HOW TO LOSE ALL YOUR MONEY TRADING

A LOOK AT THE "TRADING SYSTEM CON GAME" AND HOW TO AVOID GETTING FLEECED

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How to Become a Con Man

Before we talk about trading systems, I want to teach you how to run your own con game.

Tomorrow morning, walk down to your local newsstand. Pick up a *Racing Form* newspaper. In case you are not familiar with it, the *Racing Form* is the bible for handicappers; it contains a list of the upcoming races that will be run at the major tracks in the country – Belmont, Del Mar, Hialeah, Pimlico, etc. – and who is running in which race.

Scan through the Racing Form and find two races that interest you. It doesn't matter which two, though of course races with high stakes are always most interesting.

Now, with your *Racing Form* in one hand, and your telephone in the other hand, start dialing random telephone numbers in your area code. When someone answers, make a note of his number, and begin your pitch.

"Sir," you tell the man, "my name is John Doe." (Actually, you should probably insert your own name here.) "I run a business in which I predict horse racing results. Have you ever been to Belmont Race Track, or seen a horse race on T.V.?"

At this point, some people will hang up the telephone on you, but others will stay with you. To those people who volunteer that, yes, they have seen a horse race, you should say the following: "Now, as I said before, I am a professional handicapper. I predict horse-racing results. My accuracy rate is 99.52%." (Note the mathematically precise number here. It's obviously absurd, but some people are impressed by scientific-sounding mumbo-jumbo.) "I normally sell my services to horse-racing fans at a price of $5,000 dollars per year. Now that sounds like a lot, but I want you to think about something: if you could predict the results of horse races with 99.52% accuracy, how much money could you earn wagering on the races? A lot more than $5,000 per year."

"That's true," the caller agrees, "but –"

"Sure," you quickly interrupt. "You're dubious. And you should be. After all, being able to predict racing results with 99.52% accuracy is an amazing and rare skill. But here's what I'm going to do. I'm interested in growing my business, and so I am offering an absolutely free trial to my handicapping service. May I please tell you my prediction for who will win the fifth race Belmont this afternoon? I want to tell you my prediction, absolutely for free."

Many people will decline your offer and hang up, but quite a few will hear you out and say, "Sure, go ahead. Tell me."

Now, look down at your Racing Form and choose a horse at random in the fifth race.

"I predict that Elmer's Glue will win the fifth race. Now, as a bonus, I will tell you who will win the sixth race, too. Again, absolutely for free." Here, pick another name at random. "Please write those names down," you should say, and then repeat them.

"And feel free to bet as much money as you like on those predictions. I will call you after the race to make sure you are delighted with the results."

You should take this opportunity to write down in your notebook the two horses you randomly picked, and the telephone number you called with your prediction.

Now hang up the phone.

And then what?

And then make another 35 phone calls.

The reason I say 35 phone calls is that there are typically 6 horses running in each race, and so, to cover your bases, you'll need to make your "fool proof 99.52% accurate" prediction 36 times in order to include all possible combinations. In other words, when you are done making these 36 calls, you will be assured that you have given one person the winning combination.

Wait until the sixth race, and then call back that lucky person.

"You see?" you say. "I hope you made a lot of money betting on those races, as I told you. How about we try again on tomorrow's races. Are you interested in subscribing to my handicapping service?"

At that point, your caller will be mad with greed. He will read to you his credit card number, and will gladly pay for your $5,000 subscription.

Then you can hang up.

What about the other 35 people to whom you delivered completely incorrect predictions? Of course you should not bother calling them back. After a day or two, they'll probably forget about you. And your $5,000-per-year customer? If you like, go ahead and continue to make "predictions" about upcoming horse races. You might want to use a computer's random-number generator to make your job easier. Whether you continue to make these predictions, or whether you just disappear off the face of the earth does not matter. In both cases, the value you will provide to this customer will be zero. But don't worry. You still have his $5,000 dollars.

How are Trading Systems Con Games?

If you haven't figured it out yet, the horse racing con is essentially the same as the Trading System con.

This is a bold statement, to say that trading systems are con games, so let me prove it. To do so, I'm going to show you some computer screens from the popular software program called TradeStation (popular with traders and "technical analysts" and "trading system developers," anyway).

I don't mean to pick on TradeStation. They make a good, solid product that does what it promises. There are a half dozen competitors out there that do the same things, and not nearly so well.

But the problem with TradeStation – and all its competitors – is that what it helps you actually *do* is run the horse racing con. Let me show you.

TradeStation Goes Off to the Races

If you are unfamiliar with the TradeStation software package, let me describe it for you. TradeStation lets you download 20 years of historical price data for major stocks, futures, and currencies. Then it lets you test out various trading strategies on that data and see the results you *would have* achieved in the past, if you had tried that particular "strategy." Because it's fast and easy to try one strategy, and then another, and then *another* – all across large sets of data – it's a system developer's wet dream.

So let's look at an example. Let's say, for instance, you want to test the results of the following strategy: Go long when the 3-day moving average price crosses above the 5-day moving average; and sell when it crosses below. (For those of you not familiar with trading systems, this is a relatively common technical analysis strategy called "moving average crossover.")

In the year 1977, testing this strategy on just ten weeks worth of historical price data would have been a massive undertaking requiring dozens of hours of a person's time. Today, testing the same strategy on ten *months* of data can be done in a few seconds, with just three mouse clicks.

Here is the result of those mouse clicks. TradeStation reveals exactly how that strategy would have performed over the past ten months:

TradeStation Strategy Performance Report - @ES 15 min (6/23/2009-4/23/2010)

Display: Column View

TradeStation Performance Summary Collapse

	All Trades	Long Trades	Short Trades
Total Net Profit	$4,387.50	$1,962.50	$2,425.00
Gross Profit	$27,087.50	$11,825.00	$15,262.50
Gross Loss	($22,700.00)	($9,862.50)	($12,837.50)
Profit Factor	1.19	1.20	1.19
Roll Over Credit	$0.00	$0.00	$0.00
Open Position P/L	$0.00	$0.00	$0.00
Select Total Net Profit	$1,875.00	$800.00	$1,075.00
Select Gross Profit	$23,050.00	$10,112.50	$12,937.50
Select Gross Loss	($21,175.00)	($9,312.50)	($11,862.50)
Select Profit Factor	1.09	1.09	1.09
Adjusted Total Net Profit	$1,581.30	$13.26	$389.34
Adjusted Gross Profit	$26,037.88	$11,118.32	$14,485.66
Adjusted Gross Loss	($24,456.58)	($11,105.06)	($14,096.32)
Adjusted Profit Factor	1.06	1.00	1.03
Total Number of Trades	1248	624	624
Percent Profitable	53.37%	44.87%	61.86%
Winning Trades	666	280	386
Losing Trades	167	63	104
Even Trades	415	281	134
Avg. Trade Net Profit	$3.52	$3.15	$3.89

Performance Summary | Trade Analysis | Trades List | Periodical Returns | Performance Graphs | Trade Graphs | Settings

The important number is the one in the upper left. Had you traded that Moving Average Crossover strategy in real life, you would have made about $4,387.50 for every $10,000 dollars invested.

