



WORKSHOP SESSION 3: THE PLATFORMS

– BLOOMBERG

- *EHURST APP*
- *CUSTOM STUDIES*
- *EXCEL ADDIN*
- *PRICE WIZARD APP*
- *PROBLEMS*
- *SETTINGS & MAINTENANCE*

– TRADESTATION

- *VERSION 10*
- *DESKTOPS, WORKSPACES, CHARTS, RADARSCREEN & GENERAL NAVIGATION*
- *INDICATORS, PAINTBARS, SHOWME, PROBABILITY MAPS, AND STRATEGIES*
- *SETTINGS & MAINTENANCE*
- *SCANNER*
- *ALERTS*
- *PROBLEMS*



Bloomberg Platform



GO F1 F2 F3 F4 PRINT HELP MEMO SEARCH QUOTE QUOTE MONIT NEWS MSG MENU PG BACK PG FW

< > | S&P 500 FAST CASH INDEX Index | APPS | Related Functions Menu | Message

<Back> to Return

<Search Applications> Bloomberg Application Portal

Featured Categories

- All
- Screeners
- Data Analysis
- FI Screeners
- Derivatives
- Port & Risk
- Post-Trade
- Visualization
- Valuation
- Tech Analysis
- Execution Svc
- FX Analytics
- Other

My Apps

The apps herein are created and supported by third-party vendors

My Applications (4 Total)

Parallax Indicators	Parallax Excel	Price Wizard	ExtremeHurst
apps cs:pfr	apps pfex	apps price	apps ehurst
Parallax ExtremeHurst & studies for G charts	Parallax ExtremeHurst & Studies in EXCEL	Parallax Intl. Equity Valuation Model	Parallax ExtremeHurst Scanner



- **Select the Security Source:**
 - We recommend making a text file with one security per line, and reading that file in using "Securities List"
 - The next best way is to select an Index and have the app find the holdings to process (e.g. SPX INDEX)
 - Other optional entries include a single security or Bloomberg's portfolio tool at PRU,
- **Select Security Type:**
 - The default is individual securities
 - If you select "Options", ExtremeHurst signals will be scanned for using nearest in the money call and put price series (daily scale only)
 - If you select "Ratio Spreads", you will be prompted for another security to act as the denominator in a ratio spread. ExtremeHurst will then scan the ratio spreads
- **Select Scales:**
 - Supported scales range from 5 minute to quarterly
- **Select Filters & Settings**
 - The user can filter on signal quality, minimum price and minimum liquidity
 - Additionally the user can choose to search for new signals only, or the default which is the most recent 20 bars back
 - Select "More Signal Types" to see other Parallax signals.
- **Press Signal Search to Run**
 - Data is downloaded in batches of 100 and then ExtremeHurst is run. Results will be listed as they occur
 - This is a heavy cpu process, and we recommend an Intel i9 processor or the equivalent for the best response
 - The red stop button will stop the scan
- **After the Scan Ends**
 - Click any line in the list to see a small plot
 - Right-click to find more options, including sending charts to the Bloomberg charting tool
 - Save a chart in a Chartbook for later printing
 - Add History to the small plot
 - Save the signal list to a csv file or copy and past to excel
 - Sort the list by pressing any of the column headers
 - Float cursor over any feature to see a message about it

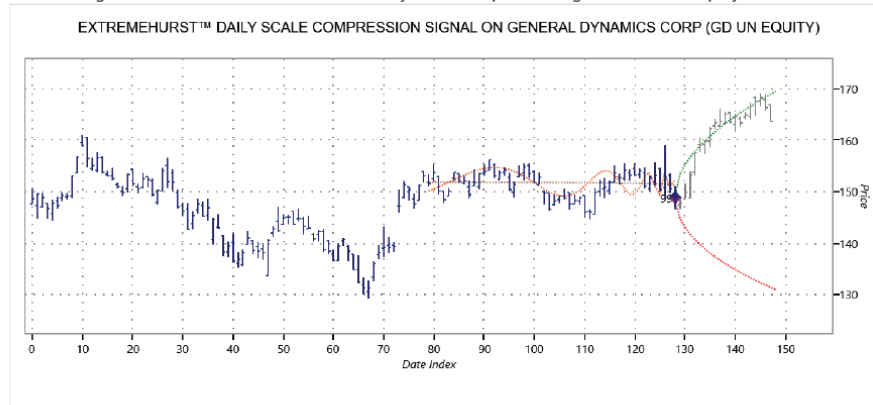
- ← Security Group Selection
- ← Search Progress
- ← Signals Found
- ← Selected Signal Chart
- ← Zoom Output



Save Signals
Copy Signals
Clear Signals
Print Screen
Copy Screen
History +
Chartbook +
Help

ExtremeHurst Chartbook

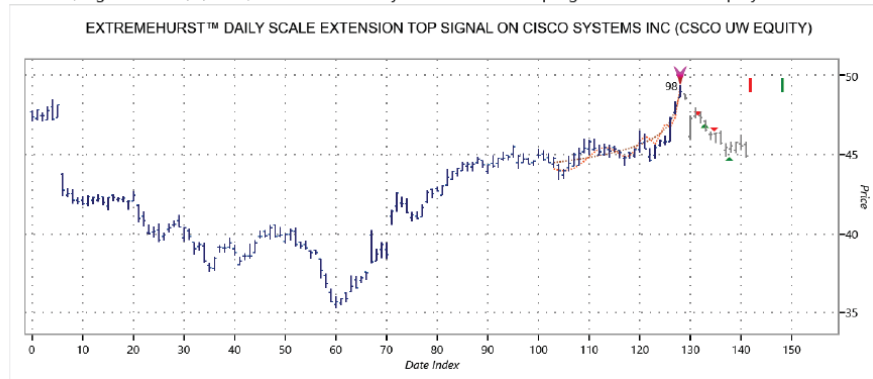
Chart #1, Signal Date: 1/29/2021, ExtremeHurst daily scale Compression signal on GD UN Equity



Post-Signal Cycles

Cycle Top due 2/2/2021 1:17 PM
 Cycle Bottom due 2/3/2021 5:08 P
 Cycle Top due 2/5/2021 2:05 PM
 Cycle Bottom due 2/10/2021 2:39
 Cycle Top due 2/18/2021 11:50 AM
 Cycle Bottom due 3/2/2021 9:01 A
 LP wavelength = 2.607
 Build time = 50 bars

Chart #2, Signal Date: 2/8/2021, ExtremeHurst daily scale Extension Top signal on CSCO UW Equity



