

# MetaStock Tips & Tools



Tools For  
MetaStock

MetaStock Tips & Tools

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MSTT Weekly  
Trading Systems

July 2010

## MSTT WEEKLY TRADING SYSTEMS

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## MSTT WEEKLY TRADING SYSTEMS

By Roy Larsen

This package features variations of two different trading systems where both systems are based on weekly data. One system captures breakouts to new highs and is loosely based on the MetaStock PS Fractal concept, and the other attempts to enter trends early by applying ideas from Leon Wilson's book titled "Breakthrough Trading – Revolutionary Thinking in Relative Analysis".

It's my opinion that no one system should be traded in isolation but that each system could form at least a part of any medium to longer-term stock-trader's arsenal. The two concepts presented here are somewhat complementary, at least as far as the entry is concerned, and both apply the same or very similar trailing stop exits. What you might want to consider is using an EOD system to take advantage of shorter term moves while trading one of the weekly systems to capture longer term trends.

Be warned that survivorship bias is present in all results tabled in this document. How much actual results might vary from these theoretical results is for you to estimate and take into consideration. One of several factors to take into account is that stocks in a longer term uptrend are more likely to be survivors than those that are in a longer term down trend. Since it is the former of these two groups that holds most of the trading candidates it's reasonable to assume (though not guaranteed) that the effects of survivorship bias should be somewhat mitigated by each systems selection process.

Back-test "results" are provided for three separate testing methods. Each method has its own particular advantages and disadvantages.

Results that are buried or impossible to access in one test might be clearly obvious in another. The three methods used here are Trade Equity, TradeSim and the Enhanced System Tester. Code for each method is included as text listings in the following pages and it can also be loaded into Metastock using one of the self-installing EXE files provided as part of the MSTT Weekly Trading Systems package. The systems are referred to as Breakout (BO) and Initial High (IH) and separate code is provided for ASX and US markets.

The Breakout systems are somewhat sensitive to average weekly turnover and I suggest that you do your own testing to verify what ranges, if any, are most appropriate for the market being traded. Remember that data from some suppliers may be divided by a factor of 100 and therefore you might need to adjust the minimum and/or maximum levels in the breakout formulas. If the turnover range is too loose then the ratio of winners to losers may fall, and if too tight the number of trades triggered may drop to an unacceptable level.

The Initial High systems (IH) do not have a volume filter but do have minor filter variations that affect performance on different groups of stocks.

When performing any test it's important that you set up the testing instrument properly. This should not be a concern for TradeSim but do remember that simulations require a little care in setting up if you're to approximate the results produced by other test methods. Tabled results for all three methods assume that every trade is taken, \$5000 is applied to each trade, and only one trade per security is permitted at any given time. Costs of \$25 are applied each way on the ASX S&P300, and \$10 each way for US S&P600.

Be aware that altered settings within any formula, whether done accidentally or deliberately, will almost certainly skew your results. Since all three system test methods call indicators it's important that the source indicators continue to perform the tasks that they were designed for. By all means test different filters and filter values, but take care that you document any changes. Something as simple as setting a delay to 0 instead of 1 can make results look fantastic when in fact they are impossible to achieve and quite meaningless

The EST and Trade Equity also need to be set up properly, particularly with regard to entry price and timing. If your results look too good to be true then they probably are too good to be true. Unexpectedly bad results can also be a sign of something wrong in the setup department. One value that I use to assess the validity of a Trade Equity test is whether the Pessimistic Return is greater than 3 and less than 10. Less than 3 probably signals a poor system, especially if the system operates on weekly data, and than 10 either suggests a very good system or an incorrect setup such as buying on the OPEN rather than the CLOSE .

The breakout systems open trades at intraday values on weekly bars. For this reason when testing, it's possible that some trades will be initiated at prices that would not be achievable in real life. This will happen if a daily bar gaps open higher than the set entry price rather than moving smoothly through it. During intraday trading. Fortunately these events, though not unheard of, are few and far between. If you trade one of the breakout systems you'll need to decide how to treat such gaps. Whether you treat the potential signal as a Limit, Stop or Stop limit order is for you to decide. Chasing the price after a breakout can see your trade turn into a significant loser before it gains any

## SUDOKU BREAK

8			3					
6	2		9			7		1
		9		5		2	8	
5			4					
		3		7		1		
					5			9
	6	1		2		8		
2		4			6		1	7
					7			2

*Figure 1.  
Sudoku puzzle -  
see solution on page 16.*

---

traction – and this can be a cause of pain. However, if you look at the trade statistics for these systems you'll see that the win/loss trade ratio is often higher than 60% and the profit factor usually better than 5.

