SystemTracô

Trading System Analysis

By

Futures Brokerage Services

TradeSystem, Inc

1st Quarter 2002

SYSTEMTRAC
Disclosure Statement

Information on trading systems contained in this report is based upon information and trading system logic obtained from specific system marketing documents, users guides, system developers and/or system vendors themselves. While the information is believed to be reliable, because of the complexities involved in the historical data and the fact that it has not been verified, we cannot guarantee its completeness or accuracy.

The trading systems profiled in this report are a sampling of some of the commercially available trading systems currently marketed in the United States. There are many systems available in addition to those presented in this report. Trade Center uses its best efforts to invite all system vendors to submit their data and trading system logic for inclusion in Trade Center's *SYSTEMTRAC* quarterly reports. Systems are excluded from the report only if the vendor declines to provide sufficient data and trading logic or if Trade Center, in its sole discretion, determines that the information furnished by the vendor has the potential to mislead the public.

THE PERFORMANCE TABLES AND RESULTS OF THE TRADING SYSTEMS PRESENTED IN THIS REPORT ARE HYPOTHETICAL OR SIMULATED IN NATURE AND IN NO WAY REPRESENT ACTUAL TRADING.

The CFTC requires the following disclosure statement in reference to hypothetical results.

HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK OF ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL WHICH CAN ADVERSELY AFFECT TRADING RESULTS.

The performance statistics and tables presented in this report are used to illustrate the overall success or failure of a hypothetical trading system in trading the futures markets. These results are not indicative of, and have no bearing on, any individual results that may be attained by the trading system in the future. The performance results for most of the systems presented in this report incorporate the assumption that the hypothetical account is funded with a fixed amount of equity, which is reset monthly, regardless of previous profits or losses. (See SYSTEMTRAC USER'S GUIDE, note 2.) Actual trading results are likely to differ, because the gain or loss incurred in prior months will increase or decrease the beginning equity in a given month. The monthly rate of return on equity, expressed as a percentage of beginning equity, may be higher or lower than shown in the hypothetical, depending upon the current level of equity in the actual trading account.

The risk of loss in trading commodity futures can be substantial. Therefore, investors need to carefully consider whether such trading is suitable for them in light of their own specific financial condition. In some cases, futures accounts are subject to substantial charges for commission, management, incentive or advisory fees. It may be necessary for those accounts that are subject to these charges to make substantial trading profits to avoid depletion or exhaustion of their assets.

The SYSTEMTRAC system analysis report does not constitute a solicitation to purchase or invest in any trading system included herein. Prior to purchasing a trading system from a system vendor, one should carefully study all information concerning the system that is provided by the system vendor.

The information contained within this *SYSTEMTRAC* report is provided with the objective of "standardizing trading systems performance measurements", and it is intended for educational purposes only. All information is offered with the understanding that investors considering purchasing or leasing a system must carry out their own research and due diligence in deciding whether to purchase or lease a trading system from any of the developers listed within this report.

Investing in futures and options involves risk and may not be suitable for all investors. Therefore, investors should carefully consider these risks and determine whether they are suitable for investing in light of their financial condition and investment objectives.

Trade Center, Inc.
SystemTrac Analysis Report

Any System Inc.

1

Sample Global Portfolio
Contact: **Mr. Trader**
Email: **support@any-system.com**
Web: **any-system.com**
Source of Data: **User**

Any Town	**XX**	**XXXXX**	
USA			
Phone: **1-999-999-9999**	**Fax:**	**1-999-999-9999**	

From: **January-90** To: **December-00**

Information

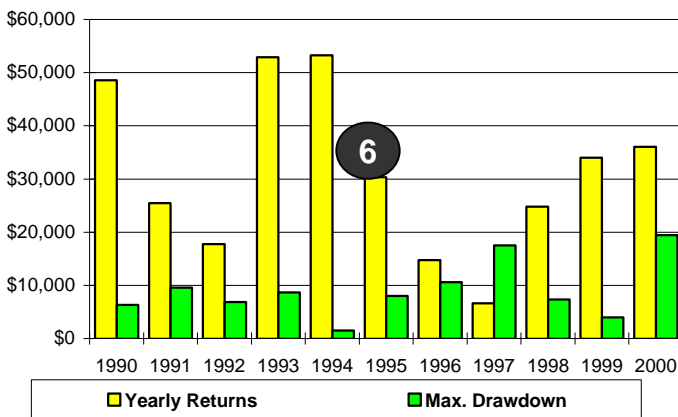|					
System Price	$2,995	Recm'd Acct Size	60K-100K (80K)	Data Vendor Used	CSI
Lease Price (annual)	N/A	Commission/Slippage	$75	Continous Contracts	Yes
Lease Duration	N/A	Margin/Equity Ratio	N/A	Actual Contracts	
		Annual Round Turns	N/A		**2**
Testing Begin Date	Jan-80			Intra-Day Data Req.	No
Release Date	Jun-00	Trading Category	Diversified	End-Day Data Req.	Yes
Last Data Date	Dec-00	Major Focus	Diversified	Realtime Feed Req.	No

Sector Description

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Stock Indexes		Interbank Forex		Daytrade System		Breakout	Yes
Interest Rates	Yes	Currency Crossrates		Short-Term System	Yes	Momentum	Yes
Currencies	Yes	Globex/EFP's		Mid-Term System		Neural Network	
Energy Products	Yes	Spreads		Long-Term System	Yes	Pattern Recognition	
Precious Metals		Options		Multi-System	Yes	Other	Yes
Strategic Metals	Yes	Foreign Markets	Yes				
Grains	Yes			System Revealed	Yes	TradeStation Code	Yes
Meats	Yes	Trend-Follower	Yes	Black Box System	No	Standalone Software	Yes
Softs	Yes	Contrarian				Registered as CTA	Yes

Description

The Sample Portfolio yields approximately the same return as most systems, but with about a 2.5 percent lower average annual drawdown. The ratio is formed by dividing the average annual return by the average annual largest drawdown, and it shows that special trading is a better trading solution than a normal portfolio. Because of margin considerations, a trader cannot ~~t~~both together when starting the Large-Account money-management strategy at about $100,000. Analysis was conducted to determine a good mix to trade when a~~n~~~~ ~~t equity of $100,000 was reached. The New Mix shows over a 20 percent return improvement. The superiority of this trading solution is shown in it's ratio of 6.25 versus that of 5.05 for old and 4.22 for new mix. Once the account equity grows to about $200,000, margin requirements are sufficient to trade the all portfolios. This portfolio is called the Super Sample Mix.
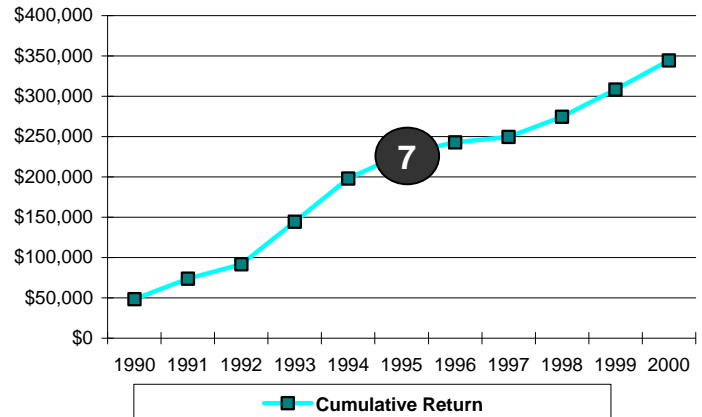
4

Annual Performance

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Percent Return	121.41%	63.59%	44.36%	132.24%	133.19%	75.86%	36.85%	16.59%	61.98%	84.95%	90.19%	78.29%
Yearly Returns	$48,564	$25,436	$17,744	$52,896	$53,2~~~~	$30,344	$14,740	$6,636	$24,792	$33,980	$36,076	$31,317
Cumulative Return	$48,564	$74,000	$91,744	$144,640	$197,9~~~~	$228,260	$243,000	$249,636	$274,428	$308,408	$344,484	
Max. Drawdown	$6,316	$9,584	$6,876	$8,680	$1,496	$8,032	$10,620	$17,532	$7,352	$3,956	$19,444	$9,081

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Sample Global Portfolio

Yearly Returns and Drawdowns

Cumulative Returns

Sample Global Portfolio

SYSTEMTRAC USER'S GUIDE
Statistical and Information Key

Many of the statistics compiled in Trade Center Inc's SystemTrac analysis report are commonly used throughout the investment industry. The goal of this report is to provide interested investors with a standardized reporting format for the many available publicly offered trading systems.