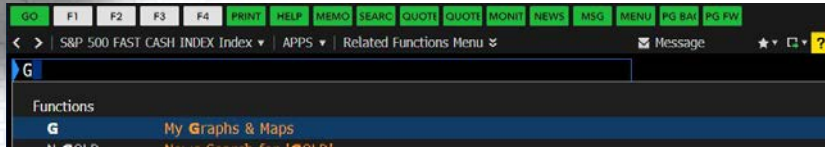
Post-Signal Cycles

Cycle Top due 2/11/2021 12:39 PM
 Cycle Bottom due 2/12/2021 8:47
 Cycle Top due 2/17/2021 8:00 PM
 Cycle Bottom due 2/22/2021 5:18
 Cycle Top due 2/26/2021 11:03 PM
 Cycle Bottom due 3/9/2021 4:28 A
 LP wavelength = 2.156
 Build time = 26 bars

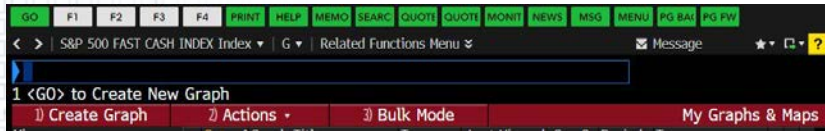


ExtremeHurst on Bloomberg "G" Charts

1



2



3

Chart Wizard

Standard Chart Standard Chart (Template) Spread or Ratio Seasonality

Scatter Graph Regression Relative Rotation Graph Scrolling Tick

Use the Standard Charts for analyzing and comparing time series data with studies or other data sets, events and annotations. Securities loaded in this chart will be saved.

Next > Cancel

4

Chart Wizard - Standard Chart

Steps: Security, Studies, Events, Themes

Security: MSFT US Equity, Last Price (PR005)

Interactive Preview: MSFT US Equity - Last Price 232.38

Period: Daily, Date Range: 02/26/20 - 02/26/21

Previous Next > Finish

5

Chart Wizard - Standard Chart

Steps: Security, Studies, Events, Themes

Security: MSFT US Equity

Studies: Bollinger Bands, Stochastics, Simple Moving Average, Relative Strength Index, Mov Avg Convergence/Divergence, PFEH, PFSC, PFPVC

Interactive Preview: MSFT US Equity - Last Price 232.38, V Trend Line (MSFT US) 3.9193

Previous Next > Finish



ExtremeHurst on Bloomberg "G" Charts





Using Trident™ in ExtremeHurst™ Charts





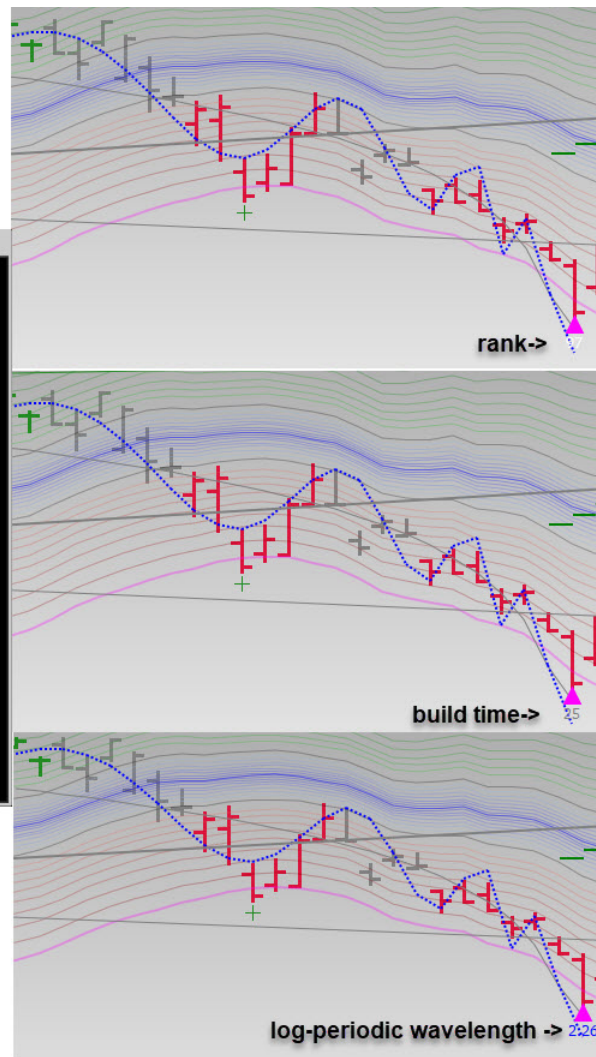
New Annotation Options for PFEH

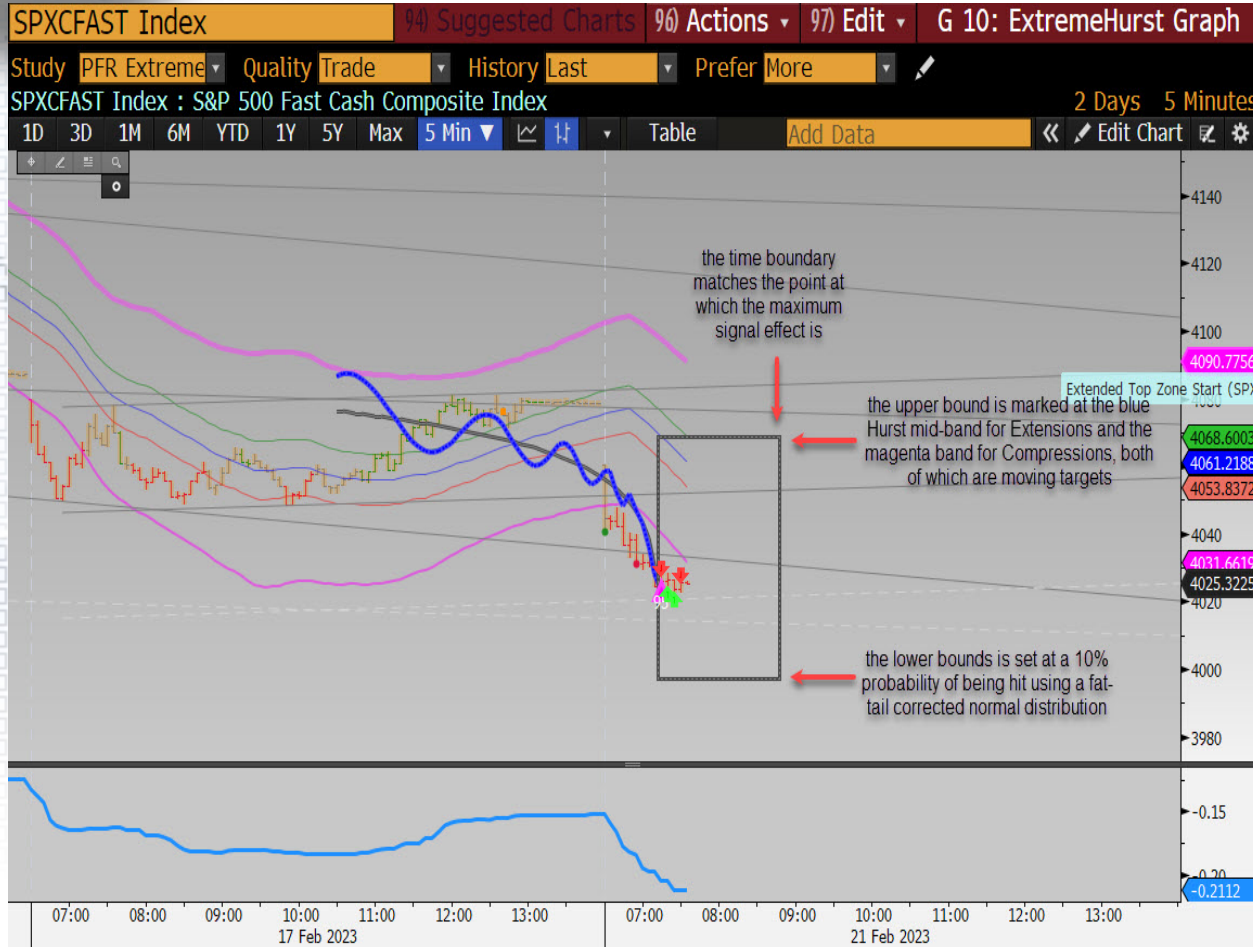
Study Property Manager - PFR ExtremeHurst