There is a danger that attempting to trade breakout systems in bear market conditions could seriously erode your capital. These systems do not inhibit new trades as well as the Initial High systems do. The IH systems tend to enter the market earlier in the cycle and are less likely to trigger new trades during a downturn. Ultimately it's the responsibility of the individual trader to elect which trades to take and which ones to leave. These systems do not generate hundreds of trades and by allotting no more than 5% of capital per trade it should be possible to take most trades and still have capital to spare. However, beware of committing all of your trading capital to just one weekly system. Longer term systems can go through long periods of inactivity and this should be factored into your overall trading approach.

The systems included in this package are listed below.

□

<u><i>System Entry Indicator</i></u>	<u><i>Trailing Stop Indicator</i></u>	<u><i>Type</i></u>	<u><i>Market</i></u>
MSTT BO Entry AU SP300 W	MSTT AT Trail AU W	Breakout	S&P 100 / 200 / 300
MSTT BO Entry US SP600 W	MSTT BR Trail US W	Breakout	S&P 600 (Small cap)
MSTT IH Entry AU SP300 W	MSTT AT Trail AU W	Initial High	S&P 100 / 200 / 300
MSTT IH Entry US SP600 W	MSTT BR Trail US W	Initial High	S&P 600 (Small cap)

## *ASX Breakout System Test Results*

Generated by Trade Equity GV LE

### Performance

	<b>Long</b>
Net Profit	\$ 330,562.28
Gross Profit	\$ 382,430.03
Gross Loss	\$ <b>-51,867.74</b>

### Trade Totals

Profitable	158
Unprofitable	96
Current Open Positions	0

### Other Trade Statistics

Biggest Winning Trade	\$ 31,591.40
Average Winning Trade	\$ 2,420.44
Average Trade	\$ 1,301.43
Biggest Losing Trade	\$ <b>-1,684.04</b>
Average Losing Trade	\$ <b>-540.29</b>
Commissions	\$ <b>-12,750.00</b>
Average Win/Loss Ratio	4.48
Profit Factor	7.37
Profit Index	86.44
Pessimistic Return	7.56
Winning Trades	62.20 %
Losing Trades	37.80 %

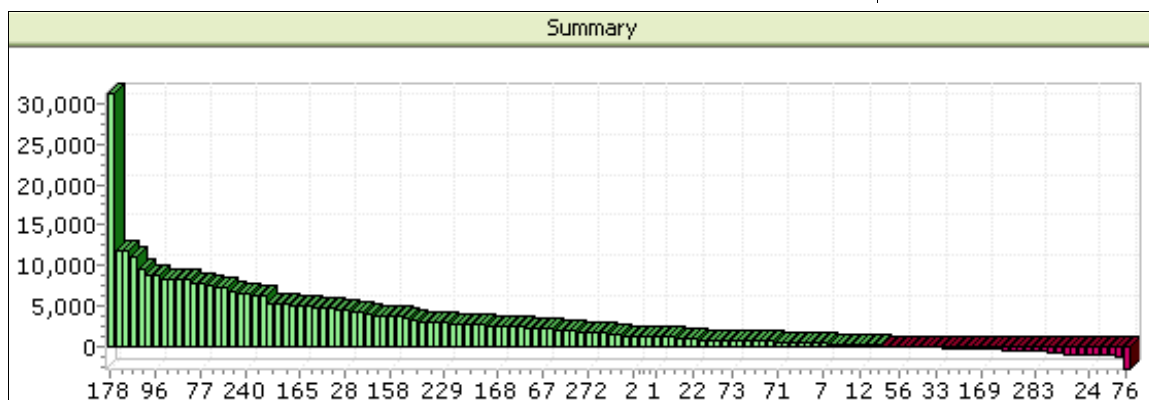
### Market Timing

Total Active Trade Bars	5,210
Bars Explored	65,711
Bars Enabled by Date Filter	57,044
Time Invested:-	
(Per Bars Explored)	7.93 %
(Per Date Filter Enabled)	9.13 %
Average Trade Duration	20.50 (weeks)
Average Winning Trade Duration	26.70 (weeks)
Average Losing Trade Duration	10.40 (weeks)

### Maximum Excursion

Adverse	\$ <b>-1,684.04</b>
Favorable	\$ 42,951.85

*Figure 21.  
Trade Equity S&P300  
Breakout system results  
generated by an  
Expert Commentary*