In ten months.

Wow. Pretty good.

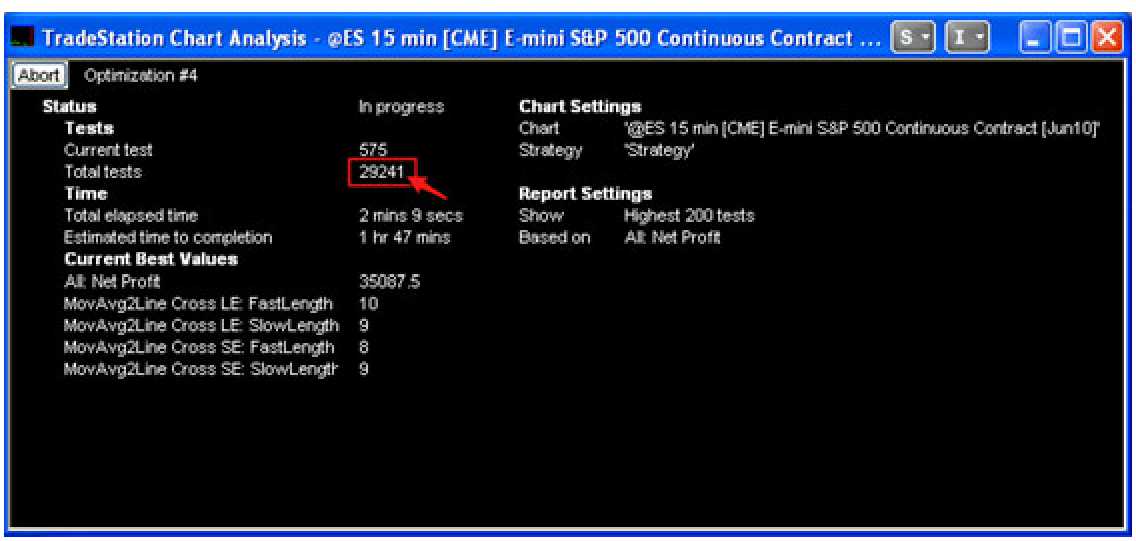
Now, those results are nice, but why stop there?

A professional trading system developer, looking at these results, might start thinking. Why did I choose a 3-day moving average and a 5-day moving average as my two moving-average lengths? Why not a 4-day average and a 10-day average? Why not a 6-day and am 8-day? Which combination would have provided the best results?

There are a lot of possible combinations here. And, in fact, there's even more, because there are alternative strategies for *exiting* a trade, once you have entered it. Should you use a stop loss to exit? A trailing stop loss? If so, how "trailing?" Should you exit early or late?

Fortunately for the intrepid trading system developer, it's easy to discover the ideal combination of parameters leading to the maximum profits. This process is known as parameter optimization, and the TradeStation software program can perform it at the touch of a button.

Take a look at the picture below. You'll see that I can try out 29,241 different permutations in less than two hours.



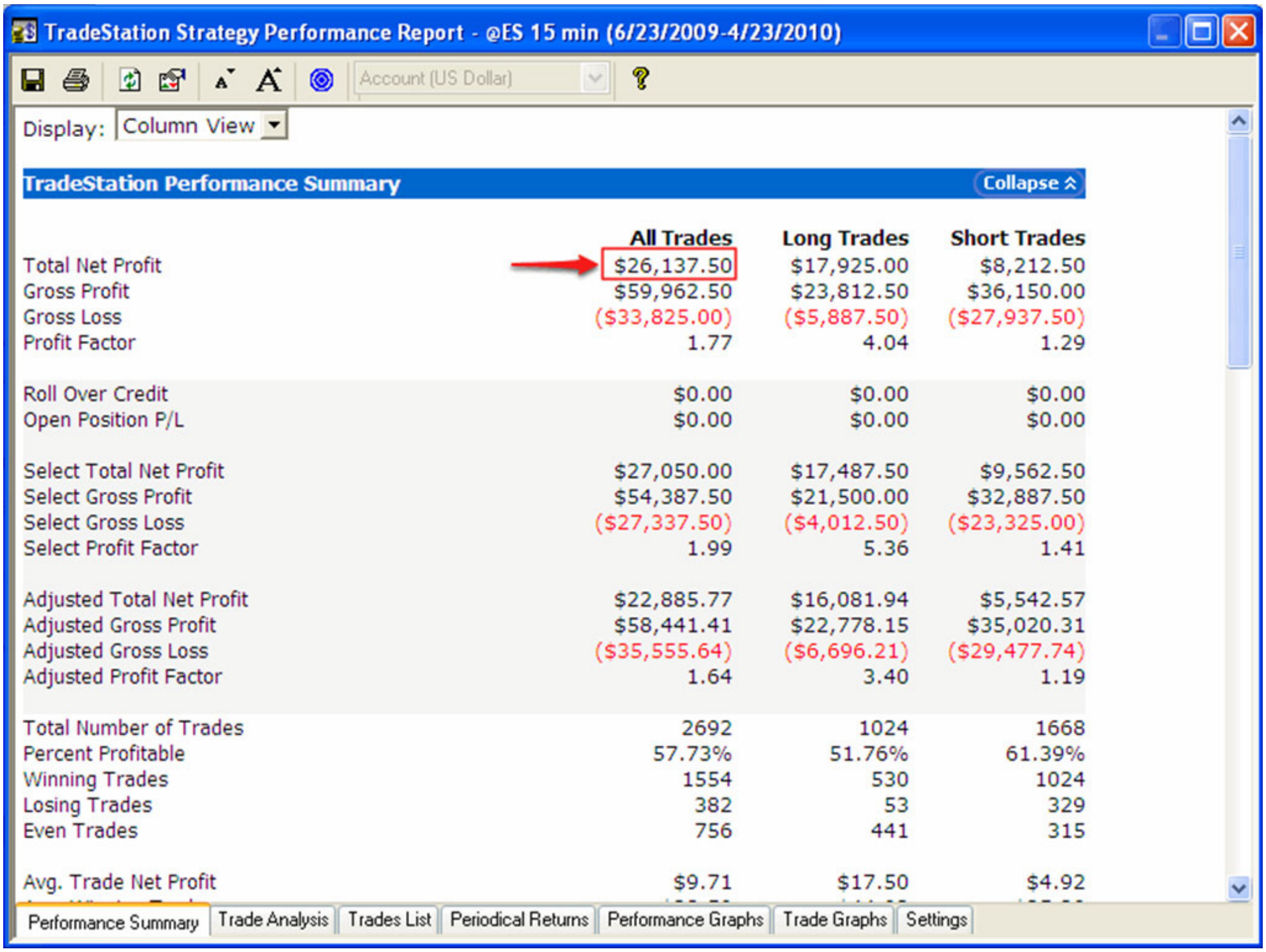
After optimization

After I let my computer run for two hours, TradeStation presents me with a very nice table showing all the possible permutations of the parameters, and the results. The table looks like this:

TradeStation Strategy Optimization Report - @ES 15 min [CME] E-mini S&P 500 Continuous Contract [Jun10]

	lovAvg2Lin Cross LE: FastLength	lovAvg2Lin Cross LE: SlowLength	lovAvg2Lin Cross SE: FastLength	lovAvg2Lin Cross SE: SlowLength	Test	All: Net Profit	All: Gross Profit	All: Gross Loss	All: Total Trades	All: % Profitable	All: Winning Trades	All: Losing Trades	All: Max Winning Trade	All: Max Losing Trade	All: Avg Winning Trade	All: Avg Losing Trade	All: Win/Loss Ratio	All: Avg Trade
1	11	10	9	10	2,239	36,000.00	74,662.50	-38,662.50	3,558	49.38	1,757	685	550.00	-875.00	42.49	-56.44	0.75	10.12
2	12	11	10	11	3,959	35,650.00	72,150.00	-36,500.00	3,365	50.16	1,688	659	412.50	-625.00	42.74	-55.39	0.77	10.59
3	10	9	8	9	519	35,087.50	79,212.50	-44,125.00	3,779	48.32	1,826	794	550.00	-675.00	43.38	-55.57	0.78	9.28
4	13	12	11	12	5,679	34,962.50	70,237.50	-35,275.00	3,240	48.86	1,583	680	525.00	-575.00	44.37	-51.88	0.86	10.79
5	12	13	12	11	4,319	33,075.00	69,212.50	-36,137.50	3,252	50.52	1,643	637	375.00	-587.50	42.13	-56.73	0.74	10.17
6	10	11	10	9	879	31,537.50	74,450.00	-42,912.50	3,583	49.20	1,763	750	525.00	-1,200.00	42.23	-57.22	0.74	8.80
7	13	14	13	12	6,039	31,100.00	65,687.50	-34,587.50	3,155	47.96	1,513	686	750.00	-612.50	43.42	-50.42	0.86	9.86
8	11	9	8	10	2,059	29,462.50	58,250.00	-28,787.50	2,639	48.05	1,268	483	550.00	-925.00	45.94	-59.60	0.77	11.16
9	11	10	8	10	2,068	28,312.50	63,475.00	-35,162.50	3,093	46.14	1,427	521	475.00	-987.50	44.48	-67.49	0.66	9.15
10	11	12	11	10	2,599	28,100.00	69,187.50	-41,087.50	3,385	48.39	1,638	690	750.00	-1,300.00	42.24	-59.55	0.71	8.30
11	11	10	7	11	3,436	27,412.50	55,187.50	-27,775.00	2,783	45.17	1,257	362	475.00	-950.00	43.90	-76.73	0.57	9.85
12	11	10	12	10	2,752	26,612.50	60,312.50	-33,700.00	2,917	49.78	1,452	284	487.50	-775.00	41.54	-118.66	0.35	9.12
13	13	10	9	10	2,241	26,137.50	59,962.50	-33,825.00	2,692	57.73	1,554	382	437.50	-837.50	38.59	-88.55	0.44	9.71
14	11	10	11	10	2,581	26,100.00	65,462.50	-39,362.50	3,502	46.32	1,622	476	775.00	-875.00	40.36	-82.69	0.49	7.45
15	12	11	9	11	3,788	26,100.00	58,750.00	-32,650.00	2,941	47.57	1,399	467	437.50	-950.00	41.99	-69.91	0.60	8.87
16	12	10	9	10	2,240	25,862.50	62,312.50	-36,450.00	2,950	54.47	1,607	491	437.50	-875.00	38.78	-74.24	0.52	8.77
17	11	10	12	11	4,291	25,775.00	67,150.00	-41,375.00	3,319	48.66	1,615	343	475.00	-912.50	41.58	-120.63	0.34	7.77
18	11	10	5	11	3,094	25,212.50	55,350.00	-30,137.50	2,731	45.22	1,235	354	475.00	-912.50	44.82	-85.13	0.53	9.23
19	13	11	10	12	5,499	25,125.00	50,937.50	-25,812.50	2,365	50.57	1,196	433	412.50	-1,025.00	42.59	-59.61	0.71	10.62
20	11	10	6	9	187	25,050.00	59,737.50	-34,687.50	2,972	46.77	1,390	387	562.50	-887.50	42.98	-89.63	0.48	8.43
21	10	9	8	10	2,058	25,000.00	55,525.00	-30,525.00	3,187	40.23	1,282	409	550.00	-975.00	43.31	-74.63	0.58	7.84
22	10	9	7	9	348	24,987.50	64,562.50	-39,575.00	3,311	44.85	1,485	588	550.00	-500.00	43.48	-67.30	0.65	7.55
23	11	10	6	11	3,265	24,962.50	54,300.00	-29,337.50	2,729	44.96	1,227	364	475.00	-1,062.50	44.25	-80.60	0.55	9.15
24	12	14	12	11	4,328	24,787.50	60,625.00	-35,837.50	2,712	54.20	1,470	490	450.00	-737.50	41.24	-73.14	0.56	9.14
25	11	10	6	15	9,421	24,712.50	44,862.50	-20,150.00	2,445	41.35	1,011	272	475.00	-562.50	44.37	-74.08	0.60	10.11
26	13	14	9	10	2,277	24,675.00	64,475.00	-39,800.00	3,269	50.50	1,651	432	437.50	-1,100.00	39.05	-92.13	0.42	7.55
27	13	11	10	11	3,960	24,600.00	61,737.50	-37,137.50	2,792	54.73	1,528	470	437.50	-750.00	40.40	-79.02	0.51	8.81
28	11	10	7	12	4,975	24,600.00	50,575.00	-25,975.00	2,673	42.80	1,144	335	475.00	-587.50	44.21	-77.54	0.57	9.20
29	11	10	13	10	2,923	24,575.00	55,137.50	-30,562.50	2,693	48.20	1,298	231	487.50	-900.00	42.48	-132.31	0.32	9.13
30	12	13	12	10	2,780	24,575.00	55,287.50	-30,712.50	2,820	48.62	1,371	439	337.50	-625.00	40.33	-69.96	0.58	8.71
31	13	11	9	12	5,328	24,525.00	48,312.50	-23,787.50	2,223	51.42	1,143	357	437.50	-750.00	42.27	-66.63	0.63	11.03
32	11	10	7	9	358	24,500.00	63,562.50	-39,062.50	3,195	47.26	1,510	452	475.00	-950.00	42.09	-86.42	0.49	7.67
33	12	11	9	12	5,327	24,462.50	51,312.50	-26,850.00	2,706	44.75	1,211	362	412.50	-1,012.50	42.37	-74.17	0.57	9.04
34	12	11	7	12	4,985	24,425.00	51,162.50	-26,737.50	2,586	45.94	1,188	325	437.50	-662.50	43.07	-82.27	0.52	9.45