1) Settings 2) Display 3) Description

- Quality High
- History Chart
- Prefer Default
- Annotate Signals with LP Wavelength
- Show Stops
- Show Targets
- Show Incoming LP Cycles
- Show Outgoing LP Cycles
- Band Transparency
- Power Law Line Color Gray
- Log Periodic Cycle Line Color Blue
- Save Current Properties as your Defaults

Update Cancel





Study Property Manager - PFR ExtremeHurst

Settings Display Description

Prefer Default

Annotate Signals with Rank

Show Price & Time Stops Enabled

Show Targets Enabled

Show Incoming LP Cycles Enabled

Show Outgoing LP Cycles Enabled

Band Transparency 50

Power Law Line Color Gray

Log Periodic Cycle Line Color Blue

Show pre-Compression Bias Enabled

Show TradeBox Enabled

Save Current Properties as your Defaults

Update Cancel



Type APPS PFEX <go> and Press Run, then insert a function or use a template:

Insert Function

Search for a function:
Type a brief description of what you want to do and then click Go

Or select a category: Parallax Financial Research

Select a function:

- Edge vs. Duration
- ExtremeHurst**
- HurstBands
- PrecisionTurn
- PriceVolumeAlert
- PriceVolumeCross
- PriceWizard

ExtremeHurst(Security,MostRecentDate,LeastRecentDate,Periodicity,...)
Add-in EXCEL function to run ExtremeHurst(tm) from Parallax Financial Research, Inc ExtremeHurst is a qua.

[Help on this function](#) [OK] [Cancel]

ParallaxLibrary

ExtremeHurst function

Description
Add-in EXCEL function to run ExtremeHurst(tm) from Parallax Financial Research, Inc ExtremeHurst is a quantitative detector of extreme investor behavior that signals the beginnings or ends of a trends. Signals persist for about as long as it takes to build the signal. This Excel add-in enables the user to find the most recent signal on any time scale and on any security. Strong trend-persistent stock price movements are evidence of positive feedback (i.e., investors buying because the price is rising, driving prices higher), while extremes of mean reversion are evidence of negative feedback. Extremes of both trend persistence and mean reversion are quantified via multiple measurements of the Hurst exponent. Signals are fully characterized by the presence of discrete scale invariance (DSI), accelerating price (PL), log-periodic cycles (LP), and volume anomalies.

Syntax
ExtremeHurst(Security, MostRecentDate, LeastRecentDate, Periodicity, Interval, History, Quality, Preferences, ExpirationPeriodicity, MinExpDays, FillWithHeaders, OnlyShowSignals, SpreadSecurity, TargetDateOverride, OnlyShowOneRow, OutputLocation)

Arguments

Name	Type	Description
Security	text string	The full Bloomberg security name (e.g., "IBM US Equity" or "SPX INDEX").
MostRecentDate	date/time	The start or most recent date to process...blank means today
LeastRecentDate	date/time	The end or least recent date to process...blank means today
Periodicity	text string	The periodicity as "YEARLY", "QUARTERLY", "MONTHLY", "WEEKLY", "DAILY", "MINUTE"
Interval	integral number (int)	For intraday data, this is the bar interval in minutes (240, 120, 60, 30, 20, 15, 10, 5, 3, 2, 1).
History	integral number (int)	History is the number bars back to the first search date, which is an alternate way to set LeastRecentDate.
Quality	integral number (int)	The minimum rank to accept (0=99+, 1=95+, 2=90+, 3=80+, 4=70+, and 5=0+(any)).
Preferences	integral number (int)	Signal search preferences (0=Recommended, 1=More).
ExpirationPeriodicity	text string	Expiration date periodicity to set an option date for option trading (default="MONTHLY" or "WEEKLY")
MinExpDays	integral number (int)	Minimum days to Expiration to set a target date for option trading (default=7)
FillWithHeaders	true/false	Set this to true if you want to label non-signalling rows with the column headers; (default is false)
OnlyShowSignals	true/false	Set to true if you wish to just list the dates that had fresh new signals (default is false)
SpreadSecurity	text string	Optional ratio spread denominator security name such as "SPX INDEX". Default is blank
TargetDateOverride	date/time	Alternate target date to evaluate remaining signal edge and Duration if option expiration information is blank (defaults to expiration defaults)
OnlyShowOneRow	true/false	Set to true to show only one row containing the most recent signal in the search window (default is false unless History less than zero)
OutputLocation	text string	(optional) The cell to which the output will be directed.