*Figure 22.  
Enhanced System Tester summary of Breakout system results.*

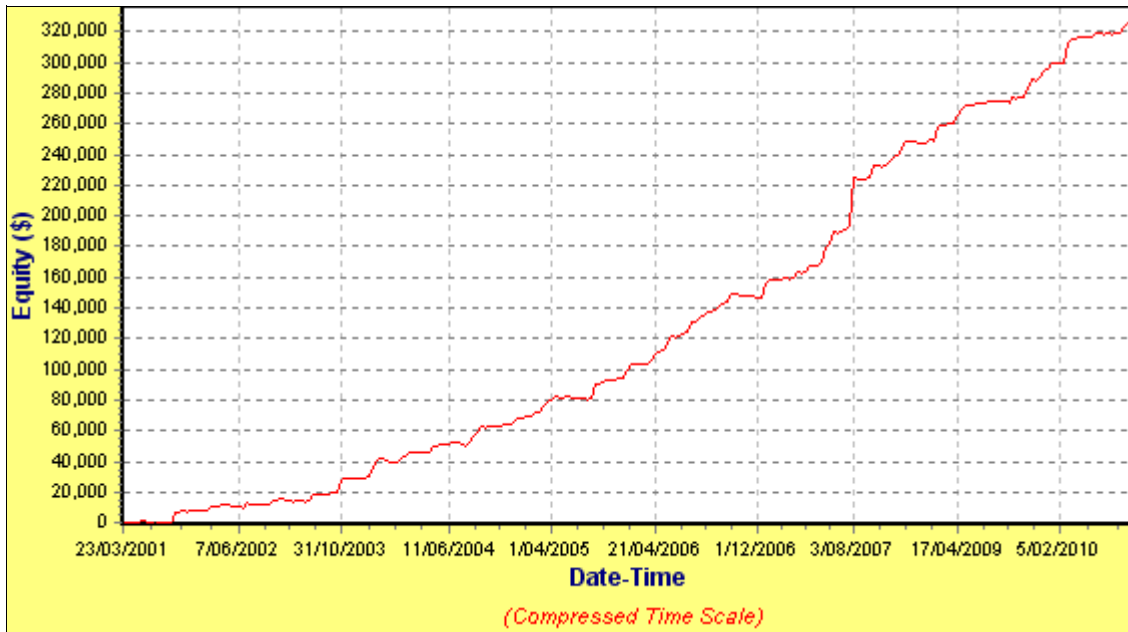


Figure 23.  
TradeSim closed trade results for Breakout system.  
Chart courtesy of TradeSim.

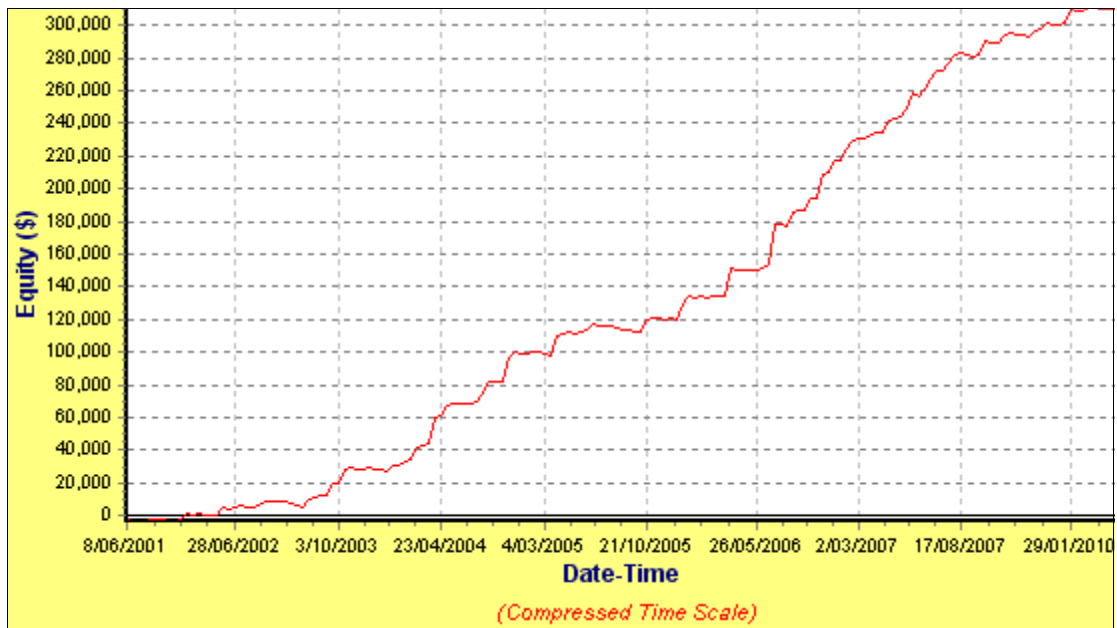


Figure 24.  
TradeSim closed trade results for Initial High system.  
Chart courtesy of TradeSim.

