



# All Systems Go™ User Guide

## A Trading Analysis and Simulation Product

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Version 1.2 Beta 5/28/8



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# 1 Introduction

All Systems Go (ASG) is a sophisticated, yet simple to use, trading system analysis and simulation product. It can use historical real or hypothetical/simulated trades and generate a comprehensive report that quantifies the quality of the trades and gives some opinions about whether things should be changed to improve the results.

Using a representative sample of hypothetical or real trades, All Systems Go does some statistical analysis and simulation to generate an informative report about the types of trades that have been provided.

The report is split into 6 main sections

- Summary Statistics
- Report Charts
- Sample Trade Population
- Serial Dependency Analysis
- Trade Analysis
- Summary

Using a simple Red, Amber, Green Code indication for each analysis section, users are able to immediately see where the problem areas are in their trading and focus their effort on fixing them.

The All Systems Go Score also gives an overall rating for the trading method and a means of comparison between different trading methods and systems.

## 2 Inputs

ASG has an online interface that can be reached at the following location:

<http://www.pmkingtrading.com/id120.html>

The required input fields for ASG are shown below:

### Simulator Sample Trades Input

|   |  |
|---|--|
| Your Name:                              | <input type="text" value="Paul King"/>   |
| Email:                                  | <input type="text" value="public@pmkingtrading.com"/>  |
| Simulation Name:                        | <input type="text" value="Sample Trade Report"/>   |
| Start Date:<br>(mm/dd/yyyy)             | <input type="text" value="01/01/1998"/>  |
| End Date:<br>(mm/dd/yyyy)               | <input type="text" value="05/21/2008"/>  |
| Trade Units<br>(R is best):             | <input checked="" type="radio"/> Profit or Loss/Initial Risk (R)<br><input type="radio"/> Percent Return<br><input type="radio"/> Raw Profit or Loss |
| <input type="button" value="Simulate"/> |  |

Figure 1: All System Go Inputs

The following inputs are required to generate an ASG report:

- Name
- Email
- Simulation Name
- Start Date
- End Date
- Trade Units
- Trade Sample

## **2.1 Name**

Enter your full name. This will be displayed on the report and recorded in the ASG database for future reference. This field is mandatory.

## **2.2 Email**

Enter your full email address. This will be displayed on the report and recorded in the ASG database for future reference. This field also forms part of the identification attributes for a particular simulation. This field is mandatory.

## **2.3 Simulation Name**

Enter a descriptive name for the simulation being performed. This will be displayed on the report and recorded in the ASG database for future reference. This field can be used to identify a particular trade sample, for example, US Equity Long Trades. This field is mandatory.

## **2.4 Start Date**

This is the entry date of the first trade in the provided sample. Enter dates in mm/dd/yyyy format e.g. 12/25/2008. This will be displayed on the report and recorded in the ASG database for future reference. This field is used to identify the date range for the trade sample provided. This field is mandatory.

## **2.5 End Date**

This is the exit date of the last trade in the provided sample. Enter dates in mm/dd/yyyy format e.g. 12/25/2008. This will be displayed on the report and recorded in the ASG database for future reference. This field is used to identify the date range for the trade sample provided. This field is mandatory.

## 2.6 Trade Units

This is the units that the trades in the provided sample are in. There are 3 types of trade units:

- Profit or Loss per unit risk
- Percent Return
- Raw Profit or Loss

The best way to enter trades is in profit or loss per unit risk, commonly referred to as R. To calculate R for a trade, you must know the initial stop that was used for each one. For example, if you bought 500 XYZ corporation priced at \$100 and your initial stop was \$95, and later exited the position at \$120, the trade would be +4R:

**Initial Risk = (Entry Price - Initial Stop) \* Size = (\$100-\$95)\*500 = \$2,500**

**Profit or Loss = (Exit Price - Entry Price) \* Size = (\$120-\$100)\*500 = \$10,000**

**R = Profit or Loss / Initial Risk = \$10,000 / \$2,500 = 4R**

If you do not provide trades in units of R, ASG will use the average losing trade as an estimate of initial risk, and convert the trade values to R.