Security= **ES1 INDEX** Within Past **100** Bars **ExtremeHurst™ v7.0 Multiscale Signals** Run Now= **FALSE**

Scale	Interval	Security	Run Date	Run Time (Local)	Run Price	Periodicity	Interval (min)	Signal Type	Signal Date	Signal Price	Signal Rank	Signal Edge%	Signal Duration	Expected Max Gain%	+/- Std Deviation%	Target Date	Edge% at Target	Du
MONTHLY	1	ES1 INDEX	2/26/2021	12:00 AM	3807.75	MONTHLY	1	Top Extension	05/31/2013 00:00	\$ 1,502.00	99	-19.64%	27.00	-4.79%	-20.29%	3/5/2021	0.00%	
WEEKLY	1	ES1 INDEX	2/26/2021	12:00 AM	3807.75	WEEKLY	1	Bottom Extension	03/27/2020 00:00	\$ 2,491.25	98	25.50%	32.00	4.40%	17.44%	3/5/2021	4.86%	
DAILY	1	ES1 INDEX	2/26/2021	12:00 AM				No Signal										
MINUTE	240	ES1 INDEX	2/26/2021	11:00 AM				No Signal										
MINUTE	120	ES1 INDEX	2/26/2021	1:00 PM				No Signal										
MINUTE	60	ES1 INDEX	2/26/2021	1:00 PM	3807.75	MINUTE	60	Compression	02/26/2021 12:00	\$ 3,796.25	98	5.00%	33.00	0.08%	1.31%	3/12/2021	0.00%	
MINUTE	30	ES1 INDEX	2/26/2021	1:30 PM	3807.75	MINUTE	30	Bottom Extension	02/25/2021 10:30	\$ 3,842.75	99	25.50%	48.00	0.84%	2.67%	3/12/2021	0.00%	
MINUTE	20	ES1 INDEX	2/26/2021	1:40 PM	3807.75	MINUTE	20	Bottom Extension	02/25/2021 10:20	\$ 3,848.50	90	25.50%	67.00	0.77%	2.57%	3/12/2021	0.00%	
MINUTE	15	ES1 INDEX	2/26/2021	1:45 PM				No Signal										
MINUTE	10	ES1 INDEX	2/26/2021	1:50 PM	3807.75	MINUTE	10	Bottom Extension	02/25/2021 21:30	\$ 3,808.50	94	25.50%	26.00	0.47%	1.63%	3/12/2021	0.00%	
MINUTE	5	ES1 INDEX	2/26/2021	1:55 PM	3807.75	MINUTE	5	Compression	02/26/2021 12:50	\$ 3,824.00	92	-23.40%	21.73	-0.23%	-0.85%	3/12/2021	0.00%	



- **Select the Security Source:**
 - We recommend select an Index and have the app find the holdings to process (e.g. SPX INDEX)
 - Other optional entries include a text file, country list and Bloomberg's portfolio tool at PRTU, but be careful about your data quota
- **Select Equity Type:**
 - Default is single equities
 - If you select "Portfolios", you may chose ETFs or Indices. You must be enabled to access the historic holdings and weights
- **Select Scales:**
 - Supported scales are for plotting only and are limited to weekly, monthly, or quarterly
- **Select Sector Filters & Settings**
 - The user can filter on market cap, sector, minimum price, minimum liquidity, and various valuation profiles
 - There are even more filters under the "additional Settings" menu.
- **Press Perform Valuation to Run**
 - Data is downloaded in batches of 100 and then Price Wizard is run. Results will be listed as they occur
 - If data is missing, or significant negative fundamentals are found, a valuation may not be possible
 - The red stop button will stop the run
- **After the Valuations End**
 - Click any line in the list to see a small plot
 - Right-click to find more options, including sending charts to the Bloomberg charting tool
 - Save a chart in a Chartbook for later printing
 - Add technical signal history to the small plot
 - Save the signal list to a csv file or copy and past to excel
 - Sort the list by pressing any of the column headers
 - Float cursor over any feature to see a message about it
 - Analyze results, by examining factors, heatmaps, build portfolios, and backtest some simple models

Annotations:

- Banner:** Points to the top header area with the Parallax logo and 'Price Wizard' title.
- Security Group Selection:** Points to the 'FILTERS' dropdown menu.
- Valuation Progress:** Points to the 'Perform Valuation' button and the 'Downloading Data: Valuing Equities:' progress bar.
- Valuation Results List:** Points to the table of security data.
- Selected Chart:** Points to the candlestick chart for JPM US EQUITY.
- Zoom Output Options:** Points to the bottom toolbar with buttons like 'Save List', 'Copy List', 'Clear List', 'Print Screen', 'Copy Screen', 'Analysis', 'Studies +', 'Chartbook +', and 'Help'.

Security	Sector	MktCap	Last	YY%	PW Price	PW YY%	PW Diff%	As of
JPM US EQUITY	Financials	416.384	143.28	23.4	160.84	11.3	12.3	2023-10
WMT US EQUITY	Consumer Staples	428.513	159.18	18.7	166.66	26.3	4.7	2023-09
GS US EQUITY	Financials	99.205	300.92	-3.2	312.82	-19.3	4	2023-10
HD US EQUITY	Consumer Discreti	286.696	286.41	6.3	290.51	13.7	1.4	2023-08
HON US EQUITY	Industrials	120.738	181.835	2.4	182.49	-19.4	0.4	2023-07
DIS US EQUITY	Communication Se	151.798	82.96	-15.9	78.55	-20.8	-5.3	2023-08
CRM US EQUITY	Information Techn	208.436	203.75	29.4	135.2	-0.4	-33.6	2023-08
UNH US EQUITY	Health Care	489.08	527.99	1.4	345.3	-1	-34.6	2023-10

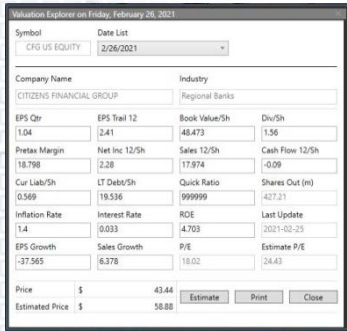
PRICE WIZARD™ ESTIMATES JPMORGAN CHASE & CO IS WORTH 160.84 (UNDERVALUED 12.3%)



Price Wizard – Analysis !