## *ASX Initial High System Test Results*

Generated by Trade Equity GV LE

### Performance

	<b>Long</b>
Net Profit	\$ 309,822.00
Gross Profit	\$ 353,248.78
Gross Loss	\$ <b>-43,426.74</b>

### Trade Totals

Profitable	109
Unprofitable	62
Current Open Positions	4

### Other Trade Statistics

Biggest Winning Trade	\$ 25,316.88
Average Winning Trade	\$ 3,240.81
Average Trade	\$ 1,811.82
Biggest Losing Trade	\$ <b>-2,097.78</b>
Average Losing Trade	\$ <b>-700.43</b>
Commissions	\$ <b>-8,450.00</b>
Average Win/Loss Ratio	4.63
Profit Factor	8.13
Profit Index	87.71
Pessimistic Return	8.43
Winning Trades	63.74 %
Losing Trades	36.26 %

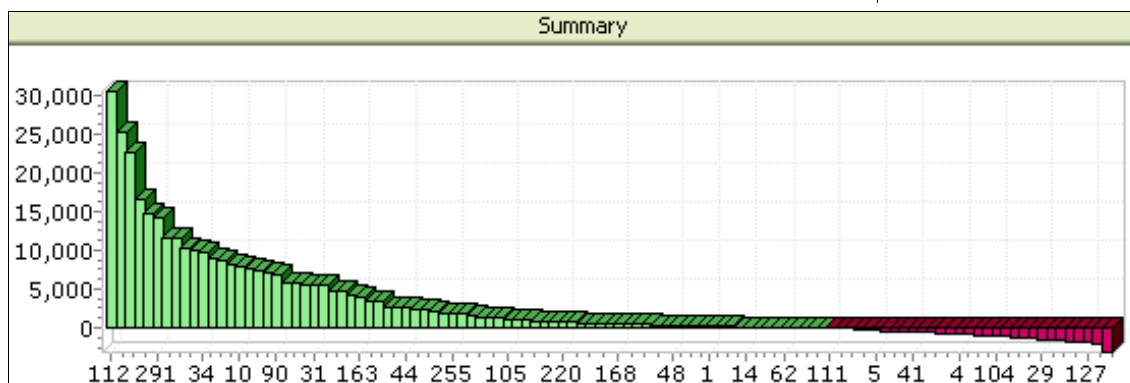
### Market Timing

Total Active Trade Bars	3,608
Bars Explored	58,331
Bars Enabled by Date Filter	48,876
Time Invested:-	
(Per Bars Explored)	6.19 %
(Per Date Filter Enabled)	7.38 %
Average Trade Duration	21.10 (weeks)
Average Winning Trade Duration	26.40 (weeks)
Average Losing Trade Duration	11.70 (weeks)

### Maximum Excursions

Adverse	\$ <b>-2,097.78</b>
Favorable	\$ 34,909.13

*Figure 25.  
Trade Equity S&P300  
Initial High system  
results generated by an  
Expert Commentary*



*Figure 26.  
Enhanced System Tester summary of Initial High system results.*

Figure 27.  
Trade Equity S&P 600 Breakout  
system results generated by an  
Expert Commentary

<b>US S&amp;P 600 Breakout System Test Results</b>		
Generated by Trade Equity GV LE		
<b>Performance</b>		
		<b>Long</b>
Net Profit	\$	502,632.63
Gross Profit	\$	606,004.13
Gross Loss	\$	<b>-103,371.52</b>
<b>Trade Totals</b>		
Profitable		187
Unprofitable		147
Current Open Positions		1
<b>Other Trade Statistics</b>		
Biggest Winning Trade	\$	29,906.26
Average Winning Trade	\$	3,240.66
Average Trade	\$	1,504.89
Biggest Losing Trade	\$	<b>-2,220.61</b>
Average Losing Trade	\$	<b>-703.21</b>
Commissions	\$	<b>-6,670.00</b>
Average Win/Loss Ratio		4.61
Profit Factor		5.86
Profit Index		82.94
Pessimistic Return		5.92
Winning Trades		55.99 %
Losing Trades		44.01 %
<b>Market Timing</b>		
Total Active Trade Bars		6,731
Bars Explored		122,222
Bars Enabled by Date Filter		92,010
Time Invested:-		
(Per Bars Explored)		5.51 %
(Per Date Filter Enabled)		7.32 %
Average Trade Duration		20.20 (weeks)
Average Winning Trade Duration		28.10 (weeks)
Average Losing Trade Duration		10.10 (weeks)
<b>Maximum Excursions</b>		
Adverse	\$	<b>-2,220.61</b>
Favorable	\$	45,239.57