## 2.7 Trades

The large text area after the “Simulate” button that says “paste trades here” is where the actual trade sample is provided. Enter one trade per line. The trades can be historical hypothetical trades, or actual closed trades you have done. ASG works best when it has at least 100 trades in the sample. The more trades in the sample the more accurate and representative the simulation results will be.

## 2.8 Simulate

When all the data has been entered as required, press the Simulate button and the ASG report will be generated.

Simulate

### 3 Errors

If you have made a mistake with any data items an error page will be displayed like the one below. Simply use the “back” button on your browser (or use the “Go back” link on the error report) and correct the error before proceeding.



#### ERROR REPORT



There is an error with your data: Start date must be more than 1 day ago

[Go back](#)

**Figure 2: All Systems Go Error Report**

Possible errors include:

- Name is blank
- Email is blank
- Simulation Name is blank
- Start Date is not a valid date
- Start Date is not in the past
- End Date is not a valid date
- End Date is in the future
- Start Date is not before End Date
- Trade Sample is blank
- Sample trade is not a valid number
- Trade Sample does not include any losing trades

The last one is an error because some of the metrics that ASG calculates require that there is at least one losing trade in the sample. If you do not have any losing trades then, congratulations, you are a trading genius and don't need an ASG report anyway!

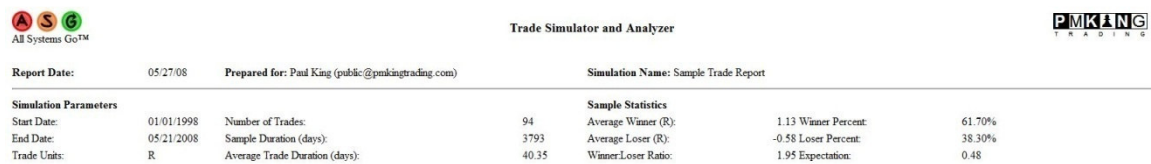
## 4 The All Systems Go Report

The ASG report is split into 6 main sections:

- Heading
- Charts
- Trades
- Serial Dependency
- Analysis
- Summary

Each one will now be described in detail.

### 4.1 Heading



|                              |            |  |   |                     |       |                 |        |
|------------------------------|------------|--|---|---------------------|-------|-----------------|--------|
| <b>Report Date:</b>          | 05/27/08   | <b>Prepared for:</b> Paul King (public:@pmkingtrading.com) | <b>Simulation Name:</b> Sample Trade Report |                     |       |                 |        |
| <b>Simulation Parameters</b> |            | <b>Sample Statistics</b>                                   |   |                     |       |                 |        |
| Start Date:                  | 01/01/1998 | Number of Trades:  | 94  | Average Winner (R): | 1.13  | Winner Percent: | 61.70% |
| End Date:                    | 05/21/2008 | Sample Duration (days):                                    | 3793  | Average Loser (R):  | -0.58 | Loser Percent:  | 38.30% |
| Trade Units:                 | R          | Average Trade Duration (days):                             | 40.35                                       | Winner/Loser Ratio: | 1.95  | Expectation:    | 0.48   |

Figure 3: Heading Section

The heading of the ASG report has 2 sections: Simulation Parameters and Sample Statistics.

#### Simulation Parameters

The simulation parameters section describes that data that was provided by you. It includes the Start Date, End Date, Trade Units, Number of Trades, Sample Duration (in days), and the Average Trade Duration. Average Trade Duration is determined simply by dividing the number of trades provided by the difference between the start and end date in days. For example, if you provided 100 trades that spanned 250 days, the average trade duration would be 2.5 days.

This assumes an even distribution of trades throughout the sample period and may not necessarily match actual trading results. Please contact PMKing Trading if you would like a more tailored analysis for your unique circumstances and trade profile.

If you provided trade units that were not in R (i.e. percent return, or raw profit and loss trades) then ASG will convert these into estimated R values by using the average size of the losing trades as a proxy for the initial risk that was taken.