1 **Name, Address and System Info** - Identifies the System Vendors business name, address, telephone and fax numbers, website, email address along with a contact person to request current information from the vendor or answer any due diligence questions. Also, included in this section, is the specific name of the trading system or portfolio that is being analyzed along with its Data Table Start Date, End Date and Source.

2 **Information Section** - Provides the suggested retail price of the system and whether a lease option is available and its costs and duration. The date in which the system vendor began his tests, the date the system was offered to the public for sale and the Last Data Date provided SystemTrac. Also included is the vendors recommended Starting Account Size (the figure in (), is the Account Size used in calculation of statistics), the Commission/Slippage charge the vendor used in testing. Margin/Equity Ratio and Annual Roundturns are based on vendors hypothetical testing. All data information is provided with respect past testing and future usage of the trading system.

3 **Sector Description -** Specific market sectors and products the system can trade are indicated. The type of system it is whether Trend-follower or Contrarian. The term of the systems trade length. Trading logic the system is based on. Disclosure of system rules and logic. Standalone software availability or Omega's Tradestation is required for use. System vendors' registration status as a CTA is indicated here.

4 **System Description -** Provides a brief synopsis of the trading system being analyzed. These descriptions are taken directly from the system vendors' sales literature or are provided directly from the system vendor.

5 **Annual Performance** - Four vital performance statistics are revealed for each of the last 10 calender years plus the current year, or when data was first available: a) Simple Annual Percent Returns, b) Simple Annual Dollar Returns, c) Cumulative Returns , d) Largest Monthly Drawdown in performance for each specific calender year.

6 **Yearly Returns and Drawdown Chart** - This chart graphically represents the annual system returns and the corresponding monthly drawdown for each of the previous 10 years plus the current year of data, or when data was first available if less than 10 years of data is available.

7 **Cumulative Returns Chart** - This chart graphically represents the system's cumulative returns for the previous 10 years of data plus the current year, or when data was first available if less than 10 years of data is available.

Trade Center, Inc.
SystemTrac Analysis Report

Any System Inc.

Sample Global Portfolio
From: January-90   To: December-00

Monthly Performance

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2000	10.73%	12.66%	1.97%	8.19%	18.49%	-14.09%	6.44%	4.72%	4.37%	3.54%	-4.85%	16.25%	68.42%
1999	1.24%	9.28%	5.77%	3.35%	7.36%	17.63%	8.80%	-13.38%	3.14%	-2.54%	13.73%	5.67%	60.05%
1998	14.02%	0.84%	5.76%	-1.75%	12.28%	4.71%	11.95%	-12.71%	17.21%	-3.02%	-0.38%	1.07%	49.98%
1997	31.11%	45.20%	-6.80%	-1.94%	-6.06%	4.97%	1.04%	10.87%	-18.29%	-15.97%	2.76%	15.64%	60.45%
1996	5.59%	-11.14%	1.91%	29.00%	-1.97%	8.22%	3.34%	4.47%	1.44%	12.79%	0.75%	1.37%	59.77%
1995	14.44%	14.98%	7.53%	10.28%	-0.07%	3.75%	0.08%	25.21%	3.74%	-7.20%	3.02%	30.43%	106.19%
1994	-3.76%	-10.93%	1.78%	8.31%	31.00%	10.05%	-14.07%	-11.15%	3.66%	-2.20%	13.53%	3.53%	29.75%
1993	13.67%	20.83%	0.77%	9.75%	-6.22%	2.18%	4.44%	-11.05%	3.89%	6.02%	4.45%	16.68%	65.41%
1992	2.22%	-4.66%	9.99%	-3.57%	11.27%	0.72%	15.14%	14.87%	-1.87%	29.63%	8.98%	-0.44%	82.28%

Drawdown Analysis / Consecutive Profitable Periods / Consecutive Losing Periods

% Depth	$ Depth	Prior Peak	Valley	Length	Recovery	Run-up	Length	Start Date	End Date	Run-down	Length	Start Date	End Date
-48.61%	-19444	Feb-00	May-00	10	7	171.23%	4	Jun-90	Sep-90	-31.34%	2	Sep-97	Oct-97
-43.83%	-17532	Apr-97	Nov-97	11	4	169.96%	9	Jun-96	Feb-97	-23.65%	2	Jul-94	Aug-94
-26.55%	-10620	Jan-96	Feb-96	3	2	95.98%	7	Nov-99	May-00	-17.07%	1	Sep-90	Oct-90
-23.96%	-9584	Jun-91	Aug-91	6	4	83.40%	6	Nov-94	Apr-95	-14.28%	2	Jan-94	Feb-94
-21.70%	-8680	Jul-93	Sep-93	4	2	76.93%	5	Sep-91	Jan-92	-14.15%	3	Mar-97	May-97
-20.25%	-8100	May-96	Aug-96	5	2	67.95%	8	Dec-98	Jul-99	-14.09%	1	Jun-00	Jun-00

Sample Global Portfolio

Risk Table	Month	Quarter	Annualized
Compound ROR	5.36%	16.96%	87.16%
Arithmetic Mean	5.99%	19.40%	N/A
Standard Deviation	11.85%	27.21%	41.05%
Semi Deviation	10.01%	17.71%	34.67%
Gain Deviation	9.90%	26.31%	34.28%
Loss Deviation	5.34%	8.35%	18.51%
Down Dev.(10.00%)	4.81%	5.10%	16.67%
Down Dev.(5.00%)	4.65%	4.64%	16.10%
Down Dev.(0%)	4.48%	4.19%	15.50%
Sharpe(5.00%)	0.47	0.67	1.63
Sortino(10.00%)	0.95	2.85	3.29
Sortino(5.00%)	1.07	3.39	3.69
Sortino(0%)	1.20	4.05	4.15
Sterling Ratio	3.08		
Calmar Ratio	5.12		
Losing Streak			

Distribution of Returns

Number of Months vs Percent Return

Time Window Analysis

	1 Month	3 Month	6 Month	12 Month	18 Month	2 Year	3 Year	4 Year	5 Year	10 Year
Latest	16.25%	14.53%	33.24%	86.66%	112.50%	224.56%	409.87%	683.07%	1242.73%	23671.1%
Annualized				86.66%	65.29%	80.16%	72.12%	67.28%	68.11%	76.55%
Count	132	130	127	121	115	109	97	85	73	
Percent Profitable	71.97%	80.77%	89.76%	99.17%	100.00%	100.00%	100.00%	100.00%	100.00%	
Average	5.99%	18.75%	40.63%	92.70%	158.71%	250.58%	547.17%	1041.46%	2055.46%	
Average Gain	10.90%	25.20%	46.16%	93.53%	158.71%	250.58%	547.17%	1041.46%	2055.46%	
Average Loss	-6.61%	-8.31%	-7.81%	-7.24%						
Best Period	55.28%	144.33%	171.92%	247.91%	402.71%	550.55%	1521.43%	2419.72%	4078.63%	
Worst Period	-18.29%	-29.44%	-25.72%	-7.24%	10.74%	40.22%	174.91%	582.83%	1121.95%	
Standard Deviation	11.85%	23.66%	34.86%	56.26%	80.87%	112.68%	282.43%	360.70%	735.90%	

Sample Global Portfolio

This report compiled by Trade Center, Inc. 101 Enterprise Drive, Suite 330, Aliso Viejo, CA 92656, 949-643-7100, fax: 949-643-7111, support@tradecenterinc.com

SYSTEMTRAC USER'S GUIDE
Statistical and Information Key

Many of the statistics compiled in Trade Center Inc.'s SystemTrac analysis report are commonly used throughout the investment industry. The goal of this report is to provide interested investors with a standardized reporting format for the many available publicly offered trading systems.