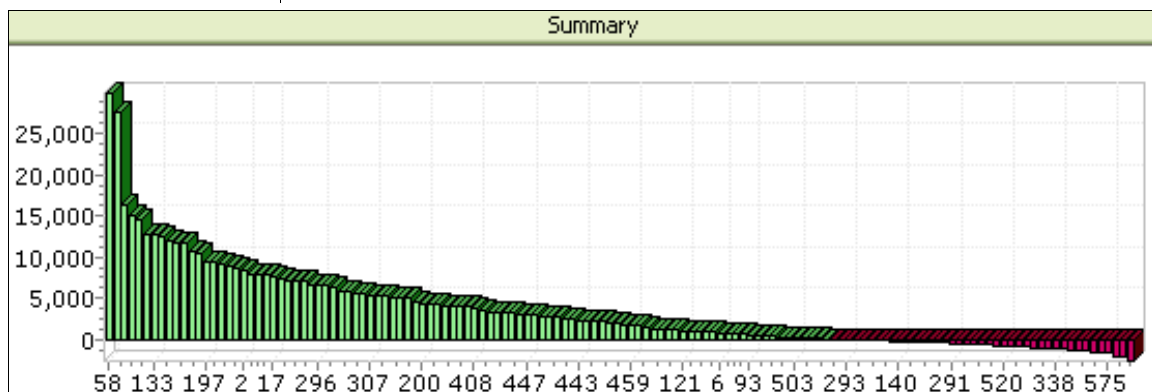


Figure 28.  
Enhanced System Tester summary of S&P 600 Breakout system results.

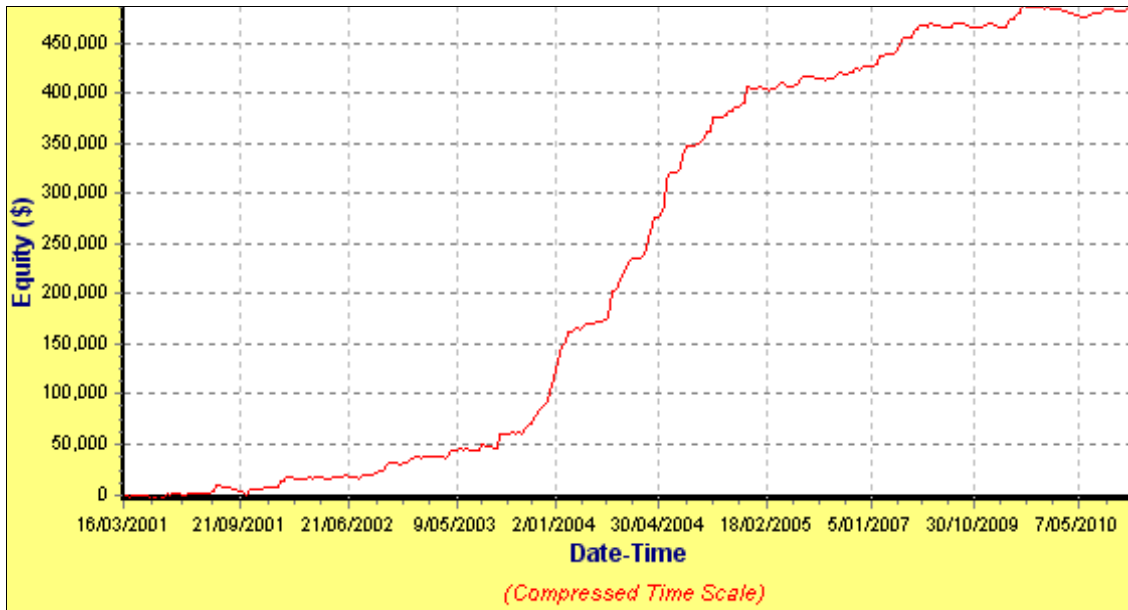


Figure 29.  
TradeSim closed trade results for S&P 600 Breakout system.  
Chart courtesy of TradeSim.

