national brokerage firm who has been using AIQ systems as a technical complement to his trading process for eight years. In compliance with the brokerage firm's policies, neither the broker or his firm can be identified in the Opening Bell Monthly. The broker discusses his sell strategies in this article.

OBM: How do you know when to sell?

Broker: If we have a long term change in the trend of the market, by long term I mean a confirmed market sell signal, I will consider taking profits on a stock by stock basis for clients who are traders. A confirmed market sell signal is an Expert Rating down signal with the WAL (Weighted Action List) and US (Unconfirmed Signal Ratio) from the Market Log starting to deteriorate to 20/80.

OBM: What are your criteria for selling?

Broker: The No. 1 criteria is a confirmed market sell signal. No. 2 is the fundamental picture — has it changed, is the stock now overvalued? Is it at the upper end of its PE range? No. 3 is the chart — where can the stock go on a technical basis?

For example, if Microsoft breaks out of a consolidation area in the 80's and goes into new high ground, theoretically there is no technical limit. But if a stock breaks out and there is significant overhead resistance, you know that within a six to 12 month period it will be difficult to move through resistance. Also important is the client's goals and temperament — is the individual comfortable with trading or does he/she prefer to hold for longer periods?

OBM: With the selling criteria met, on a stock by stock basis, what's the next step?

Broker: For my buy and hold clients who are holding long term stocks, I do nothing. My firm will not put a stock on the buy list that isn't suitable for individual investors to hold. Generally, you can hold Coca Cola and General Electric long term. The same with Colgate, Proctor and Gamble, and Campbell Soup. Sure, the story can change on these companies and if it does, we'll adjust to that. Tech stocks, of course, can be volatile. That's why we tend to stay with the leaders like INTC, MSFT, HWP, CSCO, and ORCL.

Criteria for selling — "a confirmed market sell signal, fundamentally overvalued stock, and chart shows significant overhead resistance"

OBM: And for people who prefer to trade?

Broker: When a stock gets extended — 25 % above its consolidation area — or gets substantially above its 50-day moving average and is overvalued on a fundamental basis, it's okay for a trader to take profits.

OBM: What advice can you give investors who do not want to sell often?

Broker: They simply need to own companies that they are comfortable with and whose business they understand. If a stock goes down 25% to 50 %, which an aggressive growth stock can do, they need to know if they can stand this sort of volatility. They have to have enough confidence in that stock to know that when it corrects it's going to be okay — it will come back. However, if the fundamental picture changes and the technical picture deteriorates, they need to be willing to sell that stock even though they bought it to hold. They shouldn't ever buy and forget. That can lead to disaster.

OBM: Even buy and hold investors have to sell sometime?

Broker: Sometimes yes. They might want to take profits when the stock becomes overvalued. If I think the fundamental picture on a stock is changing and the technicals reflect that, then it is my job to call them and tell them that they should sell and why. Then it's their choice.

OBM: What guidelines do you follow to judge that a stock is overvalued?

Broker: When it is at or above the upper end of its relative PE range. Or, its PE is over 1.5 times its growth rate. A lot of value growth players like a PE that's at or under its growth rate. So, if the stock's growing at 25% and they can buy it at a PE of 20, they think that's pretty neat. But sometimes due to changing fundamentals a stock's PE range will expand. This can happen when earnings are accelerating or the stock's becoming a dominant player in its industry. So it's not unusual for a pretty good stock that's produced good earnings for a long period of time to sell at a PE premium (PE greater than the earnings growth rate) and deserve that premium. You have to understand that if the picture changes, the PE will change. But, by the time the PE reaches 1.5 times the growth rate, it's starting to get over valued. At that point, the broker should at least give the investor the option to sell it.

AIQ Uses Share Techniques continued on page 6

AIQ USERS SHARE TECHNIQUES *continued . . .*

OBM: You pay attention to market sell signals but not necessarily sell signals for individual stocks?

Broker: With the market, I take an individual sell signal very seriously. When you get more than two sell signals in a row on a stock, it's time to entertain the possibility that there is something going on that you may not be aware of. The technical picture of the stock is like a gallop poll — AIQ combines all those technical indicators into a picture that tells you what Wall Street is saying about the stock. And, you know the saying "the market is always right." That's why AIQ is so valuable. If the technical picture is deteriorating, it may be time to take another look at the fundamentals. I can find out from news sources why a stock is acting the way it is.