## Sample Statistics

This section of the report includes some statistics regarding the provided sample.

|                    |   |
|--------------------|---|
| The Average Winner | Average size of a winning trade (converted to R)  |
| The Average Loser  | Average size of a losing trade (proxy for initial risk)   |
| Winner:Loser Ratio | The ratio of winners to losers. Good trading has winners bigger than losers on average  |
| Winner Percent     | The percentage trades in the sample that were profitable  |
| Loser Percent      | The percentage trades in the sample that were unprofitable  |
| Expectation        | The mathematical expectation for the sample. This is calculated by taking the average R value. This number represents the profit (or loss) per unit risk that the sample generated. For example, if expectation was 0.5, it would mean that you would make, on average, 0.5 units back per unit of risk taken. Therefore, if you had a trade that risked \$1000 based on the initial stop, you should make \$500 on the trade over a large number of repetitions. |

## 4.2 Charts

The next section of the report contains 3 useful charts.

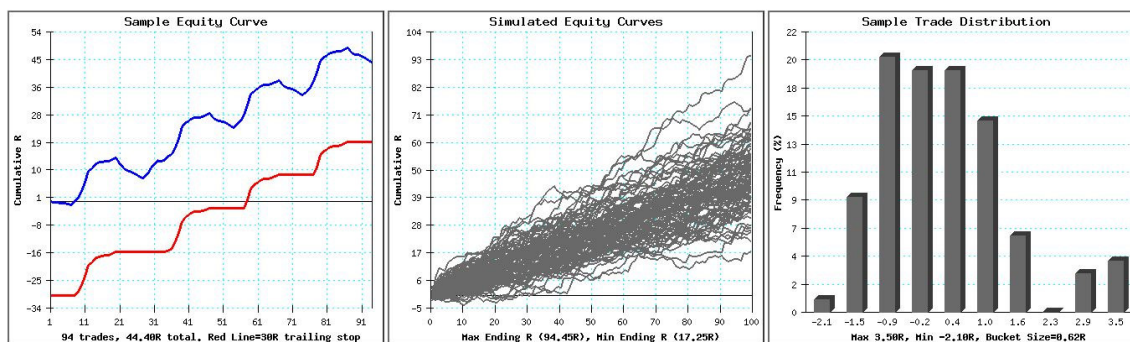


Figure 4: Charts Section

The 3 charts depicted are:

- Sample Equity Curve
- Simulated Equity Curves
- Sample Frequency Distribution

### Sample Equity Curve

This chart shows the actual equity curve of the sample trades (converted to R). It also has a 30R trailing stop. If the (blue) equity curve crosses below the (red) trailing stop, it means that at some point during the sample trades, a 30R drawdown (from a peak) was sustained. If you were using a typical percentage risk model of 1% per trade this would represent a 30% loss of capital. This number was chosen because it is the maximum "normal" drawdown most traders can tolerate.

## Simulated Equity Curves

The middle chart shows the simulated equity curves generated by ASG. There are 100 generated equity curves created by choosing one trade randomly from the sample trades provided 100 times (or iterations). This assumes that there is no serial dependency in the trade sample and that it is valid to randomly sample without having to cluster dependent trades together. For more information on serial dependency and simulation please refer to the SmartTrader™ mini-eBook, "Trading System Simulation".

Generally, more upward sloping (profitable) equity curves are better, and also closely-grouped curves are better. A trade sample that has mostly upward sloping, closely grouped curves represents low-volatility, profitable trading.

## Trade Frequency Distribution

The last chart shows a frequency distribution of the trades in the simulation (not the provided sample). The range of R values is split into 10 equal "buckets" and then the number of trades that fall into each bucket is counted (and displayed as a percentage of the total).

Good trading should exhibit few trades that are more than -1R losers (on the left side of the chart) and some trades that are multi-R winners. A good trading profile should look like a bell-curve, but with -1R on the left, and skewed to the right (representing a positive expectation overall).

## 4.3 Trades

The trades section shows the sample that was provided (converted to R values if necessary) and is for reference purposes.