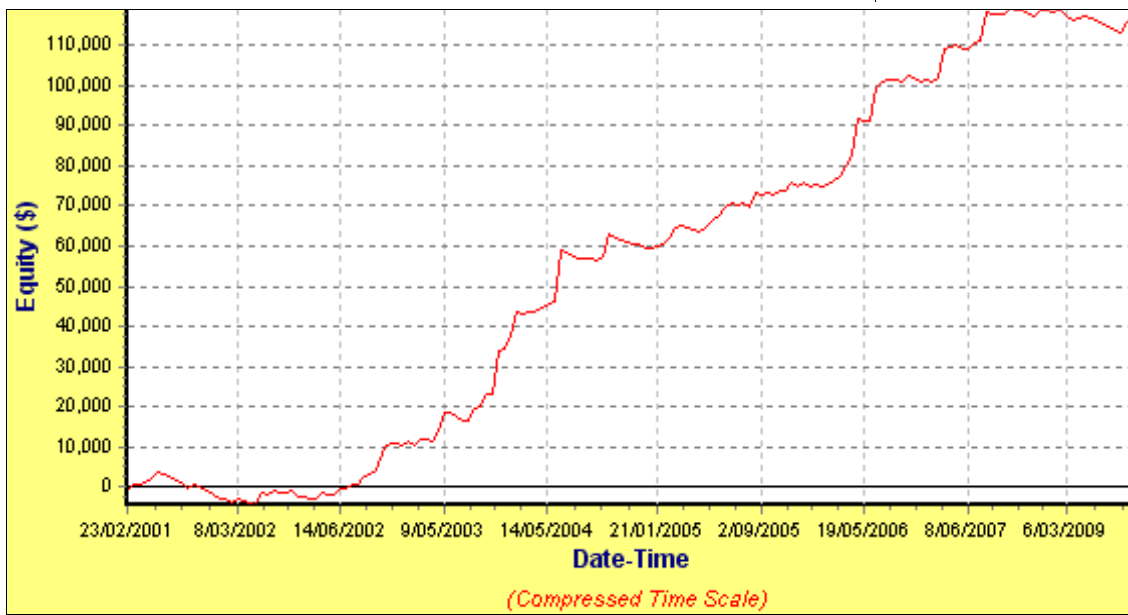


Figure 30.  
TradeSim closed trade results for S&P 600 IH system.  
Chart courtesy of TradeSim.

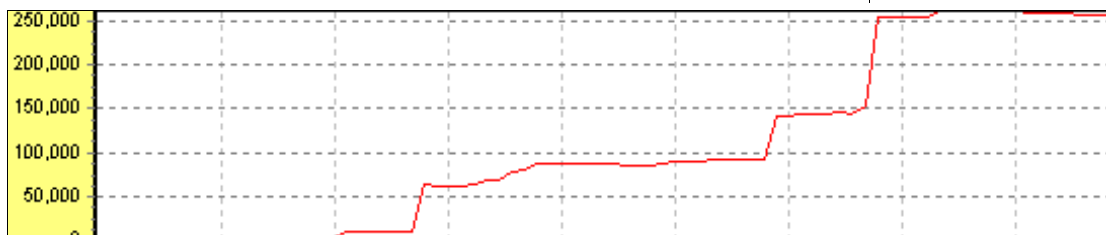


Figure 31.  
TradeSim S&P 600 IH system results when three  
standout performers are also included (see Figure 33).

Figure 32.  
Trade Equity S&P 600 Initial High system results generated by an Expert Commentary

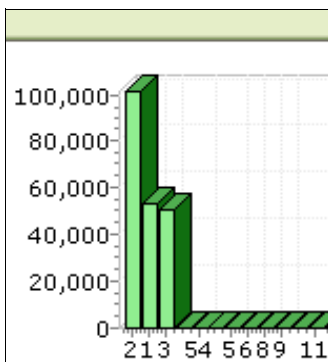


Figure 33.  
Three S&P 600 IH trades excluded from other TE, EST and TradeSim results.

## US S&P 600 Initial High System Test Results

Generated by Trade Equity GV LE

### Performance

		<b>Long</b>
Net Profit	\$	121,428.32
Gross Profit	\$	163,968.20
Gross Loss	\$	<b>-42,539.94</b>

### Trade Totals

Profitable	86
Unprofitable	80
Current Open Positions	1

### Other Trade Statistics

Biggest Winning Trade	\$	12,501.60
Average Winning Trade	\$	1,906.61
Average Trade	\$	731.50
Biggest Losing Trade	\$	<b>-1,751.20</b>
Average Losing Trade	\$	<b>-531.75</b>
Commissions	\$	<b>-3,310.00</b>
Average Win/Loss Ratio		3.59
Profit Factor		3.85
Profit Index		74.06
Pessimistic Return		3.87
Winning Trades		51.81 %
Losing Trades		48.19 %

### Market Timing

Total Active Trade Bars	3,195
Bars Explored	93,524
Bars Enabled by Date Filter	70,738
Time Invested:-	
(Per Bars Explored)	3.42 %
(Per Date Filter Enabled)	4.52 %
Average Trade Duration	19.20 (weeks)
Average Winning Trade Duration	27.60 (weeks)
Average Losing Trade Duration	10.30 (weeks)