That's just a bunch of numbers, of course. What really matters is that I can easily sort the table so that I can find the exact combination that produced the most fabulous results, like so:



TradeStation Strategy Performance Report - @ES 15 min (6/23/2009-4/23/2010)

Display: Column View

TradeStation Performance Summary Collapse

	All Trades	Long Trades	Short Trades
Total Net Profit	$26,137.50	$17,925.00	$8,212.50
Gross Profit	$59,962.50	$23,812.50	$36,150.00
Gross Loss	($33,825.00)	($5,887.50)	($27,937.50)
Profit Factor	1.77	4.04	1.29
Roll Over Credit	$0.00	$0.00	$0.00
Open Position P/L	$0.00	$0.00	$0.00
Select Total Net Profit	$27,050.00	$17,487.50	$9,562.50
Select Gross Profit	$54,387.50	$21,500.00	$32,887.50
Select Gross Loss	($27,337.50)	($4,012.50)	($23,325.00)
Select Profit Factor	1.99	5.36	1.41
Adjusted Total Net Profit	$22,885.77	$16,081.94	$5,542.57
Adjusted Gross Profit	$58,441.41	$22,778.15	$35,020.31
Adjusted Gross Loss	($35,555.64)	($6,696.21)	($29,477.74)
Adjusted Profit Factor	1.64	3.40	1.19
Total Number of Trades	2692	1024	1668
Percent Profitable	57.73%	51.76%	61.39%
Winning Trades	1554	530	1024
Losing Trades	382	53	329
Even Trades	756	441	315
Avg. Trade Net Profit	$9.71	$17.50	$4.92

Performance Summary | Trade Analysis | Trades List | Periodical Returns | Performance Graphs | Trade Graphs | Settings

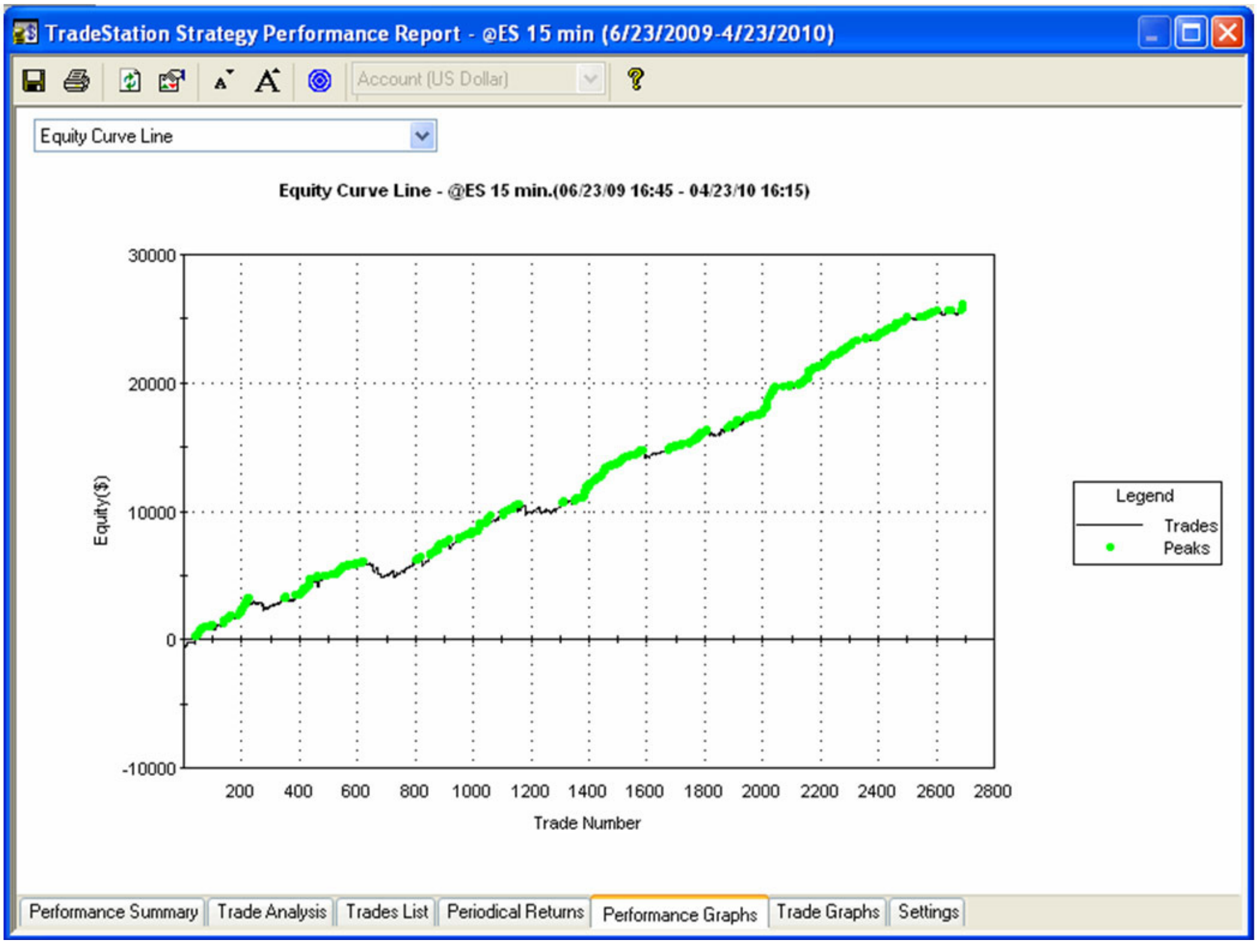
Now we're talking.

Starting with $10,000 dollars of capital, I could have made profits of $26,137 dollars in only ten months.