- **Examine Fundamental Factors:**

- Examine historical fundamental inputs
- Edit inputs and re-estimate price



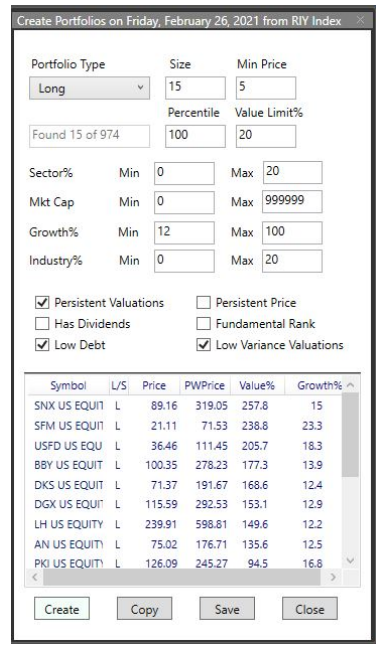
- **Make Heatmaps:**

- Find stocks using a sector heatmap
- Examine valuation by state or country



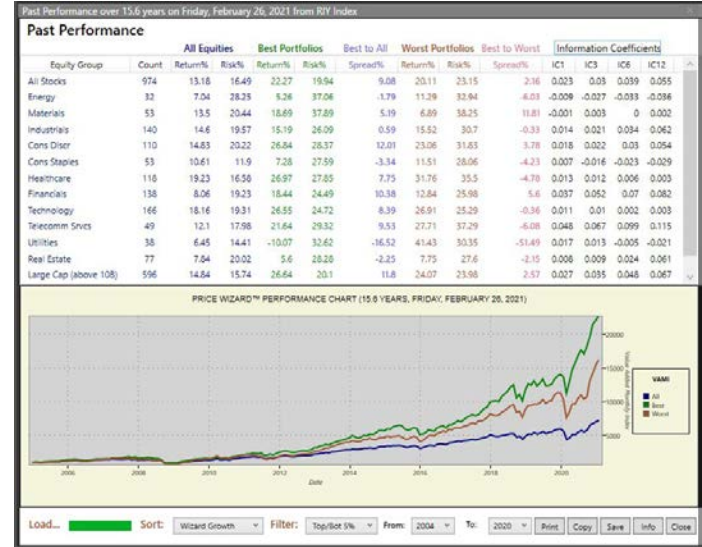
- **Build Portfolios:**

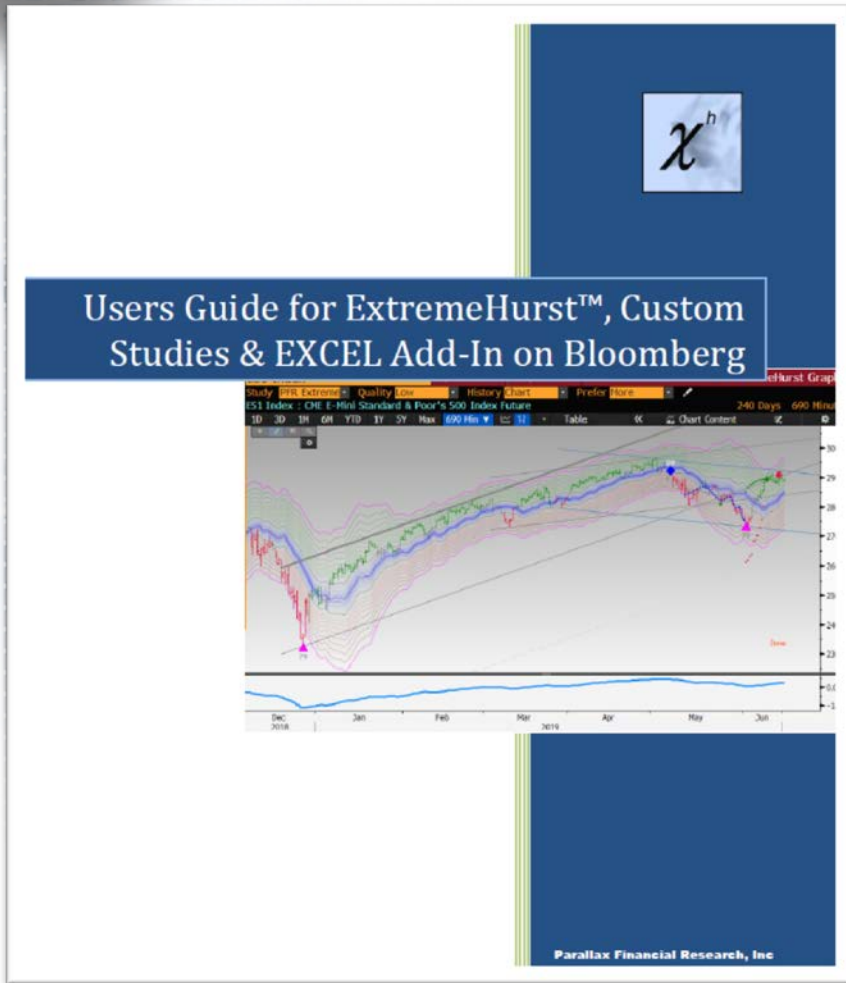
- Select a long or short portfolio
- Adjust limits on sector or market cap exposure
- Set size
- Set limits on value growth and overall value
- Check boxes to favor stocks with persistent valuation growth, dividends, low debt, low model variance, or use our fundamental rank neural net to help select stocks



- **Backtest Various Strategies:**

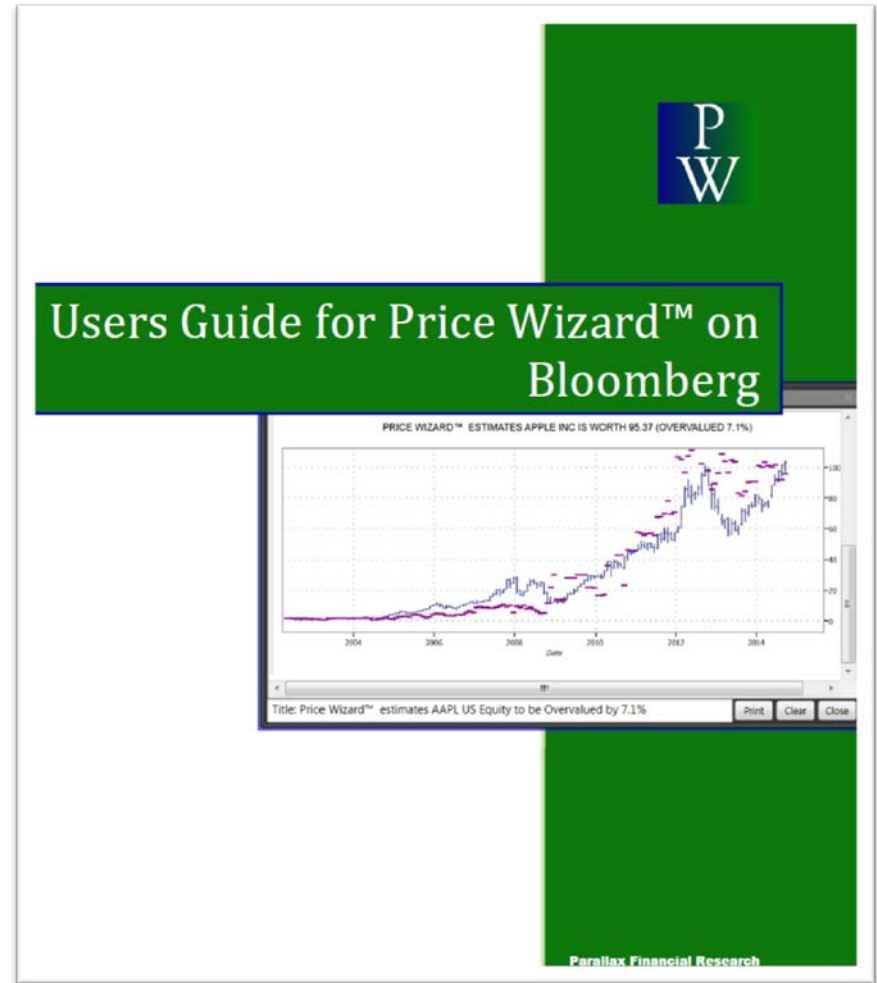
- Sort stocks by valuation concepts and test rolling monthly portfolios
- Select year range
- Select portfolio size
- VAMI results