### Maximum Excursions

Adverse	\$	<b>-1,751.20</b>
Favorable	\$	16,269.80

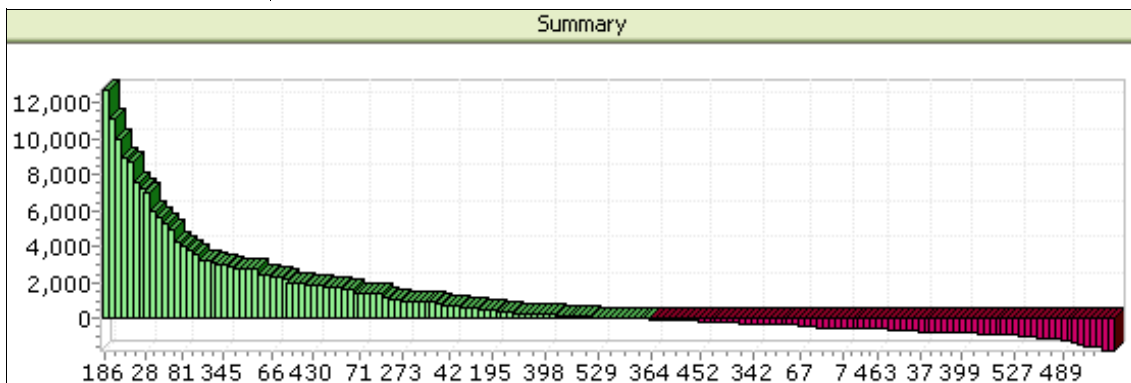


Figure 34.  
Enhanced System Tester summary of Initial High system results on S&P 600.

## ASX ENHANCED SYSTEM TESTS

```

{MSTT Breakout Weekly ASX System}
{Roy Larsen, 2007-2010}

{Buy Order window}
X:=Opt1; {Min: 1} {Max: 1} {Step: 1}
Fml("MSTT BO Buy AU SP300 W")>0;

{Limit or Stop Price window (for Buy Order)}
Fml("MSTT BO Buy AU SP300 W");

{An execution price setting of OPEN is}
{OK when setting up the trade simulation}

{Sell Order window}
Fml("MSTT AT Trail AU W");

{System settings}

{Buy Order }
Order Type:      Limit
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Sell Order}
Order Type:      Market
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Simulation settings}
750 periods of Weekly data (do not use date options)
Initial Equity:  10000
Default Size:   Transaction Cost      5000
Portfolio:      Long
Broker Commissions:
  Entry        25
  Exit         25
Trade Execution
  Buy Price    OPEN
  Sell Price   CLOSE
  Delay Order Opening 0

```

Figure 35.  
ASX Breakout system and simulation settings.

```

{MSTT Initial High Weekly ASX System}
{Roy Larsen, 2009-2010}

{Buy Order window}
X:=Opt1; {Min: 1} {Max: 1} {Step: 1}
Ref(Fml("MSTT IH Buy AU SP300 W"),-1);

{Note that a delay is applied by the Ref() function,}
{not by Strategic Delay or Delay Order Opening}

{Sell Order window}
Fml("MSTT AT Trail AU W");

{System settings}

{Buy Order }
Order Type:      Market
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Sell Order}
Order Type:      Market
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Simulation settings}
750 periods of Weekly data (do not use date options)
Initial Equity:  10000
Default Size:   Transaction Cost      5000
Portfolio:      Long
Broker Commissions:
  Entry        25
  Exit         25
Trade Execution
  Buy Price    OPEN
  Sell Price   CLOSE
  Delay Order Opening 0

```

Figure 36.  
ASX Initial High system and simulation settings.

## US ENHANCED SYSTEM TESTS

```

{MSTT Breakout Weekly US System}
{Roy Larsen, 2007-2010}

{Buy Order window}
X:=Opt1; {Min: 1} {Max: 1} {Step: 1}
Fml("MSTT BO Buy US SP600 W")>0;

{Limit or Stop Price window (for Buy Order)}
Fml("MSTT BO Buy AU SP300 W");

{An execution price setting of OPEN is}
{OK when setting up the trade simulation}

{Sell Order window}
Fml("MSTT BR Trail US W");

{System settings}

{Buy Order }
Order Type:      Limit
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Sell Order}
Order Type:      Market
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Simulation settings}
750 periods of Weekly data (do not use date options)
Initial Equity:  10000
Default Size:   Transaction Cost      5000
Portfolio:      Long
Broker Commissions:
  Entry        10
  Exit         10
Trade Execution
  Buy Price    OPEN
  Sell Price   CLOSE
  Delay Order Opening 0
  
```

Figure 37.

*US Breakout System and Simulation settings.*

```

{MSTT Initial High Weekly US System}
{Roy Larsen, 2009-2010}

{Buy Order window}
X:=Opt1; {Min: 1} {Max: 1} {Step: 1}
Ref(Fml("MSTT IH Buy US SP600 W"),-1);

{Note that a delay is applied by the Ref() function,}
{not by Strategic Delay or Delay Order Opening}

{Sell Order window}
Fml("MSTT BR Trail US W");

{System settings}

{Buy Order }
Order Type:      Market
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Sell Order}
Order Type:      Market
Entry Size:      Use Default Size
Expiration:      Good for Day
Strategic Delay: 0

{Simulation settings}
750 periods of Weekly data (do not use date options)
Initial Equity:  10000
Default Size:   Transaction Cost      5000
Portfolio:      Long
Broker Commissions:
  Entry        10
  Exit         10
Trade Execution
  Buy Price    OPEN
  Sell Price   CLOSE
  Delay Order Opening 0
  
```

Figure 38.