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Monthly Data - Here we give a month-by-month report on rate of return for the last 9 calender years of simulated trading. These figures are the rate of return using a fixed starting account size as a reference. This assumes that profits and losses are either added or subtracted at the end of each month to start the next months trading with the same starting equity. This shows pure simple percent returns and does not account for any compounding of profits. In this example for the month of November 2000 the rate of return is –4.85%, this would represent a loss of $3880.00, based on $80000 starting equity. Note that all months are calculated on the fixed starting reference in the parentheses of the Recm'd Account Size in the information section of the SystemTrac report.

Drawdown Analysis - Each systems 6 largest Peak-to-Valley monthly drawdowns are revealed in both percentage and actual dollars, along with detailed information on Peak dates, Valley dates, length in months of drawdowns, number of months to recover from drawdowns.

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The following explains how each of the six categories are derived: **% Depth** is the percentage loss from an equity peak to an equity valley based on a fixed reference starting equity. **$ Depth** is the dollar loss from an equity peak to an equity valley. **Prior peak** represents the last monthly equity high prior to the beginning of the Drawdown. **Valley** is the monthly date where the Drawdowns lowest level occurred. **Length** is the duration in months of the Drawdown, which is the number of months between Prior Peak and New Peak. **Recovery** is the duration in months starting from the first month after the Valley of the Drawdown to the month of a new equity Peak, which includes the new Peak month.

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Consecutive Profitable Periods - Each systems 6 largest profitable simple return Run-ups are revealed along with detailed information on Start date of Run-ups, End date of Run-ups, length in months of Run-ups.

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Consecutive Losing Periods - Each systems 6 largest losing simple return Run-downs are revealed along with detailed information on Start date of Run-downs, End date of Run-downs, length in months of Run-downs.

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Risk/Return Table - The indispensable Risk/Return Statistics include: Compounded Rate of Return, Arithmetic Mean, Standard Deviation, Semi-Deviation, Gain and Loss Deviations, Sharpe, Sortino, Sterling and Calmar Ratios. These statistics are shown by month, quarter and annualized rates. For a more in depth definition of these statistics please refer to Appendix A found at the end of this report.

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Distributions of Returns Chart - This chart graphically represents how returns have been distributed over time. The vertical axis represents the number of months the system performance have obtained the percent returns that are represented on the horizontal axis.

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Time Window Analysis – Latest returns, Annualized returns, number of periods, Best, Worst and Average Returns are shown along with various risk statistics including Standard Deviation, Gain and Loss Deviation, Sharpe and Sortino Ratios for the various time-windows indicated. For a more in depth definition of these statistics please refer to Appendix A found at the end of this report.

SystemTrac

Analysis Profiles

Trade Center, Inc.
SystemTrac Analysis Report

TradeSystem, Inc.
9220 Holly Hill Farm Rd.

Charlotte   NC   28277
USA
Phone: 1-800-372-3942   Fax: 704-752-7992

Aztec FullSize Portfolio-$2000 Risk Filter
Contact: Keith Fitschen
Email: support@trade-system.com
Web: trade-system.com
Source of Data: User
From: January-90   To: March-02

Information

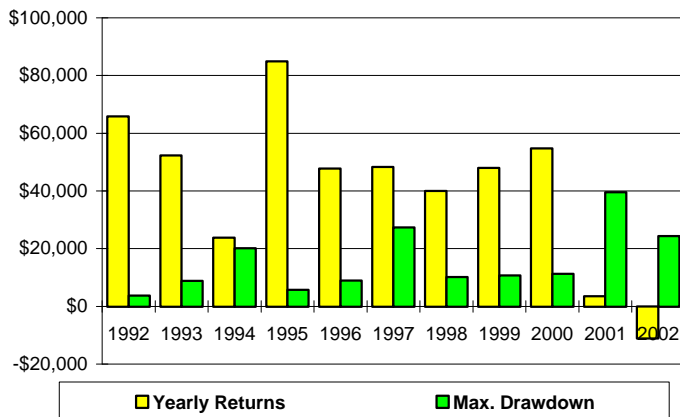|					
System Price	$2995	Recm'd Acct Size	60K-100K (80K)	Data Vendor Used	CSI
Lease Price (annual)	N/A	Commission/Slippage	$75	Continous Contracts	Yes
Lease Duration	N/A	Margin/Equity Ratio	N/A	Actual Contracts	
		Annual Round Turns	N/A		
Testing Begin Date	Jan-80			Intra-Day Data Req.	No
Release Date	6/00	Trading Category	Diversified	End-Day Data Req.	Yes
Last Data Date	Mar-02	Major Focus	Diversified	Realtime Feed Req.	No

Sector Description

Stock Indexes		Interbank Forex		Daytrade System		Breakout	Yes
Interest Rates	Yes	Currency Crossrates		Short-Term System	Yes	Momentum	Yes
Currencies	Yes	Globex/EFP's		Mid-Term System		Neural Network	
Energy Products	Yes	Spreads		Long-Term System		Pattern Recognition	
Precious Metals		Options		Multi-System	Yes	Other	Yes
Strategic Metals	Yes	Foreign Markets	Yes				
Grains	Yes			System Revealed	Yes	TradeStation Code	Yes
Meats	Yes	Trend-Follower	Yes	Black Box System	No	Standalone Software	Yes
Softs	Yes	Contrarian				Registered as CTA	No

Description

Aztec is a multi-commodity, shorter-term trading system. In contrast, Aberration, which is another TradeSystem, Inc. multi-commodity system, is longer-term. Aztec uses trend and volatility cues in the market to make trading decisions, and is really two systems in one. In Mode 1, the system is almost always in the market, alternating between long and short positions. In Mode 2, the system uses similar entry logic, but only takes trades in the direction of the longer-term trend. Mode 1 enters on a stop, while Mode 2 enters and exits on the open (like Aberration does). Both modes use a volatility-based protective stop. The Aztec Full-Size portfolio is suited for accounts starting in the $60,000 to $100,000 range and trades 21 commodity markets. The portfolio is diversified across 7 commodity groups to gain exposure in uncorrelated markets. As Aztec provides the level of risk at the initiation of each trade, the trader can also limit risk by entering trades that are below a certain risk threshold.
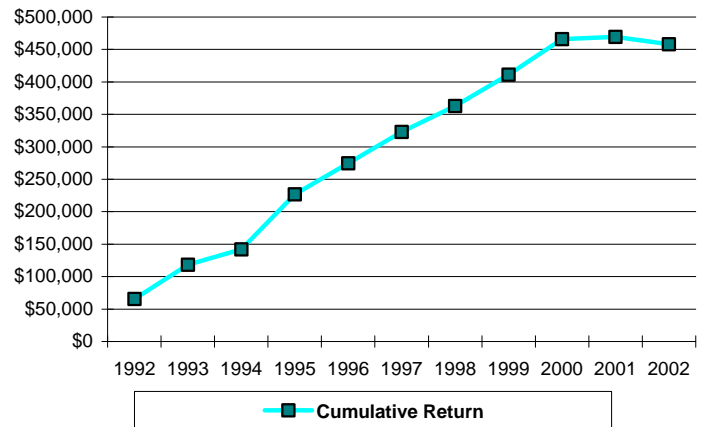
Annual Performance

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average
Percent Return	82.28%	65.41%	29.75%	106.19%	59.77%	60.45%	49.98%	60.05%	68.42%	4.35%	-13.79%	55.89%
Yearly Returns	$65,824	$52,328	$23,800	$84,952	$47,816	$48,360	$39,984	$48,040	$54,736	$3,480	-$11,032	$44,711
Cumulative Return	$65,824	$118,152	$141,952	$226,904	$274,720	$323,080	$363,064	$411,104	$465,840	$469,320	$458,288	
Max. Drawdown	$3,728	$8,840	$20,176	$5,760	$27,408	$10,168	$10,704	$11,272	$39,544	$24,360	$16,670	

Aztec FullSize Portfolio-$2000 Risk Filter

Yearly Returns and Drawdowns

Cumulative Returns

Aztec FullSize Portfolio-$2000 Risk Filter

TradeSystem, Inc.