Of course, you might ask:

"But how would my trading account have looked? Would it have been a scary roller-coaster ride? Would I have lost a lot of money along the way, in order to achieve these great results at the end?"

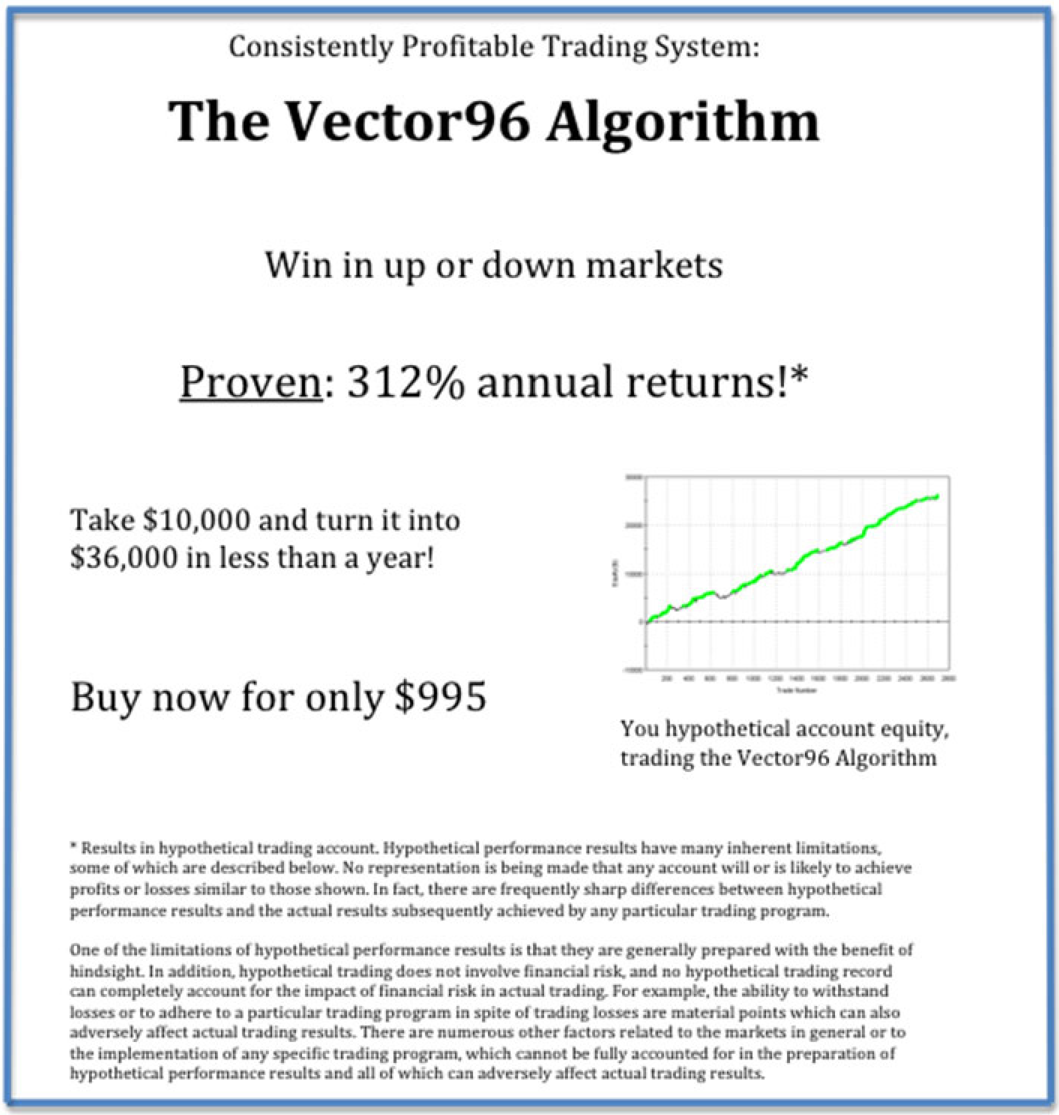
Fair question. TradeStation answers it by providing the following graph of your account equity. Notice the nice smooth rise:



Pretty impressive. Nice smooth, consistent results. Fabulous profitability. Guess what I've just done. I've discovered the Holy Grail of Trading Systems. Now what?

Run Your Con

The next step of our trading system con is to ***sell the damn thing***. Put an ad in the Wall Street Journal or Barron's or Forbes magazine. Like this:



There are a few things to notice about the way I market my trading system to the public. First, I dress up my advertisement with pseudo science and math. Even the name of the trading system sounds "scientific" – Vector96 Algorithm! Notice the fake precision with which I announce the results. Not 300% returns – but 312% returns.

And see that computery-looking equity chart? Look at the nice steady upward slope, the smooth lines … it's like trading system pornography – a beautiful picture you can only look at but which you have never actually *had* in real life.

There's one final section in the advertisement worth noting. That's the boilerplate warning text at the bottom of the ad – the text that begins, "Hypothetical performance results have many inherent limitations…."

If this warning text seems familiar to you, that's because it's the standard text required by the National Futures Association (NFA), a self-regulatory organization whose authority is effectively vested by U.S. federal government. The NFA essentially requires that trading system vendors include that standard text in all advertisements.

Ironically, the ultimate result of requiring that the same text to appear in every advertisement is that the warning becomes so numbingly familiar that no one actually *reads* it. That "hypothetical results warning" has become the trading-system equivalent of white noise, of living near the train tracks – buyers of trading systems simply ignore it.

Now, the problem with the warning text, and with the advertisement in general, and, indeed, with the entire project of "finding" a trading system using computers and backtesting and optimization, is that the project is rotten at its core: the trading system's results – while "real" in the sense that, if you had actually made the trades listed in the trade list, you would have achieved 300% returns – are worthless and imaginary because you would never have made those trades in the first place.

It's exactly like the horse-racing con I outlined at the outset of this book. Instead of calling 36 different people, and then selling your handicapping service the lucky man on the phone, TradeStation made 29,241 tests, and picked the one that happened to be the winner. But so what? You wouldn't have known which of the 29,241 trading systems to pick before the fact.

To see this more clearly, imagine if I tried to market the Vector96 Algorithm in a completely truthful manner. The advertisement would look something like this:

We tried 29,241 permutations, and this one randomly turned out to be the best:

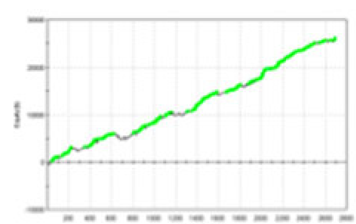
The Vector96 Algorithm

It would have been successful had I traded it over the past 10 months, but how the *heck* could I have known *that* ten months ago? I sure wish I had.