---

Sample Trade Values (R)  
-0.1, -0.15, -0.12, -0.1, -0.16, -0.24, -0.13, 1.1, 0.95, 2.1, 2.95, 3.5, 1.12, 0.95, 0.75, 0.25, 0.1, 0.1, 0.5, 0.53, -2.1, -1.2, -0.75, -0.25, -0.5, -0.5, -0.75, -0.5, 1.5, 1.75, 1.2, 1.0, 0.1, 0.15, 1.1, 0.95, 2.1, 2.95, 3.5, 1.12, 0.95, 0.75, 0.25, 0.1, 0.1, 0.5, 0.53, -1.2, -0.75, -0.25, -0.5, -0.5, -0.75, -0.5, 1.1, 0.95, 2.1, 2.95, 3.5, 1.12, 0.95, 0.75, 0.25, 0.1, 0.1, 0.5, 0.53, -1.2, -0.75, -0.25, -0.5, -0.5, -0.75, -0.5

---
















Figure 5: Trades Section



## 5 Analysis

The analysis section is the main body of the report.




---

| Trading Simulation Analysis |  |
|-----------------------------|--|
| Sample Duration             |  The duration (3793 days) of the sample trades is more than 1 year but still may not include trades from different market types your trading will experience. It is recommended you perform a market type analysis to identify the different types of market (based on trend and volatility) that your trading has experienced to make sure all market types are covered. |
| Average Trade Duration      |  The average duration (40.35 days) of the sample trades is more than 5 days and indicates low-frequency trading. This type of trading usually has larger winners, lower implementation costs, and is generally more likely to be profitable.  |
| Sample Size                 |  The simulation is based on only 94 sample trades. Ideally the simulation should be run with at least 100 sample trades to be representative of actual trading. Please wait until you have more sample trades, or generate more historical/hypothetical trades to work with.  |
| Expectation                 |  The expectation (average winner size times percent winners minus average loser size times percent losers) of 0.48 is positive. This means that, on average, you will a reasonable risk-adjusted return if future trades follow a similar pattern to the sample.  |
| Winner: Loser Ratio         |  The average size of winners is greater than the average size of losers (winner size/loser size ratio is 1.95). This means your trading probably has well-designed exit strategies.   |
| Profitable Iterations       |  A very high percentage (100%) of the simulations ended with profitable equity curves. This means the chances of making money overall over a reasonable number of trades (e.g. 100) is very good.   |
| Beakeven Win Percent        |  A low winning percentage (34%) of trades is required to break even with the sample distribution provided. This means your trading will not lose money even during periods where your entry signals is selecting trades that perform no better than random.   |
| Percentage of Winners       |  The percentage of winning trades (61.7%) is relatively high. This may indicate curve-fitting of trading parameters to past data, or exit strategies that take profits too early.   |
| Average Winner Size         |  Average size of a winning trade (1.13R) is more than 1R and indicates normal slippage, few trading implementation errors, and an exit strategy that lets profits run. Generally, accurate trading exhibits average winning trades more than the initial risk taken (like this sample).   |
| Biggest Winner Size         |  The largest single winning trade is (3.5R) is more than 1.5R and indicates normal slippage, accurate trade implementation errors, and an exit strategy that lets profits run. Generally, accurate trading should have some winning trades much greater than the initial risk taken (unlike this sample).   |
| Average Loser Size          |  Average size of a losing trade (-0.58R) is less than -1R and indicates normal slippage, few trading implementation errors, and consistent exit strategy application. Generally, accurate trading exhibits average losing trades less than the initial risk taken (like this sample).   |
| Biggest Loser Size          |  The largest single losing trade (-2.1R) is more than -2R and indicates excessive slippage, trading implementation errors, or an exit strategy not managing risk properly. Generally, accurate trading should have few losing trades greater than the initial risk taken (unlike this sample).  |
| Losing Streak               |  The longest losing streak of 39 trades and -28.01R is high. With a typical 1% per trade position-sizing model this may result in losses of more than 25% of capital.   |
| Ending R Range              |  The range in the maximum and minimum ending equity curves (73.01R) is high. This indicates a large amount of variation in the trade sample and may lead to volatile results.   |
| Annual Expectation          |  The annual expectation (in R) is (4.3R), which is not too high. With a typical 1% per trade position-sizing model this should result in reasonable risk and drawdowns for most traders under normal conditions.  |