Aztec FullSize Portfolio-$2000 Risk Filter
From: January-90 To: March-02

Monthly Performance

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2002	-17.20%	-13.25%	16.66%										-13.79%
2001	-2.40%	1.00%	30.50%	-3.76%	-18.30%	-9.16%	-18.21%	4.15%	6.48%	17.18%	-11.56%	8.43%	4.35%
2000	10.73%	12.66%	1.97%	8.19%	18.49%	-14.09%	6.44%	4.72%	4.37%	3.54%	-4.85%	16.25%	68.42%
1999	1.24%	9.28%	5.77%	3.35%	7.36%	17.63%	8.80%	-13.38%	3.14%	-2.54%	13.73%	5.67%	60.05%
1998	14.02%	0.84%	5.76%	-1.75%	12.28%	4.71%	11.95%	-12.71%	17.21%	-3.02%	-0.38%	1.07%	49.98%
1997	31.11%	45.20%	-6.80%	-1.94%	-6.06%	4.97%	-1.04%	10.87%	-18.29%	-15.97%	2.76%	15.64%	60.45%
1996	5.59%	-11.14%	1.91%	29.00%	-1.97%	8.22%	7.34%	4.47%	1.44%	12.79%	0.75%	1.37%	59.77%
1995	14.44%	14.98%	7.53%	10.28%	-0.07%	3.75%	0.08%	25.21%	3.74%	-7.20%	3.02%	30.43%	106.19%
1994	-3.76%	-10.93%	1.78%	8.31%	31.00%	10.05%	-14.07%	-11.15%	3.66%	-2.20%	13.53%	3.53%	29.75%

Drawdown Analysis						Run-up Analysis				Consecutive Losing Periods			
% Depth	$ Depth	Prior Peak	Valley	Length	Recovery	Run-up	Length	Start Date	End Date	Run-down	Length	Start Date	End Date
-55.20%	-44,160	Mar-01	Feb-02	4	1	117.37%	4	Jun-90	Sep-90	-49.43%	4	Apr-01	Jul-01
-34.26%	-27,408	Aug-97	Oct-97	9	5	112.69%	9	Jun-96	Feb-97	-34.26%	2	Sep-97	Oct-97
-25.22%	-20,176	Jun-94	Aug-94	9	5	72.04%	9	Sep-99	May-00	-30.45%	2	Jan-02	Feb-02
-17.07%	-13,656	Sep-90	Oct-90	8	1	65.75%	8	Sep-94	Apr-95	-25.22%	2	Jul-94	Aug-94
-14.80%	-11,840	Feb-97	May-97	5	3	62.81%	5	Sep-91	Jan-92	-17.07%	1	Oct-90	Oct-90
-14.69%	-11,752	Dec-93	Feb-94	8	3	54.50%	8	Dec-98	Jul-99	-14.80%	3	Mar-97	May-97

Aztec FullSize Portfolio-$2000 Risk Filter

Risk Table	Month	Quarter	Annualized
Compound ROR	1.49%	4.54%	19.44%
Arithmetic Mean	5.32%	15.95%	N/A
Standard Deviation	12.27%	22.85%	42.51%
Semi Deviation	10.79%	18.64%	37.36%
Gain Deviation	9.87%	19.73%	34.18%
Loss Deviation	5.79%	9.22%	20.06%
Down Dev.(10.00%)	5.59%	7.26%	19.35%
Down Dev.(5.00%)	5.41%	6.79%	18.74%
Down Dev.(0%)	5.23%	6.34%	18.11%
Sharpe(5.00%)	0.40	0.64	1.39
Sortino(10.00%)	0.12	0.29	0.43
Sortino(5.00%)	0.20	0.49	0.69
Sortino(0%)	0.29	0.72	0.99
Sterling Ratio	0.71		
Calmar Ratio	0.48		
Losing Streak	-38.54%		

Distribution of Returns — Number of Months vs. Percent Return

Simple Returns-Time Window Analysis

	1 Month	3 Month	6 Month	12 Month	18 Month	2 Year	3 Year	4 Year	5 Year	10 Year
Latest	16.66%	-13.79%	0.26%	-38.54%	5.50%	33.62%	102.74%	148.39%	159.95%	565.31%
Annualized				-38.54%	3.63%	15.59%	26.56%	25.54%	21.05%	20.87%
Count	147	145	142	136	130	124	112	100	88	
Percent Profitable	69.39%	79.31%	88.03%	97.06%	99.23%	100.00%	100.00%	100.00%	100.00%	
Average	5.32%	15.76%	32.49%	64.72%	97.16%	131.14%	196.52%	259.97%	329.59%	
Average Gain	10.98%	23.02%	38.41%	67.25%	97.97%	131.14%	196.52%	259.97%	329.59%	
Average Loss	-7.52%	-12.09%	-11.03%	-18.67%	-6.79%					
Best Period	55.28%	106.36%	121.09%	145.52%	185.29%	212.85%	318.79%	370.39%	422.15%	
Worst Period	-18.30%	-45.67%	-38.80%	-38.54%	-6.79%	18.93%	91.85%	137.49%	136.49%	
Standard Deviation	12.27%	21.52%	27.85%	35.41%	38.73%	40.26%	46.67%	46.77%	52.87%	

Aztec FullSize Portfolio-$2000 Risk Filter

Trade Center, Inc.

SystemTrac Analysis Report

THE PERFORMANCE TABLES AND RESULTS OF THE TRADING SYSTEMS PRESENTED BELOW ARE HYPOTHETICAL OR SIMULATED IN NATURE AND IN NO WAY REPRESENT ACTUAL TRADING.

TradeSystem, Inc.
9220 Holly Hill Farm Rd.