Actually, as a stock rises, the system may give several sell signals. These can be ignored. However, if the stock is dropping and fundamental news is also temporarily or unreasonably negative, I sometimes look at this as a buying opportunity because more often than not AIQ will show a buy signal at some point as the stock retreats to a trendline support area. I also use Bollinger Bands in this respect.

OBM: How do you handle losses?

Broker: I steer clients who have a very difficult time accepting losses away from individual stocks. Because it is almost guaranteed that at some point you are going to take a loss.

OBM: Do you use stop losses?

Broker: I do have clients who want to use stop losses. Then I will use the 7% to 15% trailing stop.

OBM: What mistakes have you made in the market?

"The technical picture of the stock is like a gallop poll — AIQ combines all those technical indicators into a picture that tells you what Wall Street is saying about the stock. And, you know the saying — the market is always right."

Broker: Not following the criteria. Not being disciplined.

OBM: And the lesson that you learned?

Broker: Making sure that a decision is made based on the criteria, and not on an emotional basis. I have read several books on the psychology of investing, and the biggest battle the individual and/or the professional investor has is managing fear and greed and all the emotions in-between. TradingExpert allows me to operate unemotionally. Last July, there were three market buy signals after the market dropped, breaking trendlines. The buy signals were right. I repeat, don't mess with AIQ's market timing system.

OBM: Any final words?

Broker: My number one tip: You have to monitor the system messages and you must keep your data base clean. Check system messages every single night and fix splits, bad data, and symbol changes. It's hard and it's annoying, but you must do this. Dial/Data, Interactive Data, and Telescan take care of splits automatically but not always. When you see a skewered chart, go back and research what is causing it — bad data, a split, a symbol change — and fix it. Nothing will work if you don't keep your data base clean.

Second, learning is critical. Read *Investor's Business Daily*, read the AIQ manual and the *OBM*, and go to seminars — it's an ongoing learning process.

OBM: Anything else?

Broker: The single most useful technique is to measure market direction with Expert Rating signals further explained by WAL and US levels. ■

MARKET REVIEW

In March we saw a correction that was nearly the size of the 1996 summer downturn. To the end of the quarter, the S&P 500 was 7.25% off its highs, the Russell 2000 was 7.6% off its high, and the technology heavy Nasdaq was 12% off its highs.

If that does not get you nervous, here's a market statistic that was provided in a recent newsletter from Vanguard. Of the 70 two-year periods from 1926 through 1996, there were only four cases where the market posted a higher return than what we saw in 1995-96. Looking at these four cases, the average annual rate of return for the five years after the strong advance was a dismal -0.4%.

As for the AIQ timing signals, a 95 buy signal was registered on March 7. This was a continuation buy signal from the buy that was registered on January 7. A 100 sell signal was registered on March 13. This signal was immediately confirmed as the Dow fell 160 points on that day. At the time many felt it was too late to sell. By the end of the month, they would have loved to sell at the March 13 prices. On March 21, a 96 buy signal was registered. This signal was not confirmed using most confirmation techniques so this was a case where applying a confirmation technique helped avoid a large drawdown. By the end of the month, the S&P 500 was just above the trendline drawn in last month's Market Review.

Of the 16 Pyramid sectors, only three rose during the month of March. They were Transportation, Oil-Production & Services, and Retail. The weakest sectors were Leisure, Health & Pharmaceuticals, and Financial Services. Each of these lost about 10% of their value. ■

GROUP ANALYSIS

Is the AIQ Pyramid Industry Group Structure For You?

