#### **USER GUIDE**



# Portfolio Systems

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#### What are portfolio systems

Portfolio systems are tools used to objectively select outperforming investments within broad universes of securities. They are based on a proprietary model of relative strength which allows you to construct portfolio matrices for any permissible universe of investments according to any criteria you want.

The individual relative strength numbers obtained inside the matrices do fluctuate over time depending on how particular securities do better or worse than their group and subgroup peers. The fluctuation will normally happen within a maximum and a minimum range in a sinus-like pattern that will reflect the beginning or the end of leadership trends.

Relative Strength	Score	XLE	XLB	XLI	XLY	XLP	XLV	XLF	XLK	XTL	XLU
-6.63852	2.02226		-2.37756	-4.39947	-2.65764	2.58196	0.6266	-1.22939	1.48857	-3.88525	3.21365
15.35469	3.93905	2.37756		-3.48152	-0.87265	5.41985	3.63085	0.78891	4.28427	-3.08496	6.29237
44.60523	6.41875	4.39947	3.48152		2.99697	7.71009	7.24269	4.42499	7.0943	-0.54477	7.79997
24.72847	5.11434	2.65764	0.87265	-2.99697		5.03272	5.50211	2.05831	8.26764	-2.91258	6.24696
-28.95402	-0.91256	-2.58196	-5.41985	-7.71009	-5.03272		-1.95647	-3.10218	0.13018	-5.76477	2.48384
-15.61463	3.09162	-0.6266	-3.63085	-7.24269	-5.50211	1.95647		-1.87591	2.88983	-5.21538	3.63263
3.49098	3.25339	1.22939	-0.78891	-4.42499	-2.05831	3.10218	1.87591		3.99997	-3.08568	3.64141
-33.45842	0.00845	-1.48857	-4.28427	-7.0943	-8.26764	-0.13018	-2.88983	-3.99997		-6.27646	0.9728
37.57581	5.13567	3.88525	3.08496	0.54477	2.91258	5.76477	5.21538	3.08568	6.27646		6.80596
-41.08959	-2.61338	-3.21365	-6.29237	-7.79997	-6.24696	-2.48384	-3.63263	-3.64141	-0.9728	-6.80596	

Debut	• PORTIQUO	· O LANK O DAY \$754963712																	
Cutegory Name	Subcategory Name	Sented	Calegory Total Rank	Overall Total Rank	Tetal	Cologany RS Rank	Overall RS.Ratk	Relative Strength	Sum	R.E	×.0		8,7	×.			16,K		
85 Earles-12 Ave Canada Sectors	US Serve (SCI)	ALE-SPORTSRPUS. Energy Select ETF							2 02226										
85 Egules - US And Canada Sectors	US Sectors (SICS)	XL8-SPORTSRPUS. Meteode Select ETF			19,25376	4		11.25463	3 53905	2 37796		3.48152							
85 Egulies - US And Canada Sectors	US Sectors (SICS)	XU-SPORISBPUS Industrials Select ETF			11 02390			44 60523	141275	4 31947			2 39637						
85. Egulies - US And Canada Sectors	US Sectors (SICE)	XLY - SPDR1 S&P U.S. Consumer December ary Select ETF			25 84281			24.72547	\$11434	2105764				140272					
85. Egulies - US And Canada Sectors	US Sedue (SCD)	XLF - SPORT S&P U.S. Consumer Staples Select ETF			-25 89456	1		28 16402	4.91294	2.58196					1 99647				
85. Eguties - US And Canada Sectors	US Sectore (SICS)	XLV-SPDR1S&PU.S. Healthcare Select ETF			42,52301			-15.63463	109162	4 6266						-1.87581			
85. Egulies - US And Canada Sectors	US Sectore (SICS)	XLF - SPOR   SBP U.S. Reanciels Select ETF	5		6.74637	5		3.49098	12509	1,22909							3 99967		
85. Eguties - US And Canada Sectors	US Sectore (SICS)	KLK-SPDR1S&PU.S. Technology Select ETF			-30.44357	9		-11-659-0	0.0045	-1.45557								627646	
85. Egutes - US And Canada Sectors	US Sectors (SICS)	xTL-SPDR1S&PU.S. Telecon Select ETF			42.71148			37:57581	5.10967	3 88525									6.00106
85 Eastes-US And Canada Sectors	US Sectors (SICS)	XLU - SPOR (SRP U.S. Utilize Select ETF	10	10	40.35257	10	10	41 00050	241038	3,21365								4.00006	



### Portfolio system modules

You can open multiple instances of the Portfolio Systems module, though connectivity is always defined at the portfolio system item and not at the module instance level.