Charlotte   NC   28277
USA
Phone: 1-800-372-3942   Fax: 704-752-7992

Aztec MidSize Portfolio-$2000 Risk Filter
Contact: Keith Fitschen
Email: support@trade-system.com
Web: trade-system.com
Source of Data: User
From: January-90   To: March-02

Information

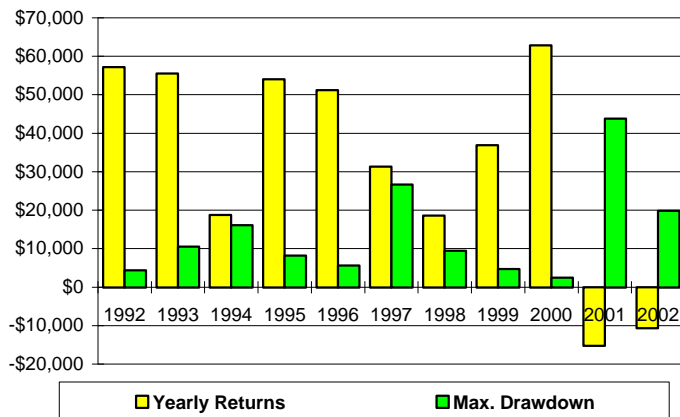|					
System Price	$2995	Recm'd Acct Size	40K-60K (50K)	Data Vendor Used	CSI
Lease Price (annual)	N/A	Commission/Slippage	$75	Continous Contracts	Yes
Lease Duration	N/A	Margin/Equity Ratio	N/A	Actual Contracts	
		Annual Round Turns	N/A		
Testing Begin Date	Jan-80			Intra-Day Data Req.	No
Release Date	6/00	Trading Category	Diversified	End-Day Data Req.	Yes
Last Data Date	Mar-02	Major Focus	Diversified	Realtime Feed Req.	No

Sector Description

Stock Indexes		Interbank Forex		Daytrade System		Breakout	Yes
Interest Rates	Yes	Currency Crossrates		Short-Term System	Yes	Momentum	Yes
Currencies	Yes	Globex/EFP's		Mid-Term System		Neural Network	
Energy Products	Yes	Spreads		Long-Term System		Pattern Recognition	
Precious Metals		Options		Multi-System	Yes	Other	Yes
Strategic Metals	Yes	Foreign Markets	Yes				
Grains	Yes			System Revealed	Yes	TradeStation Code	Yes
Meats	Yes	Trend-Follower	Yes	Black Box System	No	Standalone Software	Yes
Softs	Yes	Contrarian				Registered as CTA	No

Description

Aztec is a multi-commodity, shorter-term trading system. In contrast, Aberration, which is another TradeSystem, Inc. multi-commodity system, is longer-term. Aztec uses trend and volatility cues in the market to make trading decisions, and is really two systems in one. In Mode 1, the system is almost always in the market, alternating between long and short positions. In Mode 2, the system uses similar entry logic, but only takes trades in the direction of the longer-term trend. Mode 1 enters on a stop, while Mode 2 enters and exits on the open (like Aberration does). Both modes use a volatility-based protective stop. The Aztec Mid-Size portfolio is suited for accounts starting in the $40,000 to $60,000 range and trades 16 commodity markets. The portfolio is diversified across 7 commodity groups to gain exposure in uncorrelated markets. As Aztec provides the level of risk at the initiation of each trade, the trader can also limit risk by entering trades that are below a certain risk threshold.

Annual Performance

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average
Percent Return	114.45%	111.10%	37.53%	108.12%	102.32%	62.61%	37.11%	73.79%	125.64%	-30.39%	-21.18%	70.35%
Yearly Returns	$57,225	$55,550	$18,765	$54,060	$51,160	$31,305	$18,555	$36,895	$62,820	-$15,195	-$10,590	$35,176
Cumulative Return	$57,225	$112,775	$131,540	$185,600	$236,760	$268,065	$286,620	$323,515	$386,335	$371,140	$360,550	
Max. Drawdown	$4,360	$10,490	$16,085	$8,170	$5,640	$26,690	$9,450	$4,740	$2,450	$43,810	$19,850	$14,803

Aztec MidSize Portfolio-$2000 Risk Filter

Yearly Returns and Drawdowns

Cumulative Returns
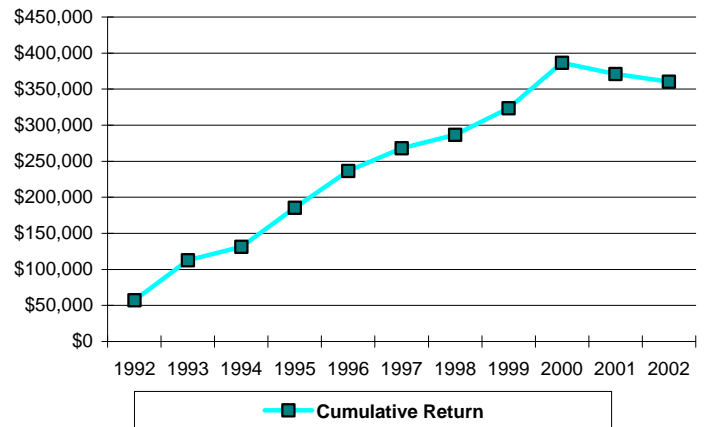
Aztec MidSize Portfolio-$2000 Risk Filter

Investing in futures and options involves risk and may not be suitable for all investors. Therefore, investors should carefully consider these risks and determine whether they are suitable for investing in light of their financial condition and investment objectives.

This report compiled by Trade Center, Inc. 101 Enterprise Drive, Suite 330, Aliso Viejo, CA 92656, 949-643-7100, fax: 949-643-7111, support@tradecenterinc.com The Disclosure Statement and User's Guide, found beginning on page one of this report, are integral parts of this document. No part of the document should be considered apart from the Disclosure Statement and User's Guide. (C)2001 Trade Center, Inc. Reproduction without permission is strictly forbidden. This report is intended for informational purposes only.

Trade Center, Inc.
SystemTrac Analysis Report

TradeSystem, Inc.

Aztec MidSize Portfolio-$2000 Risk Filter
From: January-90   To: March-02

						Monthly Performance							
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
2002	-24.79%	-14.91%	18.52%										-21.18%
2001	-2.60%	1.20%	34.40%	-17.63%	-23.65%	-7.42%	-23.20%	4.32%	-20.04%	20.96%	-7.95%	11.22%	-30.39%
2000	21.14%	25.08%	4.72%	2.62%	34.32%	-1.99%	6.23%	5.71%	2.93%	-4.62%	-0.28%	29.78%	125.64%
1999	5.63%	7.00%	0.75%	-0.98%	7.70%	23.71%	14.74%	-9.48%	4.14%	-1.23%	18.88%	2.93%	73.79%
1998	21.39%	-5.00%	1.03%	0.25%	12.30%	2.21%	13.43%	-18.90%	10.18%	-2.79%	-0.52%	3.53%	37.11%
1997	31.74%	57.84%	-16.01%	-2.68%	1.87%	7.22%	-8.16%	22.36%	-28.11%	-25.27%	5.88%	15.93%	62.61%
1996	3.54%	-11.28%	4.04%	40.12%	6.52%	21.81%	13.35%	0.21%	-6.20%	24.45%	4.79%	0.97%	102.32%
1995	15.24%	22.56%	8.06%	11.24%	0.32%	-2.99%	-4.67%	32.23%	1.47%	-16.34%	1.11%	39.89%	108.12%
1994	-9.79%	-8.95%	-4.99%	13.79%	47.64%	13.38%	-13.83%	-18.34%	2.55%	-1.52%	17.62%	-0.03%	37.53%

	Drawdown Analysis						Run-up Analysis				Consecutive Losing Periods		
% Depth	**$ Depth**	**Prior Peak**	**Valley**	**Length**	**Recovery**	**Run-up**	**Length**	**Start Date**	**End Date**	**Run-down**	**Length**	**Start Date**	**End Date**
-103.09%	-51,545	Mar-01	Feb-02	12	1	180.69%	12	May-92	Apr-93	-71.90%	4	Apr-01	Jul-01
-53.38%	-26,690	Aug-97	Oct-97	5	8	119.79%	5	Oct-96	Feb-97	-53.38%	2	Sep-97	Oct-97
-32.17%	-16,085	Jun-94	Aug-94	9	5	112.60%	9	Sep-99	May-00	-39.70%	2	Jan-02	Feb-02
-26.18%	-13,090	Jun-91	Aug-91	4	2	111.92%	4	Jun-90	Sep-90	-32.17%	2	Jul-94	Aug-94
-23.73%	-11,865	Dec-93	Mar-94	6	2	86.05%	6	Mar-96	Aug-96	-26.18%	2	Jul-91	Aug-91
-20.98%	-10,490	Jul-93	Aug-93	9	3	76.04%	9	Sep-94	May-95	-23.73%	3	Jan-94	Mar-94