Users Guide for ExtremeHurst™, Custom Studies & EXCEL Add-In on Bloomberg

Parallax Financial Research, Inc.



Users Guide for Price Wizard™ on Bloomberg

Parallax Financial Research



1. Find the current price and valuation for MSFT
 - a. Price _____
 - b. Value _____
 - c. %Change to reach value: _____
 - d. Valuation growth rate: _____
 - e. Valuation Hurst: _____
 - f. Price Hurst: _____

2. Find the value of the INDU Index

3. Scan the OEX INDEX for daily ExtremeHurst signals and list two:
 - a. Signal Type: _____ Signal Date: _____
 - b. Signal Type: _____ Signal Date: _____

4. Using EXCEL, find the next Precision Turn daily scale cycle for SPX



- Use continuous futures to find signals, such as ES1, US1, etc.
 - See recommended GFUT futures settings in the users guide
 - Do not run tick charts as the computations take too long
- If our EXCEL add-in hangs, read [*How to Fix Common Bloomberg Issues*](#)
- Be careful of using up your Bloomberg data quota by
 - Scanning a user defined list of securities
 - Running large scans at end-of-day, week, month
- For ExtremeHurst on G charts:
 - For faster searches, select History = “Last” for the most recent signal or select History = “Active” for signals in the last 20 bars
 - Check out the optional Trident and TradeBox utilities included
- For SmartChannel on G charts:
 - Turn off log-periodic cycle display for less chart clutter
 - Raise the max number of channels so none are missed