🖤 New Portf	olio Trading Sy ×
Name	Portfolio Trading System Assig
<u>O</u> K	<u>C</u> ancel

Once a Portfolio Systems instance is open, you can Edit its name from a right click context menu:

Portfolio Tradir - * Setup Panel	Add New Portfolio Trading System	_	+
^ Default ✓ S&P SEC	Delete Portfolio Trading System ווטאס	+	Add New System
		ø	Edit System
		â	Delete System
		) M	Task To Scheduler



## Creating and managing portfolio systems

#### Managing groups

Like it is the case with RRGs, Portfolio Systems can be managed in groups using the right click context menu in the setup panel. You can organize groups per feed, per Portfolio System style or any other criteria you want.

Portfolio Trading System	
Setup Panel	4
Default S&P SECTORS	🔶 Add New System
🕅 Add Group	🗹 Edit System
	Delete System
	Task To Scheduler

The same structure will be kept inside the organizer which can export your custom lists of Portfolio Systems to share with peers or to migrate on other computers.

You can password protect your work at the package as well as individual item level.

🕸 Organizer	×
Import custom studies, expert advisors, s	ystems, templates and workspases
• Export custom studies, expert advisors, s	ystems, templates and workspases
File path	Browse
File name	
Password	
Choose Custom Studies	
Choose Expert Advisers	
Choose Workspaces	
Choose Chart Templates	
Choose Portfolio Tests	
Choose Portfolio Systems	Select All
Default	
S&P SECTORS	
Choose RRG Baskets	
Choose Loop Systems	
Choose Scanners	
	<u>S</u> ave <u>C</u> ancel



#### Creating portfolio systems

You can very easily set up Portfolio Systems directly involving the default and custom lists used in the instrument panel.

Setup Panel	4
^ Default	🔶 Add New System
S&P SECTORS	· · ·
Developed Countries	Ed. S. S. Cartan
	M Edit System
	🛅 Delete System
	Task To Scheduler

Your portfolio constituents as well as all the portfolio properties are conveniently saved for easy review.

Portfolio properties dictate how relative strength lines are built and evaluated when computing the matrices. You get to select:

- The factoring for the left and right terms;
- The operation involved;
- The price sources used to calculate the RS line;
- Whether to fill data gaps or just seek for common date stamps amongst the constituents;
- What custom study to apply to the RS data.





## **Running portfolio systems**

**Matrix computation** 

Once a portfolio system is setup, you can compute its matrix in any time frame, at any desired point in time:

Default	٠	S&P SECTORS	1	• Latest O Date	2016/06/27 12:17:06		¢	Daily	Ŧ	🔅 Run

Each cell in the matrix represents the value of the selected custom study applied to the relative strength line obtained by computing the desired operation (subtraction, division) between the sourced price data of the market on the line to the sourced price data of the market on the column for the required / selected time frame.

Relative Strength	Score	XLE	XLB >
-6.63852	2.02226		-2.37756
15.35469	3.93905	2.37756	
44.60523	6.41875	4.39947	3.48152

In the example above, the highlighted cell is the result of calculating the relative strength index histogram of the line obtained by dividing the daily close price data of XLE to the daily close price data of XLB.



As you can imagine, computing the matrix is a rather demanding task.

The process is optimized to the extent possible though smooth functioning is contingent to proper usage of the **SET RESULT** and **SET REVERSE\_RESULT** function and inverse function syntax structures used inside S-Trader custom indicators.

In the example chosen above, the **RSI\_Histogram** function used to compute the matrix for, would look like this:

SET A = RSI(CLOSE,14) SET B = EMA(A,8) SET RESULT = A-B SET REVERSE\_RESULT = B-A

The idea is you must always end the custom study with the SET RESULT and SET REVERSE\_RESULT statements and the S-Trader will know how to optimize the matrix calculation and crunch through massive amounts of data in record time.



#### Calculation of cumulative relative strength numbers

The ultimate purpose of computing the matrices is to derive individual cumulative relative strength numbers for each individual security. This will help you understand where and when each security is likely to begin outperforming or underperforming its peers.

Cumulative relative strength numbers are calculated by adding up all RS numbers on a specific line. Once that is done you can apply any built-in or custom study to the cumulative relative strength curve of any instrument to derive inclusion / exclusion signals.







Scheduling portfolio systems to the event scheduler

You can schedule any Portfolio System to be run in any time frame according to any desired schedule:

🖤 Schedule	Run Event			-		x
Event Name	Developed Cou	ntries - WEEKL	(Run			
Time Frame	1	\$	Weekly			•
Simple Run						
🗸 Auto Refresh						
🖌 Interval	1	\$	Weekly			•
Time of Day	12:00:00 AM					
After Event						•
		ОК		Can	cel	

	Developed Countries - WEEKLY Run
Getting history for symbol: EIRL	

Manage	Event Name
	Developed Countries - WEEKLY Run