Aztec MidSize Portfolio-$2000 Risk Filter

Risk Table	Month	Quarter	Annualized
Compound ROR	1.63%	4.96%	21.35%
Arithmetic Mean	6.60%	19.80%	N/A
Standard Deviation	15.95%	29.14%	55.26%
Semi Deviation	14.30%	28.02%	49.55%
Gain Deviation	12.36%	22.30%	42.82%
Loss Deviation	7.99%	15.67%	27.69%
Down Dev.(10.00%)	7.60%	12.05%	26.32%
Down Dev.(5.00%)	7.42%	11.61%	25.71%
Down Dev.(0%)	7.24%	11.16%	25.08%
Sharpe(5.00%)	0.39	0.64	1.34
Sortino(10.00%)	0.11	0.21	0.38
Sortino(5.00%)	0.16	0.32	0.57
Sortino(0%)	0.22	0.44	0.78
Sterling Ratio	0.67		
Calmar Ratio	0.32		
Losing Streak	-84.57%		

Distribution of Returns

	Simple Returns-Time Window Analysis									
	1 Month	**3 Month**	**6 Month**	**12 Month**	**18 Month**	**2 Year**	**3 Year**	**4 Year**	**5 Year**	**10 Year**
Latest	18.52%	-21.18%	3.05%	-84.57%	-26.69%	23.13%	134.48%	167.55%	174.01%	703.42%
Annualized				-84.57%	-18.70%	10.96%	32.85%	27.89%	22.34%	23.17%
Count	147	145	142	136	130	124	112	100	88	
Percent Profitable	68.71%	77.24%	85.92%	91.91%	96.15%	100.00%	100.00%	100.00%	100.00%	
Average	6.60%	19.44%	39.67%	79.87%	120.89%	163.65%	245.30%	322.97%	408.64%	
Average Gain	14.27%	30.20%	49.91%	89.37%	126.49%	163.65%	245.30%	322.97%	408.64%	
Average Loss	-10.25%	-17.09%	-22.77%	-28.14%	-18.95%					
Best Period	57.84%	95.83%	127.01%	199.64%	226.50%	262.22%	389.69%	474.86%	559.24%	
Worst Period	-28.11%	-54.27%	-87.62%	-84.57%	-42.28%	9.33%	116.71%	150.06%	139.48%	
Standard Deviation	15.95%	27.38%	38.18%	53.84%	57.63%	54.86%	61.18%	67.94%	80.12%	

Aztec MidSize Portfolio-$2000 Risk Filter

Trade Center, Inc.
SystemTrac Analysis Report

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TradeSystem, Inc.
9220 Holly Hill Farm Rd.

Charlotte   NC   28277
USA
Phone: 1-800-372-3942   Fax: 704-752-7992

Aztec Starter Portfolio-$2000 Risk Filter
Contact: Keith Fitschen
Email: support@trade-system.com
Web: trade-system.com
Source of Data: User
From: January-90   To: March-02

Information

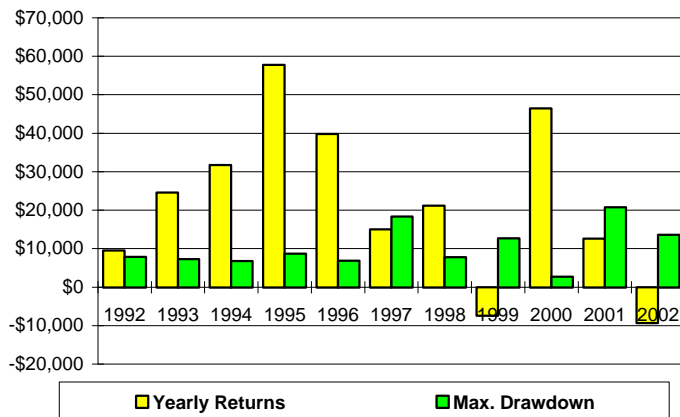|					
System Price	$2995	Recm'd Acct Size	20K-40K (30K)	Data Vendor Used	CSI
Lease Price (annual)	N/A	Commission/Slippage	$75	Continous Contracts	Yes
Lease Duration	N/A	Margin/Equity Ratio	N/A	Actual Contracts	
		Annual Round Turns	N/A		
Testing Begin Date	Jan-80			Intra-Day Data Req.	No
Release Date	6/00	Trading Category	Diversified	End-Day Data Req.	Yes
Last Data Date	Mar-02	Major Focus	Diversified	Realtime Feed Req.	No

Sector Description

Stock Indexes		Interbank Forex		Daytrade System		Breakout	Yes
Interest Rates	Yes	Currency Crossrates		Short-Term System	Yes	Momentum	Yes
Currencies	Yes	Globex/EFP's		Mid-Term System		Neural Network	
Energy Products	Yes	Spreads		Long-Term System		Pattern Recognition	
Precious Metals		Options		Multi-System	Yes	Other	Yes
Strategic Metals	Yes	Foreign Markets					
Grains	Yes			System Revealed	Yes	TradeStation Code	Yes
Meats	Yes	Trend-Follower	Yes	Black Box System	No	Standalone Software	Yes
Softs	Yes	Contrarian				Registered as CTA	No

Description

Aztec is a multi-commodity, shorter-term trading system. In contrast, Aberration, which is another TradeSystem, Inc. multi-commodity system, is longer-term. Aztec uses trend and volatility cues in the market to make trading decisions, and is really two systems in one. In Mode 1, the system is almost always in the market, alternating between long and short positions. In Mode 2, the system uses similar entry logic, but only takes trades in the direction of the longer-term trend. Mode 1 enters on a stop, while Mode 2 enters and exits on the open (like Aberration does). Both modes use a volatility-based protective stop. The Aztec Starter portfolio is suited for accounts starting in the $20,000 to $40,000 range and trades 8 commodity markets. The portfolio is diversified across 7 commodity groups to gain exposure in uncorrelated markets. As Aztec provides the level of risk at the initiation of each trade, the trader can also limit risk by entering trades that are below a certain risk threshold.
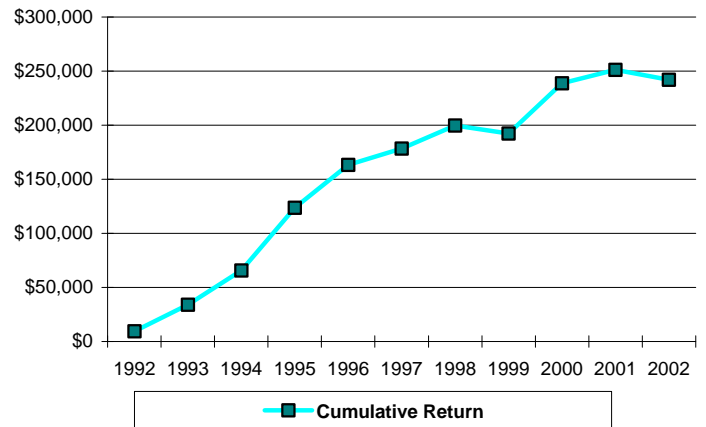
Annual Performance

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Average
Percent Return	31.74%	81.82%	105.86%	192.49%	132.81%	50.08%	70.46%	-24.62%	154.80%	41.96%	-30.78%	78.69%
Yearly Returns	$9,522	$24,546	$31,758	$57,747	$39,843	$15,024	$21,138	-$7,386	$46,440	$12,588	-$9,234	$23,608
Cumulative Return	$9,522	$34,068	$65,826	$123,573	$163,416	$178,440	$199,578	$192,192	$238,632	$251,220	$241,986	
Max. Drawdown	$7,893	$7,245	$6,810	$8,688	$6,870	$18,369	$7,776	$12,693	$2,706	$20,799	$13,599	$11,068

Aztec Starter Portfolio-$2000 Risk Filter

Yearly Returns and Drawdowns

Cumulative Returns

Aztec Starter Portfolio-$2000 Risk Filter

Trade Center, Inc.
SystemTrac Analysis Report

TradeSystem, Inc.