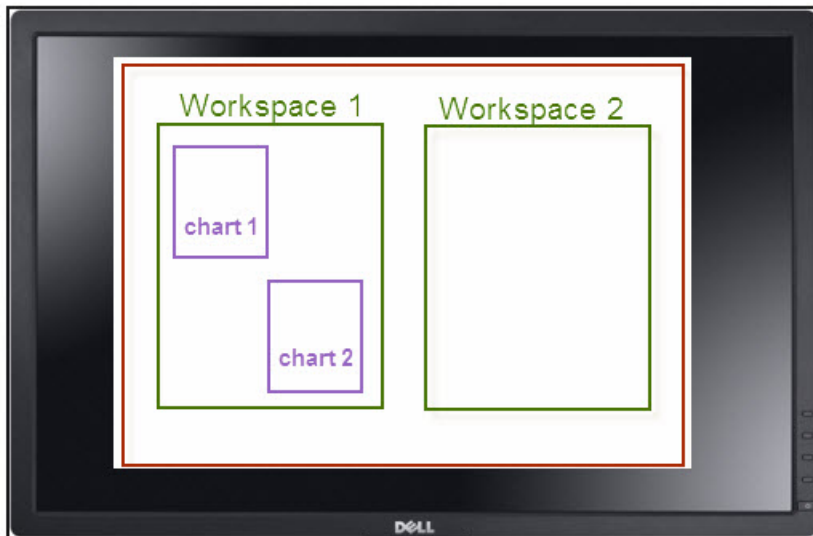
TradeStation Platform



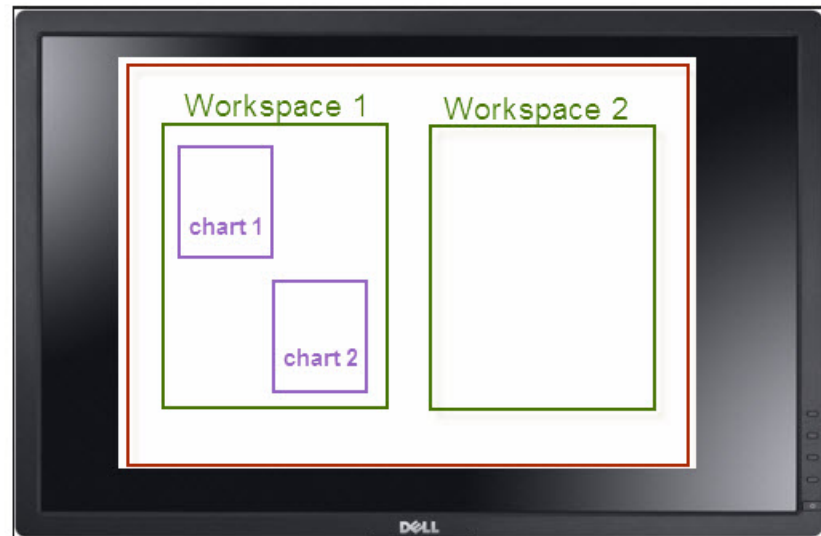
Supported Versions: TS 10.0 update 83

TRADESTATION ORGANIZATION

Desktop 1

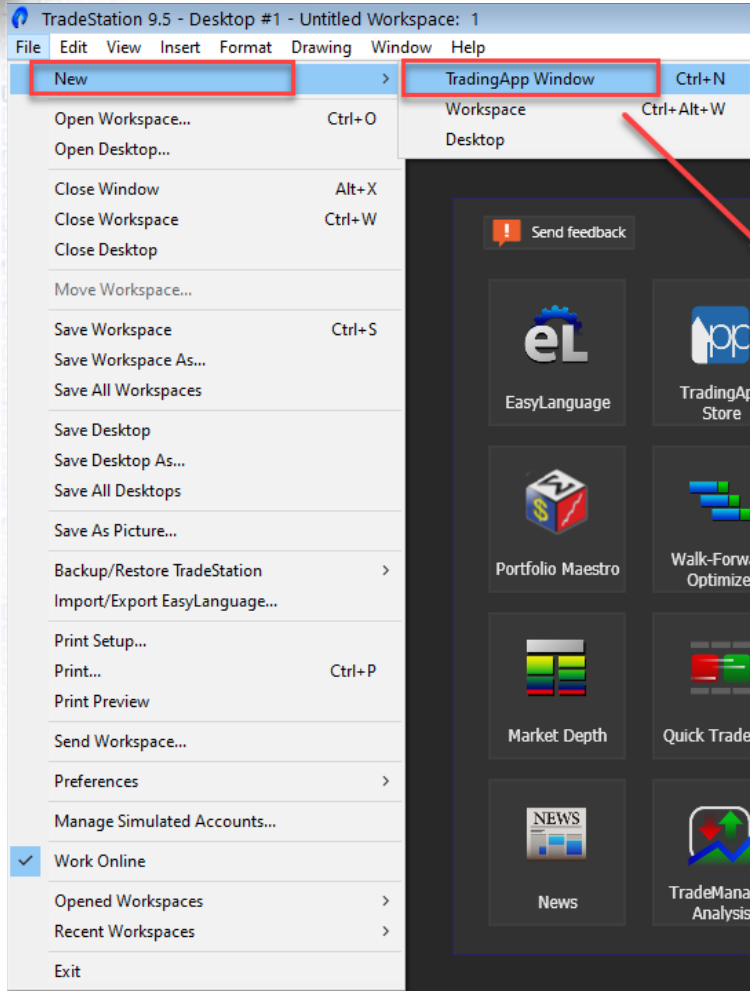


Desktop 2

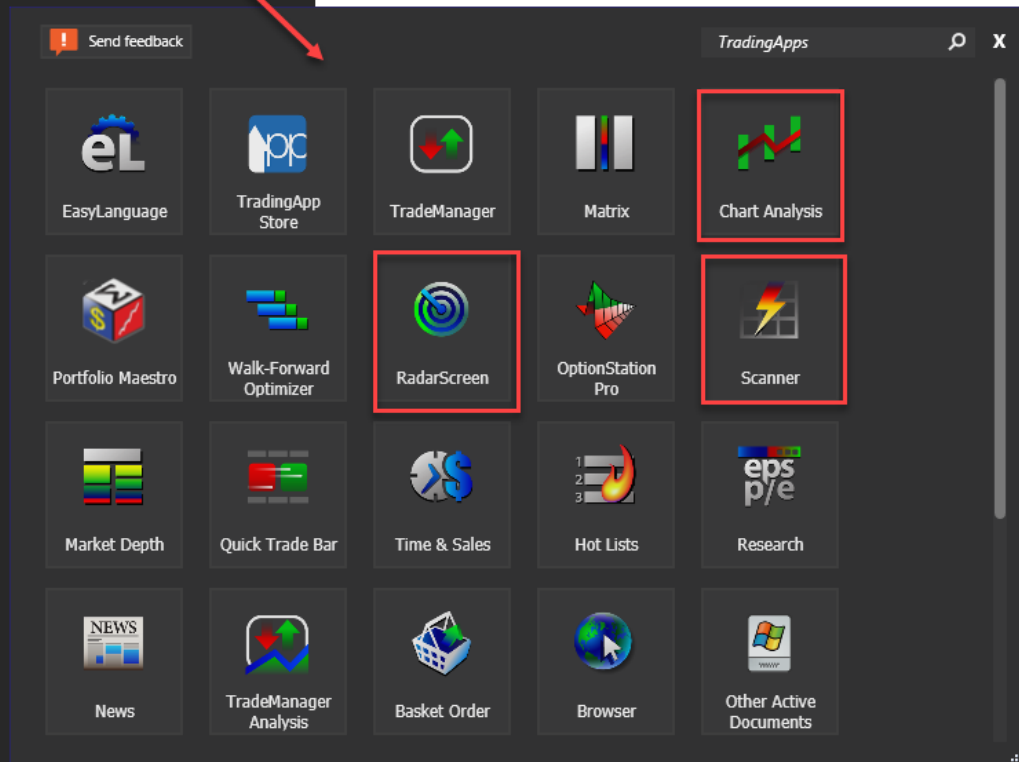




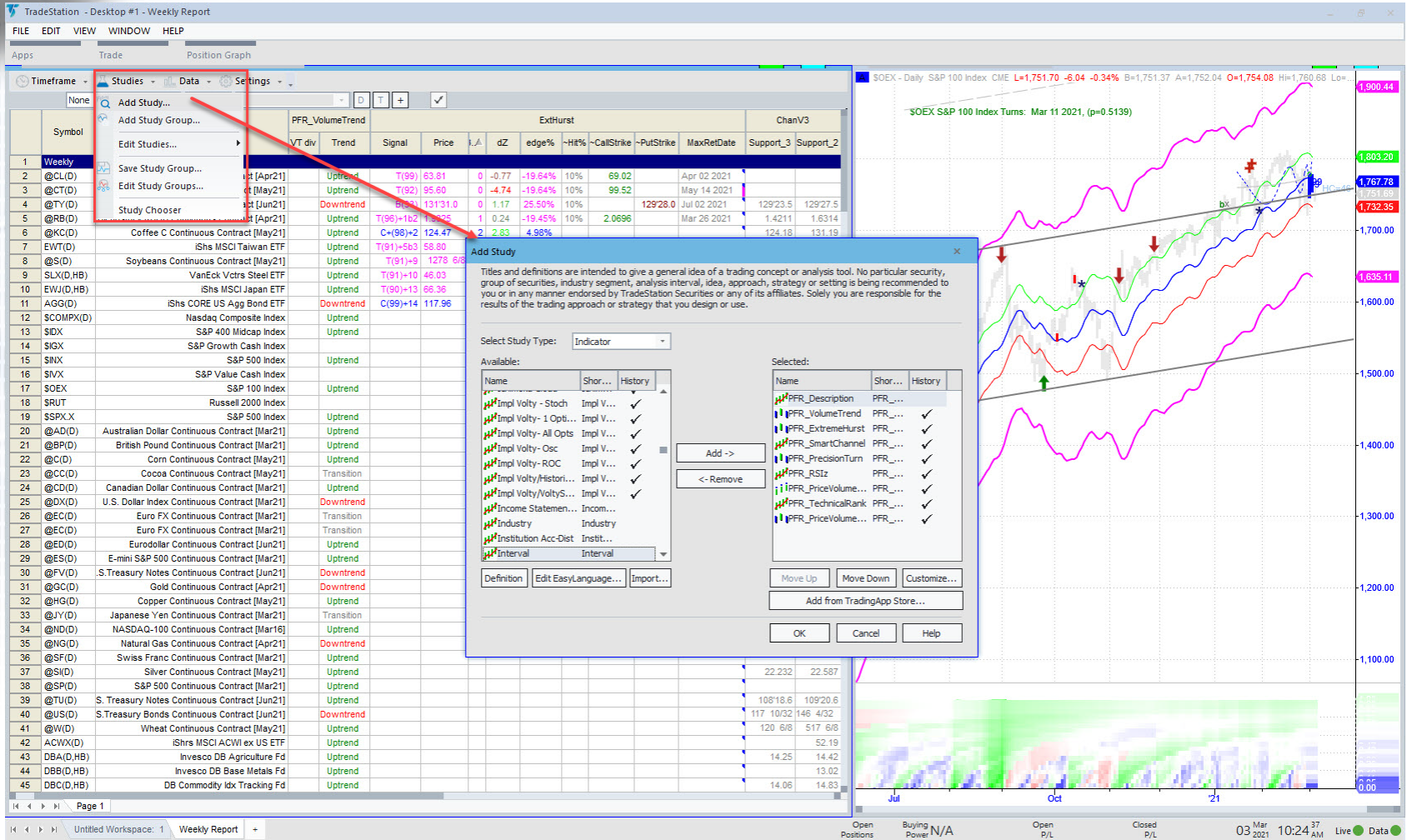
Adding TradeStation Charts and More...