*US Initial High system and simulation settings.*

**{Trade Equity GV LE}{V7}**

```
I:=Input("TE Display Option 0-22",0,22,0);
B:=Input(" Buy 1=O 2=C 3=H 4=L 5=Stop",1,5,5);
Z:=Input("Sell 1=O 2=C 3=H 4=L 5=Stop",1,5,2);
A:=Input("Cost Divisor, 1-10000 [0-4]",0,4,0);
Cn:=Input("In/Out Cost/Pips",0,999999,025025);
Nd:=Input("In/Out Delays",00,55,00);
Cp:=5000;{size}
F:= -1;{Cp factor - set to buy whole shares}
N:= Fml("MSTT IH Buy AU SP300 W");
Ns:=Fml("MSTT BO Buy AU SP300 W");
X:= Fml("MSTT AT Trail AU W");
Xs:=0; {only used if Stop price is other than OHLC}
```

Figures 39 & 40.

TE settings for BO and IH ASX systems. Bold text shows default parameters that must match the system being tested. The Buy formula (N or Ns variable) used is set by the buy price setting (B variable).

**{Trade Equity GV LE}{V7}**

```
I:=Input("TE Display Option 0-22",0,22,0);
B:=Input(" Buy 1=O 2=C 3=H 4=L 5=Stop",1,5,5);
Z:=Input("Sell 1=O 2=C 3=H 4=L 5=Stop",1,5,2);
A:=Input("Cost Divisor, 1-10000 [0-4]",0,4,0);
Cn:=Input("In/Out Cost/Pips",0,999999,010010);
Nd:=Input("In/Out Delays",00,55,00);
Cp:=5000;{size}
F:= -1;{Cp factor - set to buy whole shares}
N:= Fml("MSTT IH Buy US SP600 W");
Ns:=Fml("MSTT BO Buy US SP600 W");
X:= Fml("MSTT BR Trail US W");
Xs:=0; {only used if Stop price is other than OHLC}
```

Figures 41 & 42.

TE settings for BO and IH US systems. Bold text shows default parameters that must match the system being tested. The Buy formula (N or Ns variable) used is set by the buy price setting (B variable).

**{Trade Equity GV LE}{V7}**

```
I:=Input("TE Display Option 0-22",0,22,0);
B:=Input(" Buy 1=O 2=C 3=H 4=L 5=Stop",1,5,1);
Z:=Input("Sell 1=O 2=C 3=H 4=L 5=Stop",1,5,2);
A:=Input("Cost Divisor, 1-10000 [0-4]",0,4,0);
Cn:=Input("In/Out Cost/Pips",0,999999,025025);
Nd:=Input("In/Out Delays",00,55,10);
Cp:=5000;{size}
F:= -1;{Cp factor - set to buy whole shares}
N:= Fml("MSTT IH Buy AU SP300 W");
Ns:=Fml("MSTT BO Buy AU SP300 W");
X:= Fml("MSTT AT Trail AU W");
Xs:=0; {only used if Stop price is other than OHLC}
```

**{Trade Equity GV LE}{V7}**

```
I:=Input("TE Display Option 0-22",0,22,0);
B:=Input(" Buy 1=O 2=C 3=H 4=L 5=Stop",1,5,1);
Z:=Input("Sell 1=O 2=C 3=H 4=L 5=Stop",1,5,2);
A:=Input("Cost Divisor, 1-10000 [0-4]",0,4,0);
Cn:=Input("In/Out Cost/Pips",0,999999,010010);
Nd:=Input("In/Out Delays",00,55,10);
Cp:=5000;{size}
F:= -1;{Cp factor - set to buy whole shares}
N:= Fml("MSTT IH Buy US SP600 W");
Ns:=Fml("MSTT BO Buy US SP600 W");
X:= Fml("MSTT BR Trail US W");
Xs:=0; {only used if Stop price is other than OHLC}
```

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2	9	4	7	3	1	8	5	6
7	5	1	6	9	8	4	3	2
3	6	8	2	4	5	1	7	9
9	1	7	6	2	8	5	4	3
5	4	8	3	6	7	9	1	2
8	6	7	3	4	1	2	5	9
6	8	2	1	5	7	6	4	3
1	3	7	8	4	9	5	2	6
4	5	9	2	6	3	7	1	8

Figure XX. Sudoku solution.

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