Aztec Starter Portfolio-$2000 Risk Filter
From: January-90   To: March-02

Monthly Performance

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2002	-30.59%	-14.74%	14.55%										-30.78%
2001	-8.50%	17.60%	60.00%	-16.79%	-34.99%	1.73%	-19.12%	4.67%	-4.83%	25.21%	2.44%	14.54%	41.96%
2000	28.46%	23.52%	16.77%	12.04%	56.51%	1.03%	9.49%	-5.79%	9.27%	3.71%	-9.02%	8.81%	154.80%
1999	-1.03%	9.82%	2.03%	3.54%	-8.18%	-1.31%	-11.92%	1.50%	9.22%	-31.62%	0.17%	3.16%	-24.62%
1998	16.07%	-8.44%	7.61%	6.73%	10.04%	10.83%	27.14%	-25.92%	10.30%	2.17%	-9.22%	23.15%	70.46%
1997	14.16%	26.57%	-21.68%	27.16%	12.93%	0.21%	-7.94%	25.65%	-39.42%	-21.81%	15.88%	18.37%	50.08%
1996	-4.88%	-18.02%	8.39%	62.74%	4.90%	33.80%	34.75%	2.86%	-5.00%	21.31%	0.25%	-8.29%	132.81%
1995	20.30%	19.80%	18.77%	24.96%	-3.79%	25.82%	4.84%	56.44%	0.48%	-16.78%	-12.18%	53.83%	192.49%
1994	1.38%	6.64%		11.47%	42.40%	24.88%	-4.95%	-14.99%	2.52%	-5.28%	26.54%	15.25%	105.86%

Drawdown Analysis | Run-up Analysis | Consecutive Losing Periods

% Depth	$ Depth	Prior Peak	Valley	Length	Recovery	Run-up	Length	Start Date	End Date	Run-down	Length	Start Date	End Date
-72.47%	-21,741	Mar-01	Feb-02	9	1	151.15%	9	Nov-99	Jul-00	-61.23%	2	Sep-97	Oct-97
-69.76%	-20,928	Feb-91	Aug-91	6	4	147.44%	6	Mar-96	Aug-96	-51.78%	2	Apr-01	May-01
-61.23%	-18,369	Aug-97	Oct-97	9	7	138.53%	9	Oct-93	Jun-94	-45.33%	2	Jan-02	Feb-02
-42.31%	-12,693	Apr-99	Oct-99	6	4	125.62%	6	Nov-94	Apr-95	-37.56%	2	Mar-91	Apr-91
-28.96%	-8,688	Sep-95	Nov-95	9	1	104.23%	9	Nov-97	Jul-98	-37.17%	3	Jun-91	Aug-91
-26.31%	-7,893	Aug-92	Dec-92	4	4	87.58%	4	Jun-95	Sep-95	-31.62%	1	Oct-99	Oct-99

Aztec Starter Portfolio-$2000 Risk Filter

Risk Table	Month	Quarter	Annualized
Compound ROR	1.61%	4.91%	21.12%
Arithmetic Mean	6.43%	19.29%	N/A
Standard Deviation	18.58%	32.75%	64.38%
Semi Deviation	16.82%	28.23%	58.26%
Gain Deviation	14.38%	24.83%	49.81%
Loss Deviation	8.82%	13.13%	30.55%
Down Dev.(10.00%)	9.28%	12.90%	32.16%
Down Dev.(5.00%)	9.10%	12.36%	31.52%
Down Dev.(0%)	8.90%	11.81%	30.85%
Sharpe(5.00%)	0.32	0.55	1.12
Sortino(10.00%)	0.09	0.19	0.30
Sortino(5.00%)	0.13	0.30	0.46
Sortino(0%)	0.18	0.42	0.63
Sterling Ratio	0.63		
Calmar Ratio	0.44		
Losing Streak	-57.92%		

Distribution of Returns

Chart: Number of Months (y-axis, 0 to 18) vs Percent Return (x-axis) with buckets: < -30%, -30 to -27, -27 to -24, -24 to -21, -21 to -18, -18 to -15, -15 to -12, -12 to -9, -9 to -6, -6 to -3, -3 to 0, 0 to 3, 3 to 6, 6 to 9, 9 to 12, 12 to 15, 15 to 18, 18 to 21, 21 to 24, 24 to 27, 27 to 30, > 30%

Simple Returns-Time Window Analysis

	1 Month	3 Month	6 Month	12 Month	18 Month	2 Year	3 Year	4 Year	5 Year	10 Year
Latest	14.55%	-30.78%	11.41%	-57.92%	14.68%	97.23%	130.54%	196.58%	242.85%	796.21%
Annualized				-57.92%	9.56%	40.44%	32.10%	31.23%	27.94%	24.52%
Count	147	145	142	136	130	124	112	100	88	
Percent Profitable	68.03%	73.79%	83.10%	95.59%	100.00%	100.00%	100.00%	100.00%	100.00%	
Average	6.43%	19.13%	39.21%	80.09%	122.35%	168.74%	256.09%	357.37%	465.57%	
Average Gain	15.61%	33.00%	51.74%	84.71%	122.35%	168.74%	256.09%	357.37%	465.57%	
Average Loss	-13.11%	-19.91%	-22.43%	-20.04%						
Best Period	62.74%	101.44%	147.44%	206.17%	293.87%	375.13%	479.97%	554.38%	615.88%	
Worst Period	-39.42%	-52.38%	-69.76%	-57.92%	3.00%	37.93%	84.47%	178.26%	206.62%	
Standard Deviation	18.58%	31.16%	42.73%	58.80%	72.75%	82.53%	109.33%	113.04%	103.24%	

Aztec Starter Portfolio-$2000 Risk Filter

Appendix

Appendix A

Statistics Used in Trade Center Inc.'s SystemTrac Reports

The following Appendix provides a brief description and each statistic used in SystemTrac. SystemTrac computes annualized statistics based on monthly data, unless Quarterly data is specified.

Value Added Monthly Index (VAMI) - This index reflects the growth of a hypothetical $1,000 in a given investment over time. The index is equal to $1,000 at inception. Subsequent month-end values are calculated by multiplying the previous month's VAMI index by 1 plus the current month rate of return.

Average Return (Mean) - This is a simple average return (arithmetic mean) which is calculated by summing the returns for each period and dividing the total by the number of periods. The simple average does not take the compounding effect of investment returns into account.

Average Gain (Gain Mean) - This is a simple average (arithmetic mean) of the periods with a gain. It is calculated by summing the returns for gain periods (return ≥ 0) and then dividing the total by the number of gain periods.

Average Loss (Loss Mean) - This is a simple average (arithmetic mean) of the periods with a loss. It is calculated by summing the returns for loss periods (return < 0) and then dividing the total by the number of loss periods.

Compound (Geometric) Average Return - The geometric mean is the monthly average return that assumes the same rate of return every period to arrive at the equivalent compound growth rate reflected in the return data. In other words, the geometric mean is the monthly average return that, if applied each period, would give you a final Vami (growth) index that is equivalent to the actual final Vami index for the return stream you are considering. In SystemTrac, compound quarterly and annualized returns are calculated using the compound monthly return as a base.

Standard Deviation - Standard Deviation measures the dispersal or uncertainty in a random variable (in this case, investment returns). It measures the degree of variation of returns around the mean (average) return. The higher the volatility of the investment returns, the higher the standard deviation will be. For this reason, standard deviation is often used as a measure of investment risk.