Add TS Applications such as Charts



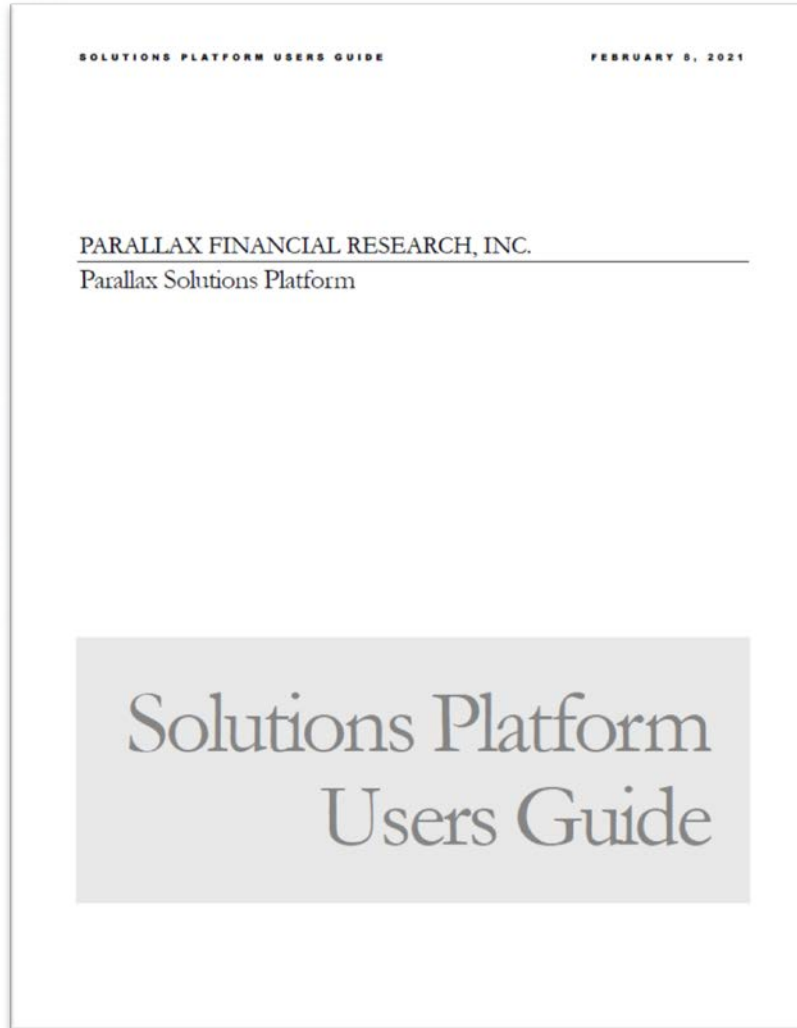
Adding Studies (Indicators, PaintBars, ShowMe, ...)



The screenshot displays the TradeStation interface with the 'Add Study' dialog box open. The dialog box is titled 'Add Study' and contains the following elements:

- Select Study Type:** Indicator
- Available:** A list of study names with checkboxes for selection. Visible items include:
 - Impl Volty - Stoch
 - Impl Volty - 1 Opt...
 - Impl Volty - All Opt...
 - Impl Volty - Osc
 - Impl Volty - ROC
 - Impl Volty/Histori...
 - Impl Volty/VoltyS...
 - Income Statemen...
 - Industry
 - Institution Act-Dist
 - Interval
- Selected:** A list of study names with checkboxes for selection. Visible items include:
 - PFR_Description
 - PFR_VolumeTrend
 - PFR_ExtremeHurst
 - PFR_SmartChannel
 - PFR_PrecisionTurn
 - PFR_RSiz
 - PFR_PriceVolume...
 - PFR_TechnicalRank
 - PFR_PriceVolume...
- Buttons:** Add -, <- Remove, Move Up, Move Down, Customize..., Add from TradingApp Store..., OK, Cancel, Help.

The background chart shows a price movement with several indicators overlaid, including a pink line, a blue line, and a green line. The chart title is '\$OEX - Daily S&P 100 Index CME L=1,751.70 -8.04 -0.34% B=1,751.37 A=1,752.04 O=1,754.08 H=1,760.68 Lo=1,900.44'. The chart also displays 'SOEX S&P 100 Index Turns: Mar 11 2021, (p=0.5139)'. The bottom of the screen shows the 'Open Positions' section with columns for 'Buying Power', 'Open P/L', and 'Closed P/L', and a 'Live Data' indicator.





1. Find the current price and valuation for GOOGL
 - a. Price _____
 - b. Value _____
 - c. %Change to reach value: _____

2. Find the value of the SPY ETF

3. Add the OEX stocks to RadarScreen with the daily ExtremeHurst Indicator. Sort on BarsToGo and list two signals that hit today:
 - a. Signal Type: _____ Signal Date: _____
 - b. Signal Type: _____ Signal Date: _____

4. Using a Chart, find the next Precision Turn daily scale cycle for \$SPX.X



- Read Chapter 1 of the users guide and adjust settings
- Always open big workspaces with TradeStation offline, then go online once loaded
- If TradeStation fails to shutdown normally, use the “Kill TradeStation” batch file to shutdown all child programs (or reboot)
- Charts and RadarScreen apps need lots of back data to run our tools, see the users guide for details
- Our tools must be re-downloaded every year to keep running past Feb 1st. Look for an email from late Dec to late Jan