Proven: 312% annual returns*...

...but -41.5% returns, if I had traded all possible 29,241 permutations, combined, at the same time

Take $10,000 and turn it into $36,000 in less than a year! Or take $10,000 and turn in $7,297 dollars, if you had picked random permutation #29,240. But you didn't, right?



1 out of 29,241 outcomes. But this is the one I am selling for $995

Buy now for only $995

* The NFA requires us to put this text in our advertisements. Rather than find this requirement onerous, we like it, because including this dopey text in our ads covers our ass from a legal perspective and no one reads it anyway. And it makes the regulators happy and encourages them to go after the out and out criminals, rather than us, and so we can continue to make a living selling worthless products that don't violate any laws.

In fact, the reality is far worse than the advertisement above discloses, because – at the outset of this book-writing process, I already vaguely knew that a Moving Average Crossover trading system would have happened to have performed well over the past 10 months. But Moving Average Crossover systems aren't the only kind of trading systems available for testing.

There are an infinite number of trading system theories and methods: long-term trend following systems, short-term trend "fading" systems, volume stochastic systems, etc., etc.

What I fail to reveal in my advertisement for the Vector96 Algorithm – even the supposedly "honest" version of the advertisement, which discloses everything – is that I effectively tried those methods on the recent historical data, and they just plain didn't work at *all*. In other words, the Vector96 Algorithm isn't just one out of 29,241 permutations.

It's one out millions, or tens of millions of possible methods for trading. But I chose it with the benefit of hindsight – with the benefit of perfect 20/20 hindsight.

Fraud or Self-Delusion?

The sad part of this story isn't that the creator of Vector96 is a fraud who is trying to rip off people. He may sincerely believe that he has "discovered" an amazing trading system, and he may sincerely believe that selling his discovery for $995 dollars is a fair economic transaction: traders can get the benefit of his discovery and make money as a result.

No, the sad part is *exactly* that: that the developer sincerely believes in what he sells. He is as self-deluded as his customers are ignorant.

Indeed, the entire "trading system industry" is a scam of giant and bizarre proportions – "bizarre" because, unlike so many other con games, much of the scam in the world of trading systems is self-inflicted and self-delusional. Trading system vendors really believe in what they sell. And *that's* the sad part.

The self-delusion operates on so many levels that it's hard to know where to begin. Which is the saddest part of our story? That people understand so little about probability and statistics that they ignore the obvious hindsight bias in trading system discovery? That people fail to see that even twenty years of market data is effectively only a small sample size because the real sample space which we need to test is the market "regime," and there are very few market regimes in any given decade? (A bull market can last for ten or twenty years. Finding a system that happened to work in a bull market is easy. The problem is you don't know if it's going to continue to be a bull market! Even worse, you won't even know the bull market is over until many years have passed after the end of that bull market!)

Or is it even more sad that people who buy TradeStation for $200 think that *they* are going to be the one to discover the secret to profitable risk-free trading – and not the quant jock with the MIT Ph.D. who works at a high-frequency Wall Street trading shop?

The Solution

If you've read this far, then you're probably pretty discouraged. I've showed you that most "trading systems" are glorified con games in which the "mark" might actually wind up being the guy selling the worthless trading system. (And of course the buyer of the trading system is also a "mark," but in the less-ironic, and more standard sense of the word.)

Is there an answer? Are trading systems completely worthless?

Goodbye backtesting, goodbye optimization

There is an answer.

I will reveal it to you now. Please read the next sentence very carefully. If you take only one idea from this book, make sure it is this idea:

> ***Backtesting your trading systems using historical data, and optimizing the mathematical parameters used by that system, are not solutions to the problem. They are the problem.***

The answer, in other words, is to dismiss hypothetical backtesting as completely worthless, which it is. Backtesting a trading system, and then touting the results (either to yourself or to others) that you *would have* achieved (had you known to actually trade the system back when it mattered) will cause you (and others) untold financial loss and mental anguish.

The solution is to rely on public go-forward testing.

Public Go-Forward Testing

Public go-forward testing means the following. You commit *publicly* to a particular trading system. Then you stand by its results, no matter what happens.

It sounds like a simple, not terribly profound idea, but it is revolutionary in its implications. In fact, the idea is so revolutionary, and so unusual, that it bears repeating. Read the words carefully:

Commit publicly to a particular trading system.
Then stand by its results, no matter what happens.

Whether you actually make the trades in a real brokerage account is of secondary concern. What really matters is that you *commit publicly* to your trade recommendations as they happen, and that you cannot walk away from the resulting track record.

Your track record is permanent, and can not removed, or hidden, or explained away – either to yourself, or to others.

Think about how very different this methodology is from the typical backtesting methodology for finding trading systems. Whether you use TradeStation or one of the tools helpfully provided for free by online brokers to "discover" a fool-proof trading system, the methodology is always the same. You look over a statistical search space for some system that happened to have worked well over the time period in question.

Whether you examine 999 variations or 9,999,999,999,999 variations in your quest to find that magic system is immaterial. The point is that you examined, and threw away, all those methods which turned out to be failures.

It's this process of "throwing away" failed experiments that is the critical part of the process.

The many ways to "throw away" garbage

While that process of "throwing away" failed experiments can be obvious, it can also be quite subtle. It can happen all at once, or over time. It can be done by computer software, or by the human mind's amazing capacity for rationalization. In the case of someone using TradeStation (or a program like it), you will see immediately on your TradeStation screen that the program has tested the outcomes of 29,242 trading systems, picked the best, and thrown away 29,241 of the rest. That's an obvious form of "throwing away" failed trading systems.

But there are more subtle ways of throwing away failures. What about the trader who follows a trading system successfully for six months, placing real life trades, but then suffers a single devastating loss. He says to himself, "Gosh, if only I had used a 3% stop loss! My system would have been very effective."

Then he goes back to the historical data and tests how his system would have performed over the past 15 years. He finds out that, yes, lo and behold, had he used a 3% stop loss, his results would have been less fabulous during the first 14 years of trading, but, overall, would have been much better! And so he "tweaks" his system by adding that 3% stop loss.

But, under my rules, the phrase "tweaking a trading system" is just another way of saying "throwing out an old system and replacing it with a new system." Because that is what the trader has done. He has thrown out the old system (no stop loss) and replaced it with an entirely new one (a system with a 3% stop loss).

The Gold Strangle System

To understand what I mean, let's imagine the following story. A man watches CNBC one afternoon, and he sees that gold futures tumbled 4% on heavy trading volume after the Federal Reserve met and the Fed Chairman issued some inscrutable statement. The trader remembers that something similar happened the last time the Fed met, as well.