Gain Standard Deviation - Similar to standard deviation, except this statistic calculates an average (mean) return for only the periods with a **gain** and then measures the variation of only the **gain** periods around this gain mean. This statistic measures the volatility of upside performance.

Loss Standard Deviation - Similar to standard deviation, except this statistic calculates an average (mean) return for only the periods with a **loss** and then measures the variation of only the **losing** periods around this loss mean. This statistic measures the volatility of downside performance.

Downside Deviation - Similar to the loss standard deviation except the downside deviation considers only returns that fall below a defined Minimum Acceptable Return (MAR) rather then the

arithmetic mean. For example, if the MAR is assumed to be 10%, the downside deviation would measure the variation of each period that falls below 10%. (The loss standard deviation, on the other hand, would take only losing periods, calculate an **average** return for the losing periods, and then measure the variation between each losing return and the losing return **average**). In SystemTrac, there are 3 downside deviation calculations, each using a different value for the MAR: 1)Uses a MAR which is defined by the user, 2) Uses the Sharpe risk free rate as the MAR, and 3) uses zero as the MAR.

Sharpe Ratio - A return/risk measure developed by William Sharpe. Return (numerator) is defined as the incremental average return of an investment over the risk free rate. Risk (denominator) is defined as the standard deviation of the investment returns. In SystemTrac, the value for the risk free rate has been fixed at 5%.

Sortino Ratio - This is another return/risk ratio developed by Frank Sortino. Return (numerator) is defined as the incremental compound average period return over a Minimum Acceptable Return (MAR). Risk (denominator) is defined as the Downside Deviation below a Minimum Acceptable Return (MAR). Just as with the Downside Deviation calculation, SystemTrac calculates the Sortino using 3 different values for the MAR: 1) a MAR defined by the user, 2) the Sharpe ratio risk free rate, and 3) zero.

Skewness - Skewness characterizes the degree of asymmetry of a distribution around its mean. Positive skewness indicates a distribution with an asymmetric tail extending toward more positive values. Negative skewness indicates a distribution with an asymmetric tail extending toward more negative values. If there are fewer than three data points, or the sample standard deviation is zero, Skewness returns the N/A error value.

Kurtosis - Kurtosis characterizes the relative peakedness or flatness of a distribution compared with the normal distribution. Positive kurtosis indicates a relatively peaked distribution. Negative kurtosis indicates a relatively flat distribution. If there are fewer than four data points, or if the standard deviation of the sample equals zero, Kurtosis returns the N/A error value.

Calmar Ratio - This is a return/risk ratio. Return (numerator) is defined as the Compound Annualized Rate of Return over the last 3 years. Risk (denominator) is defined as the Maximum Drawdown over the last 3 years. If three years of data are not available, the available data is used. ABS is the Absolute Value.

Sterling Ratio - This is a return/risk ratio. Return (numerator) is defined as the Compound Annualized Rate of Return over the last 3 years. Risk (denominator) is defined as the Average Yearly Maximum Drawdown over the last 3 years less an arbitrary 10%. To calculate this average yearly drawdown, the latest 3 years (36 months) is divided into 3 separate 12-month periods and the maximum drawdown is calculated for each. Then these 3 drawdowns are averaged to produce the Average Yearly Maximum Drawdown for the 3 year period. If three years of data are not available, the available data is used.

Drawdown - A Drawdown is any losing period during an system record. It is defined as the percent retrenchment from an equity peak to an equity valley. A Drawdown is in effect from the time an equity retrenchment begins until a new equity high is reached (**Length**). (i.e. In terms of time, a drawdown encompasses both the period from equity peak to equity valley (**Depth**) and the time from the equity valley to a new equity high (**Recovery**).

> *Maximum Drawdown* is simply the largest percentage drawdown that has occurred in any system data record.

The Drawdown Table in SystemTrac provides a comprehensive list of all drawdowns in the hypothetical historical performance record ranked from largest to smallest.

Gain to Loss Ratio - This is a simple ratio of the average gain in a gain period divided by the average loss in a losing period. Periods can be monthly or quarterly depending on the data frequency.

$ Profit to Loss Ratio - This ratio combines the Gain to Loss Ratio with the ratio of the percentage of profitable periods to the percentage of losing periods. Since this ratio considers both the average size and the frequency of winning and losing periods, it tells you the historical ratio of dollars earned in the investment to dollars lost. For example, a $ Profit to Loss Ratio of 2.5 means that, historically, the investment earned $2.50 of profit for each $1.00 of risk taken.

Correlation Analysis - The following correlation related statistics are used in SystemTrac:

Beta - Beta is the slope of the regression line. Beta measures the risk of a particular system relative to the market as a whole (the "market" can be any index or investment you specify). It describes the sensitivity of the investment to broad market movements. For example, in equities, the stock market (the independent variable) is assigned a beta of 1.0. An investment which has a beta of .5 will tend to participate in broad market moves, but only half as much as the market overall.

Alpha - Alpha is a measure of value added. It is the Y intercept of the regression line.

Annualized Alpha – Annualized Alpha is the annualized value of Alpha.

Correlation and Correlation Coefficient - Correlation measures the extent of linear association of two variables. The Coefficient of Determination (R^2) is a measure of how well the regression line fits the data (variation explained by the regression line). Unexplained variation is simply 1- R^2 .

Tracking Error (Annualized) - Tracking Error is a measure of the unexplained portion of a systems hypothetical performance relative to a benchmark. Annualized Tracking Error is measured by taking the square root of the average of the squared deviations between the systems's returns and the benchmark's returns, then multiplying the result by the square root of 12.

Treynor Ratio – The Treynor Ratio, developed by Jack Treynor, is similar to the Sharpe Ratio, except that it uses Beta as the volatility measurement. Return (numerator) is defined as the incremental average return of an investment over the risk free rate. Risk (denominator) is defined as the Beta of the investment returns relative to a benchmark. In SystemTrac, the value for the risk free rate is fixed at 5%.

Jensen Alpha - The Jensen Alpha, developed by Michael Jensen, quantifies the extent to which a system has added value relative to a benchmark. The Jensen Alpha is equal to the systems's average return in excess of the risk free rate minus the Beta times the Benchmark's average return in excess of the risk free rate. In SystemTrac, the value for the risk free rate is fixed at 5%.

Active Premium - A measure of the System's annualized return minus the Benchmark's annualized return.

Active Premium = **System's annualized return - Benchmark's annualized return.**

Information Ratio - The Information Ratio is the Active Premium divided by the Tracking Error. This measure explicitly relates the degree by which a system has beaten the Benchmark to the consistency by which the system has beaten the Benchmark.

Information Ratio = Active Premium ÷ Tracking Error

Up Capture - The Up Capture Ratio is a measure of the System's compound return when the Benchmark was up divided by the Benchmark's compound return when the Benchmark was up. The greater the value, the better.

Down Capture - The Down Capture Ratio is a measure of the system's compound return when the Benchmark was down divided by the Benchmark's compound return when the Benchmark was down. The smaller the value, the better.

Up # - **The Up Number Ratio** is a measure of the number of periods that the system was up, when the Benchmark was up, divided by the number of periods that the Benchmark was up. The larger the ratio, the better.

Down # - **The Down Number Ratio** is a measure of the number of periods that the system was down when the Benchmark was down, divided by the number of periods that the Benchmark was down. The smaller the ratio, the better.

Up % - **The Up Percentage Ratio** is a measure of the number of periods that the system outperformed the Benchmark when the Benchmark was up, divided by the number of periods that the benchmark was up. The larger the ratio, the better.

Down % - **The Down Percentage Ratio** is a measure of the number of periods that the system outperformed the Benchmark when the Benchmark was down, divided by the number of periods that the benchmark was down. The larger the ratio, the better.

% Gain - **The Percent Gain Ratio** is a measure of the number of periods that the system was up divided by the number of periods that the Benchmark was up. The larger the ratio, the better.

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