---

Figure 7: Analysis Section

Each item in the analysis section is given a code:

- Code Red**  This represents a serious problem with the trade sample
- Code Amber**  This represents a potential problem with the trade sample
- Code Green**  This represents a positive aspect of the trade sample

Each analysis section will now be described:

### Trade Units

If the trade units provided are not already in R it means that ASG has to convert them to R using the average size of a loser as a proxy for initial risk. If this is the case then a warning (Code Amber) will be reported. Ideally every trade in your sample should have an initial stop so that you can convert to exact R values rather than ASG having to estimate them. This results in a more representative and accurate report.

### Sample Duration

The sample duration is the number of days from the provided Start Date to the End Date. The longer the span of time the sample trades is over, the more market types will be included. This means that you will have a record of how your trading will perform during many different market types. For a more detailed explanation of the different types of market please refer to the SmartTrader™ mini-eBook “The Nine Different Market Types”. Generally, trading simulation is much more effective if the trade sample includes at least 30 trades from each type of market.

## **Average Trade Duration**

The average trade duration is the number of days between the start date and end date divided by the number of trades in the sample. This assumes even distribution of trades within the sample period and may not be representative of actual trading. Generally, higher frequency trading will have smaller winners, higher implementation costs, more trading-related errors, winners smaller than losers, and a higher winning percentage. The converse is generally true of lower frequency trading. For this reason, if trade duration is low (less than 5 days) ASG will report a Code Red, a Code Amber less than 25 days, otherwise a Code Green.

## **Sample Size**

The more trade samples that are provided, the more accurate and representative the trade simulation will be. An absolute minimum would be 30 trades. 100 is good, and 200 and above would be ideal. If the trade sample contains less than 50 trades a Code Red will be reported, less than 100 trades Code Amber, otherwise Code Green.

## **Expectation**

Expectation, mathematically is the average size of a winner multiplied by the probability of a winner, minus the average size of a loser multiplied by the probability of a loser. It can also be calculated by taking the average value of the R values for the trade sample. This number represents how much would be won (or lost) per unit risk. If it is negative, the trading method will lose money in the long-run (Code Red). If expectation is positive, but less than 0.1, a Code Amber will be reported, otherwise a Code Green is reported.

## **Winner:Loser Ratio**

The ratio of the average size of winners to the average size of losers is a very important parameter in trading. Good trading generally has winners that are much bigger than losers on average, and means that a lower percentage of winning trades is required to breakeven. If this ratio is less than 1:1 a Code Red is reported, less than 1.5:1, is Code Amber, and otherwise a Code Green

## **Profitable Iterations**

The number of simulated equity curves that end in positive R values is an indication of how likely you are to make money continuing to trade in the same way as the trade sample. If more than 75% of the iterations are positive a Code Green is reported, more than 50% a Code Amber, otherwise a Code Red.

## **Breakeven Win Percent**

The percentage of winning trades that means you will neither make or lose money is a good indication of how robust your trading is during periods where your entry signal is performing no better than random. If your breakeven win percent is greater than 75% (i.e. you will lose money unless 75% of your trades are winners) a Code Red is reported, greater than 50%, a Code Amber, otherwise a Code Green.

## **Percentage of Winners**

If a high percentage of trades are winners, this usually indicates an exit strategy that takes profit too early, and results in winners much smaller than losers (on average). Alternatively, it indicates a curve-fit system that has been optimized on past data and will be unlikely to continue to perform in the same way on future data. If the win percentage is greater than 75% a Code Red is reported, greater than 50% a Code Amber, otherwise a Code Green.