And so the trader thinks to himself, "Hey, this has the makings of a really great trading system! I see that gold futures tend to move on the day of a Fed announcement. I wonder what would have happened if I had bought an option strangle* on gold futures the day before each Fed meeting?" And this intrepid trading-system developer goes back to old *Wall Street Journal* newspapers, and figures out exactly which dates the Fed met, and the prices of gold futures, and their related options contracts, on the days immediately before and after those Fed meetings. And he discovers that, yes, if he had run his Gold Strangle trading system over the past 3 years, he would have done quite well.

Now, here is a case in which the "throwing out" of failed systems happens in a much less obvious manner than the throwing-out process that occurs when one uses TradeStation or products like it. Indeed, the system developer probably doesn't even know that, in the story above, he has thrown out failed systems. But there *was* a process of throwing out – it happened subconsciously, just outside of the trader's notice.

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* To buy an option "strangle" means to buy a call and a put, respectively above and below the current price of the underlying instrument (in this case, gold futures contracts). Calls increase in value when the instrument moves up; puts increase in value when the instrument moves down. One buys a strangle if he is quite sure that the price of the underlying instrument is going to move a lot, one way or the other – far more than the market is expecting it to move – but one doesn't know whether it will move up or down.

Think about it like this:

Why did the trader choose to implement his strategy using gold futures, and not, say, Treasury Bond futures? Why did he implement a strangle strategy and not a straddle strategy? And, for that matter, why did he test what is effectively a long-volatility strategy and not a short-volatility strategy?* Why is the important date of interest to the trading system the day the Federal Reserve meets, and not, say, the day of the G20 Summit?

The answers to all these questions come down to this: the trader saw a report on CNBC, which occurred on the day of the Fed meeting, and which discussed gold futures; and this report made the trader remember similar activity in the gold futures market the year before. In other words, he was informed by hindsight. He implicitly (and invisibly) threw out a never-to-born "T-Bond Strangle System," a "T-Bond Straddle System," a "Euro Strangle System," and a "Pork Belly Strangle System," etc. Those systems never saw the light of day. The process of throwing out these systems didn't occur in any explicit way – there was no crumpled ball of paper in the waste basket for each of these systems. There was, instead, just a momentarily dismissed idea, which left no paper residue, no explicit memory. (Maybe it left an ephemeral, electro-chemical residue in the trader's brain, but that is all.)

The important thing to note here is that trader never committed to the Gold Strangle trading system *before* it was revealed to be a good system. He came up with the idea after it became clear it would be profitable, and then he confirmed his hypothesis using historical data.

But if the idea was so good and obvious and true, why was it not discovered (and put into practice!) before those Fed meetings that prompted the volatile gold futures price movements, and the CNBC report, in the first place?

* A strategy that is "long" volatility profits when volatility increases, and a strategy that is "short" volatility profits when volatility becomes more muted. In both cases, it is immaterial whether prices go up or down; what matters is that the size and suddenness of price movements increase or decrease.

The Importance of Public Commitment

The story above makes the case for the value of go-forward testing, as opposed to backtesting a trading system with the benefit of hindsight. This brings me to the next critical idea: the need for public commitment. At several points in these preceding pages, I have alluded to the fact that self-deception severely affects trading system development.

Before I explain further, let me candidly admit that I can speak about self-deception quite authoritatively, because I am a great practitioner of the art. Self-deception happens so frequently in the world of trading system development that it ceases to attract comment, even among those most hurt by it – we are like fish swimming in the water of self-deception; it's all around us and so we don't even notice it.

Take the story of the trader who comes up with a foolproof system, "the Market Temperature" system. This mathematically-inclined trader has developed a math formula which measures the "heat" of the stock market. The way it works is this: he inputs a bunch of numbers into his complicated formula, and it spits out a result – a market "temperature." When the result of his math formula is higher than 72 degrees, the market is considered "hot," and so the trader goes long. When the result is below 32, the market is considered "cold," and so the trader goes short.

Now, imagine that our trader follows this terrific system for a few months and "paper trades" it. It performs very, very well. So well, in fact, that he starts trading with real money. And for another month he continues to do well. He racks up a couple thousand dollars worth of real gains, trading with just a small amount of capital.

Then, one Monday, his secret math formula spits out the following number: that the market "temperature" is 71.9 degrees. What does the trader do? Well, 71.9 degrees obviously rounds to 72 degrees, which – in his trading system – is a "long" signal, and so he goes long.

And he promptly loses $10,000 as the market tanks.

Now, here is the important question. What do you think this trading-system developer does next?

The answer is: he has a conversation. With himself.

He says to himself, "Ah, I really should not have gone long when the market 'temperature' was 71.9 degrees. After all, 71.9 degrees isn't 72 degrees, now is it? In fact, I'll need to clarify the trading-system rules a bit, to make sure I never again make this mistake. The clarification is: that you shouldn't round your temperatures to the nearest whole integer. Instead, you simply truncate the decimal portion of the market temperature. So 71.9 degrees should be treated as a simple 71 degrees – and you shouldn't go long when your temperature is 71 degrees."

Now comes the moment of self-delusion. The trader continues his soliloquy as follows. "In fact, had I been following my rules *correctly*, I never would have entered that last long trade. It was a mistake. It was an error. It was not really part of my trading system."

Later that evening, when the trader's friend finds him in the bar, nursing a beer, the friend asks the trader how his new "market temperature trading system" is performing.

"Terrific," the trader enthuses. "My system has had ten winning trades in a row, and not a single losing trade!"

That answer – which probably strikes most normal people (non traders, that is!) as a blatant lie – will probably sound depressingly familiar to those of you who have ever created your own trading system. We've all been in that trader's shoes.

In the mind of the trading-system developer, the answer he gave to his friend is essentially true – because, after all, that $10,000 losing trade was not really part of the trading system. It was an error. It shouldn't have happened. It was due to a rounding error. (This is the story the trader will recite to himself for as long as he continues trading his "market temperature" system – that his big losing trade was the result of a "rounding error." In fact, it was only an "error" with the benefit of hindsight – an observation which will soon be forgotten in the trader's recollection of events.)

Now, what does this little story have to do with my admonition that one must practice go-forward trading with public commitment?

If the trader had been forced to commit publicly to his track record, he would not be able to walk away from that last, losing trade. He could lie neither to himself, nor to the public. That trade would be sitting on his public trading record for all to see. The friend in the bar wouldn't have to ask the trader how his new system was doing. He would be able to see for himself.