By David Vomund

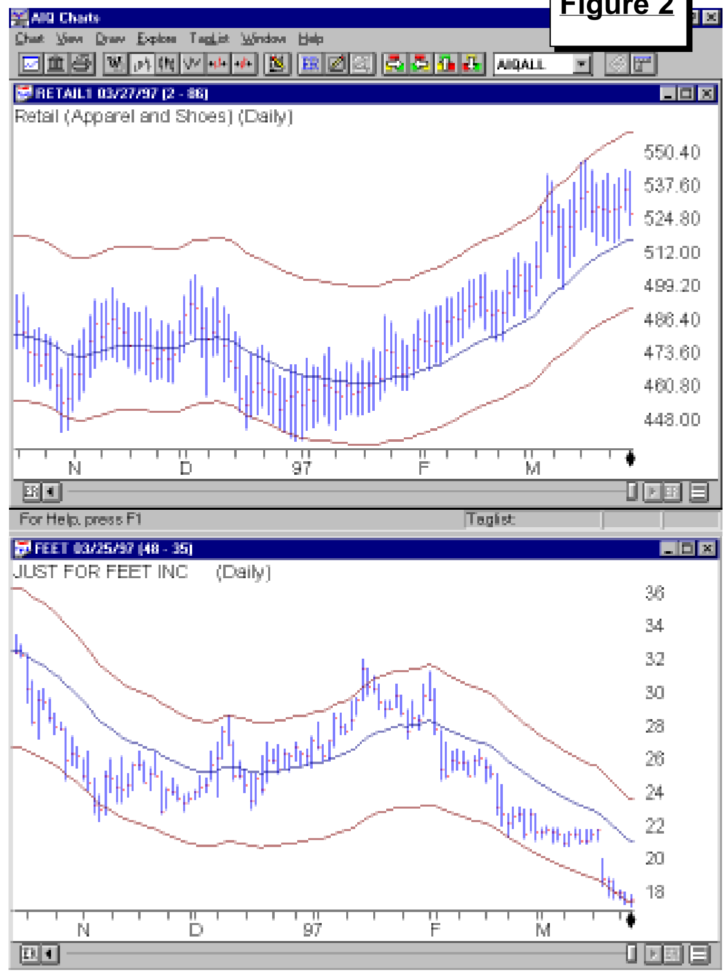
During our March seminar, the question that we were most often asked was whether the AIQ Pyramid industry group structure was the best structure to use. The answer depends on your investment process. In this article, we'll describe how the Pyramid was created and will explain who this structure is best suited for.

TradingExpert comes with two industry group structures: the Standard & Poor's 500 structure and a structure called AIQALL, a broad industry group structure which classifies about 6700 stocks into 200 groups. The AIQ Pyramid is an add-on structure which sells for $188.

The AIQ Pyramid was designed for top-down investors (i.e. those who pick an attractive sector, an attractive group within the sector, and then an attractive stock within that group). Anyone who has ever purchased a stock because it was in an attractive industry group only to find the stock fell as the group continued its advance knows the importance of industry group classification. In **Figure 2** we show the Retail-Apparel and Shoes group from the AIQALL structure along with the stock Just for Feet (FEET). The group has performed very well this year and has sidestepped the March correction. People who liked the group and purchased Just for Feet, however, were very disappointed.

To lower the risk of having a stock and its group move in opposite directions, AIQ created the Pyramid industry group structure which classifies stocks on both a fundamental and technical basis. Most industry group structures are simply classified on a fundamental basis. That is, stocks that have a similar product are classified into an industry group. In creating the AIQ Pyramid, we first began with the Dow Jones industry group structure, which was created on a fundamental basis, and then applied a technical test to the structure. AIQ's MatchMaker program is used to verify that the stocks within each industry group show a high correlation to their industry group index. Those stocks, like Just for Feet, that move independent of their group were taken out of the structure.

Figure 2



The result is an industry group structure where groups are a good reflection of the activity in underlying stocks. The structure is more in line with **Figure 3**, (page 8) where Wal Mart (WMT) and the Pyramid Retailers-Broadline group tend to move together.

The AIQ Pyramid structure contains about 380 stocks that all show a high correlation to their industry groups. The 73 industry groups are classified into 15 sectors. The correlation readings change over time so we produce updated versions about twice a year. Pyramid owners can purchase new versions for $44.

Does this mean that the Pyramid structure should be used instead of AIQALL? Not so fast. If a stock does not show a high correlation to its group, we take it out of the Pyramid structure. This may be a stock that you are interested in, however. For anyone who picks stocks first and then looks at their groups for confirmation, the Pyramid structure does not work well because the stock you are interested in may not be part of the structure.