### **Average Winner**

The size of the average winner is a good indication of how well the exit strategies are performing. If winners are consistently less than the initial risk taken, then the exit strategy is taking profit too early. If the average winning trades is bigger than 1R then it is a good sign. If the average winner is less than 0.5R then Code Red is reported, less than 1R Code Amber, otherwise Code Green.

### **Biggest Winner Size**

If the biggest winner in the trade sample is not a large multiple of the initial risk, this indicates exit strategies that do not let profits run. If the biggest winner is less than 1R then Code Red is reported, less than 1.5R Code Amber, otherwise Code Green.

### **Average Loser Size**

The size of the average loser is an indication of how consistently stops are being applied and how good exit strategies are at minimizing risk. If the average loser size is more than -1.5R then Code Red is reported, more than -1R is Code Amber, otherwise Code Green. Note that in cases where the average loser is used as a proxy for initial risk then this will represent 1R.

### **Biggest Loser Size**

The size of the biggest loser is a good indication of how well exit strategies and stop-losses are being applied. It also indicates how significant trading errors are. If the biggest loser is more than -2R then Code Red is reported, more than -1.5R is Code Amber, otherwise Code Green.

### **Losing Streak**

The size (in R) of the longest losing streak in the simulation is an indication of what kind of losses would have to be tolerated under normal circumstances. If this value is a loss of more than 50R then Code Red is reported, more than 25R is Code Amber, otherwise Code Green. This is in line with typical risk parameters of 1% risk per trade and a "ruin point" of 50% loss of capital.

### **Ending R Range**

This is the difference in the ending values of the largest and smallest simulated equity curve. If there is a very wide range in the simulated equity curves it represents more volatile performance and therefore less predictable results. If the range is more than 100R then Code Red is reported, more than 50R is Code Amber, otherwise Code Green.

### **Annual Expectation**

Annual expectation is the expectation of the trading system multiplied by the trade frequency converted to an annual number. It's an approximation for how many R per year this trading method should make on average. If this number is too high it represents taking too much risk to generate this kind of return. More than 100R per year is reported as Code Red, more than 50R per year is Amber, otherwise Code Green is reported.

## **Serial Dependency**

Serial dependency is when each trade in the sample is not really an independent event. For example, if you have rules in your trading method that say “If last trade was a winner then.... do something different”. This type of relationship between trades makes simulation by random sampling less effective and unrealistic compared to actual trading. If there is significant serial dependence in the trade sample provided then a Code Red is reported, a small amount is Code Amber, otherwise Code Green is reported. Remember to provide your trade sample in the order the trades were generated (rather than sorted in some way) otherwise the sample will exhibit significant serial dependency.

## 5.1 Summary

---

### Summary

- (01 occurrences in this sample) Code Red - There is a problem with the trade sample that should be addressed before using the information contained in this report or continuing to trade in the manner represented by the provided sample.
  - (04 occurrences in this sample) Code Amber - There is a potential problem with the trade sample that should be addressed for improved accuracy of this report, or better trading performance.
  - (10 occurrences in this sample) Code Green - This aspect of the trade analysis is acceptable under normal conditions.
  - The All Systems Go Score for this trade sample is 10.72. This is an average score overall.
  
  - Warning, your All Systems Go™ result is "Code Red". You should attempt to remedy the highlighted issues before continuing to trade in this way.
- 

**Figure 8: Summary**

The summary section indicates which aspects of the trading sample are problematic or need addressing. It also indicates the ASG score which rates overall trade performance.

Generally an excellent ASG score is 10 and over – Code Green

Positive but less than 10 is good – Code Amber

Negative is poor – Code Red

The ASG score is calculated as follows:

**Expectation \* Annualized Number of Trades / Standard Deviation of Losing Trades**

This score takes reward per unit risk, trade frequency, and variability of losers into account so it is a flexible scoring method that should be applicable to many kinds of trading system. Observing how the ASG Score for a particular trading method or system changes over time (or with market type) is a useful indicator.



## 6 Support

In all cases, instant messenger will get you the most rapid response.

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Wishing you success with your trading, and we hope you are happy and profitable using this product.