And if the trader did try to claim that the last losing trade was the result of a "rounding error," the trader's friend would probably nod agreeably and say, "Sure, pal, whatever makes you happy. Let me buy you another beer. You must need one."

How to Find Trading Systems with Go-Forward, Public Commitment

There are several sites on the Internet where traders can create a publicly-viewable track record that they must commit to publicly, and which they cannot "throw away." The company that I started is called Collective2, and you can find it at www.collective2.com.

On this site, you'll see over 11,500 public track records from traders all over the world.

Here's an example of what a track record on Collective2 looks like:

Recently Closed Trades CSV AutoTrade P/L

	Opened ET	B/S	#	Symbol	Price	Closed	Price	Risk	P/L
	4/14/10 9:52	SELL	15	EUR/USD	1.36115	4/14 23:59	1.36519	High	($605)
	4/13/10 20:05	BUY	26	USD/JPY	93.176	4/14 23:57	93.392	High	$602
	4/13/10 20:15	SELL	15	USD/CAD	1.00022	4/14 9:52	0.99890	Low	$198
	4/13/10 20:15	BUY	11	GBP/JPY	143.767	4/14 9:22	144.172	Normal	$477
	4/13/10 10:55	SELL	9	GBP/USD	1.53670	4/13 20:14	1.54033	Low	($326)
	4/12/10 13:08	SELL	16	EUR/USD	1.35784	4/13 20:14	1.36247	Normal	($741)
	4/12/10 11:02	SELL	25	USD/CAD	1.00153	4/13 10:24	1.00650	Normal	($1,235)
	4/12/10 10:18	SELL	15	GBP/USD	1.53956	4/12 12:16	1.53560	Low	$594
	4/9/10 9:57	BUY	27	EUR/GBP	0.87526	4/11 20:46	0.88208	Normal	$2,841
	4/9/10 2:59	BUY	11	EUR/USD	1.33863	4/9 9:26	1.33681	n/a	($199)
	4/8/10 10:56	BUY	18	EUR/GBP	0.87597	4/9 3:56	0.87261	Normal	($930)
	4/8/10 10:18	BUY	18	AUD/JPY	86.200	4/9 2:43	86.849	Low	$1,247
	4/7/10 11:39	BUY	15	USD/CAD	1.00370	4/8 9:01	1.00658	Low	$428
	4/8/10 2:18	SELL	9	GBP/USD	1.52099	4/8 6:59	1.52334	n/a	($211)
	4/7/10 12:15	BUY	18	AUD/JPY	86.717	4/8 2:30	86.214	High	($971)

To most people, the chart on the previous page looks like a bunch of numbers and gibberish. But to someone who loves trading systems, this table is a beautiful, magical thing. Here's why. The person who created the trading system has committed to it publically. Each of the trades listed in the table was recommended (and committed to) in real-time. In other words, the trading system developer did <u>not</u> come to the Collective2 Web site in May and say, "Here are twenty trades I recommended in April."

Rather, at the moment each trade was made, the trader came to our Web site and reported, "I am buying <u>now</u>!" Or "I am selling <u>now</u>!" … without knowing the result of the trade in advance. Even more important, the trader is unable to erase his track record, regardless of how his trades work out, and regardless of how his system performs.

Which is why Collective2 has many system performance charts that look like this:

Here's the key point I want to make about Collective2.
Many of the track records you'll find on the Web site are terrible!

I say this with pride, because it proves the value of www.collective2.com, both for trading-system developers, and for trading-system buyers. It proves the value of go-forward public commitment.

Let me turn this idea around, and present it in the form of a question.

How many of the trading systems that have a chart like the one above – how many of these trading systems would normally be advertised in a newspaper?

How many of them would be promoted on the Internet?

Without Collective2, how many of them would ever see the light of day?

The answer, of course, is *zero*.

No one would ever create the trading system you see in the chart above, and say, "I'm going to sell this trading system to the public for $995 per year."

Most trading-system developers would simply walk away from a system with this kind of performance.* They would crumple the piece of paper on which their system "trading rules" were scrawled, throw it in their trash… and start a new system. This new system, of course, would be specially designed (with the benefit of 20/20 hind-sight) to avoid that devastating loss we see above on April 17. And this new, shiny, revised system would be the one marketed and sold on the Internet.

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* But it's worth mentioning that the trading system portrayed in this chart is not all that bad. It's real. It's not some fantasy trading-system selected with the benefit of 20/20 hindsight. Sure, the sudden drop in equity at around April 17 is shocking, and not something you want to go through every day, but it's conceivable that a system like the one above could be a valuable component in a broader trading-system portfolio.

Without a public commitment to his trading system, the developer of a system like the one above simply throws the system away, either by jettisoning it outright ("I never liked trading foreign exchange, anyway") or by tweaking it ("What this system really needs is a tight stop loss") or by rationalizing its failure ("That big losing trade was because my computer had a virus and I couldn't get on the Internet and see the real-time prices, and so I never really would have placed that trade in real life").

The beauty of Collective2 is that we are an independent, third-part auditor of trading-system performance, and – because we're independent – we won't erase the lousy track records. There is no rationalizing or walking away from a track record on Collective2.

The results of your trading system remain, for all to see, on the Web site, forever. Every bad system on the Collective2 site is a trading system that would have vanished into someone's trash can (in the days of paper and pencils) or into the electronic ether (in our days of computers and backtesting and optimization).

That's why, when you finally see a decent-looking trading system on Collective2, it's worth taking a second look at. You can have confidence that the results of a go-forward test on this Web site merit more attention than an optimized backtest. Sure, they're both hypothetical track records, in the strict sense that no single trading account actually performed in the exact way described on the Web site. That's hypothetical. But the Collective2 hypothetical trade record is more worthy of attention because it is a go-forward track record, and there's no walking away from it.

Conclusion

For a long time, many people have realized that the world of trading systems is filled with fraud and delusion.

What many people *don't* realize is that the fraud and delusion are almost entirely self-inflicted – by trading-system developers upon themselves. It's far too easy to ignore reality (that your trading system actually did not actually perform very well), and to instead make excuses and rationalizations ("I really would not have made that losing trade, so I'll just strike it from my track record, and then go sell the 'revised' system to the public"). Sites like Collective2.com are a valuable antidote to this corrosive poison, because they prevent this rationalization, this walking away from reality.

Collective2 is like a fashion magazine without any airbrushing. The models you see in its pages are more like the people you see in real life – with blemishes and wrinkles. The clothes on the Collective2 Web site appear the way they will when you drape them over your own real, imperfect (not fantasy) body.

The same lesson that applies to beauty applies to trading systems: Look in the mirror, and accept what you see. You can turn your back on your mirror, but there's no walking away from yourself. The truth always follows.