The Pyramid structure was created for the following type of investor:

- A top-down investor. The structure was made so the sectors tend to be a good reflection of the

Group Analysis continued on page 8

GROUP ANALYSIS *continued . . .*

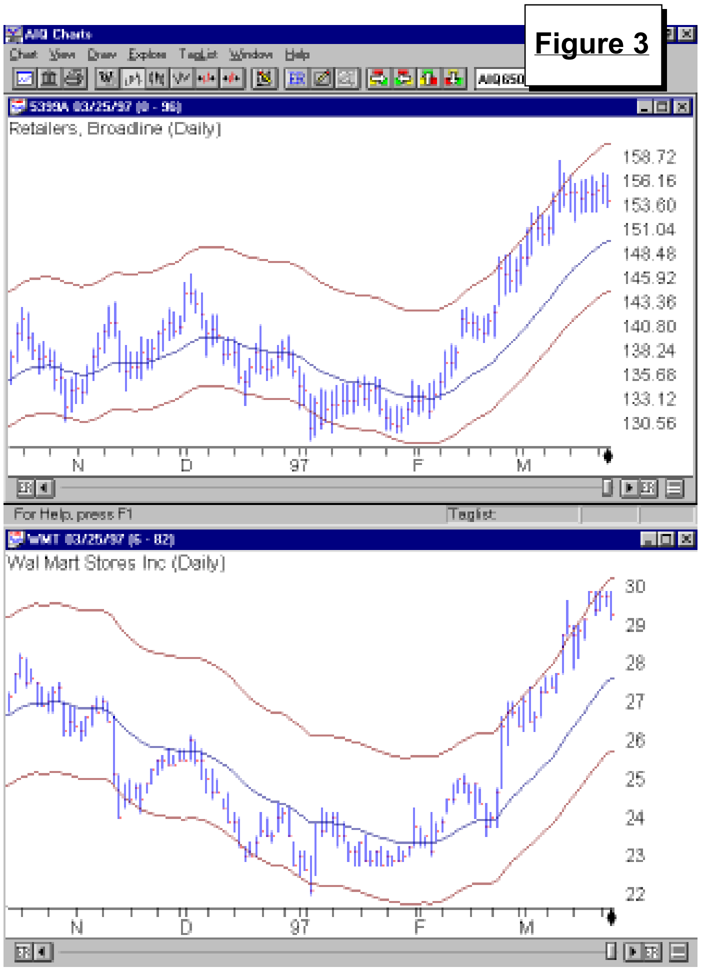


Figure 3

underlying groups, and the groups tend to be a good reflection of the underlying stocks. This is critical for top-down investors who perform a large part of their analysis on groups and sectors.

- A large-cap investor. The Pyramid is comprised of large company stocks with high volume. If you are interested in small company stocks, the AIQALL structure will work better for you.

We hope this information helps clarify the AIQ Pyramid industry group structure and whether it can help in your analysis. ■

DO YOU HAVE QUESTIONS YOU WANT ANSWERED?

In response to requests from subscribers, we are planning to answer questions concerning the use of AIQ products in an upcoming issue of the newsletter. If you have any questions you would like answered, please send them to:

Q & A
Opening Bell Monthly
AIQ Systems
P.O. Box 7530
Incline Village, NV 89452

STOCK DATA MAINTENANCE

The following table shows past and future stock splits and large dividends:

Stock	Ticker	Split/Div.	Approx. Date
Symbol Tech.	SBL	3:2	04/02/97
Chris Craft	CCN	3%	04/03/97
Raymond James Fin'l	RJF	3:2	04/04/97
Synovus Fin'l	SNV	3:2	04/09/97
Delta Pine Land	DLP	4:3	04/14/97
Mercury Air	MAX	5:4	04/14/97
Genuine Parts	GPC	3:2	04/15/97
Computer Learning Ctrs.	CLCX	3:2	04/15/97
Trenwich Group	TREN	3:2	04/16/97

Stock	Ticker	Split/Div.	Approx. Date
Miller (Herman) Inc.	MLHR	2:1	04/16/97
Badger Meter	BMI	2:1	04/21/97
Kroger Co.	KR	2:1	04/23/97
Buckle Inc.	BKLE	2:1	04/25/97
Molex Inc.	MOLX	5:4	04/28/97
K&G Men's Ctr	MENS	3:2	04/28/97
AmSouth Bancorp	ASO	3:2	05/01/97
ABC Bancorp	ABCB	5:4	05/01/97

Trading Suspended:
Measurex (MX), Diana Corp (DNA)

Name/Ticker Changes:
Allen Group Inc. (ALN) to Allen Telecom Inc. (ALN)
Trinova Corp (TNV) to Aeroquip-Vickers Inc. (ANV)
Aztec Manuf. (AZTC) to Aztec Manuf. (AZZ)