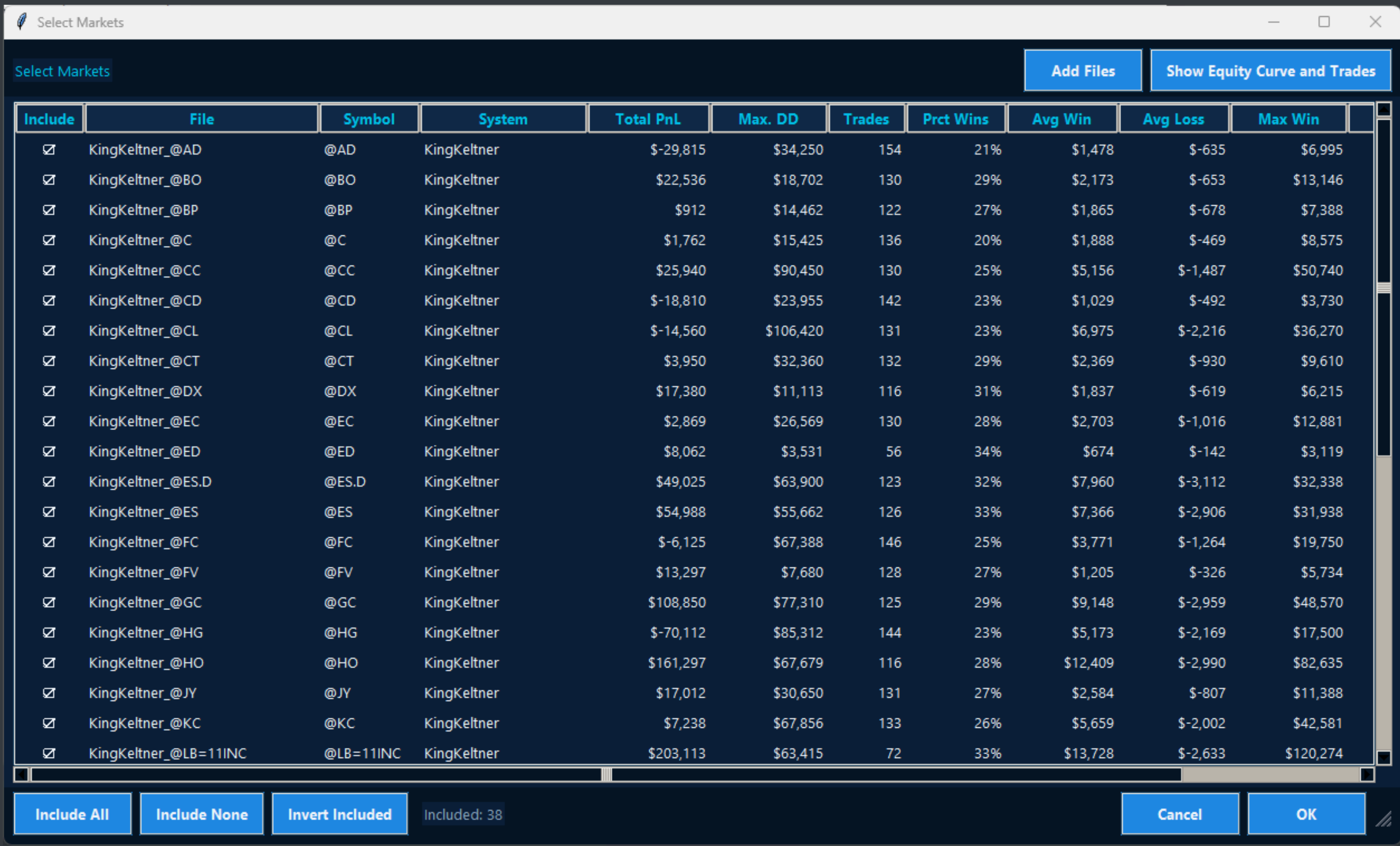

Include	File	Symbol	System	Total PnL	Max. DD	Trades	Prct Wins	Avg Win	Avg Loss	Max Win
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☑	KingKeltner_@EC	@EC	KingKeltner	$2,869	$26,569	130	28%	$2,703	$-1,016	$12,881
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TS-PortfolioMerge Pro User Manual - TOC

Portfolio-Level Strategy Analysis for TradeStation, MultiCharts, XML, and CSV Strategy Exports

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1. Introduction and Supported Inputs

TS-PortfolioMerge Pro is a portfolio-level analysis tool designed to combine multiple TradeStation or MultiCharts strategy exports into a single portfolio view. Instead of evaluating one system or market at a time, TS-PortfolioMerge Pro allows the trader to examine how multiple strategy streams work together as a portfolio. It is similar to Portfolio Maestro but since it is outside the TradeStaton ecosystem it is much easier to use and much faster.

The Pro version expands the original TS-PortfolioMerge workflow by adding a redesigned dashboard, XML and CSV compatibility, market selection tools, individual equity and trade inspection, portfolio-level charts, M-of-N optimization improvements, report preview, PDF export, and improved window management.

Lumber

Most trend following systems have done well and is often included in the TF portfolio. The problem is lumber has undergone a symbol name change from LB to LBR. If you want to include lumber in your portfolio and want to go back numerous years and also test right up to the present, then you need to include the **LumberBridge** function and **LumberBridge** "Include" **Strategy**.

```
IncludeSystem: "LumberBridgeStrategy";
if LumberBridge Then
begin

    if h = highest(h,5) then buy next bar at market;
    if l = lowest(l,5) then sellshort next bar at market;
end;
```

The system and function combination will check the dates of both files and exit LB=11INC on a predetermined date 4/13/2203. The focus of the strategy will then switch to the LBR=11INC chart and commence trading on 4/13/2023. This date was chosen based on Volume and OTE. If testing lumber, then make sure you include the "LumberBridgeStrategy" and use at the LumberBridge function to determine if a trade is allowed. All other markets will flow through the logic because LumberBridge will constantly return True if any other market is being testted.

What TS-PortfolioMerge Pro Does

TS-PortfolioMerge Pro helps answer questions such as:

- What happens when I combine several systems or markets into one portfolio?
- Which markets contribute most to the portfolio?
- How large is the combined portfolio drawdown?
- Do certain systems duplicate each other?
- Which M-of-N combination produces the best return-to-drawdown relationship?
- What does the portfolio look like in a full performance report?

Supported File Types

TS-PortfolioMerge Pro currently supports:

- TradeStation / MultiCharts XML strategy export files
- Compatible CSV strategy export files
    - created by George's special **TS-PortfolioMergeOutPut_v4** strategy
        - note a slight upgraded version v4

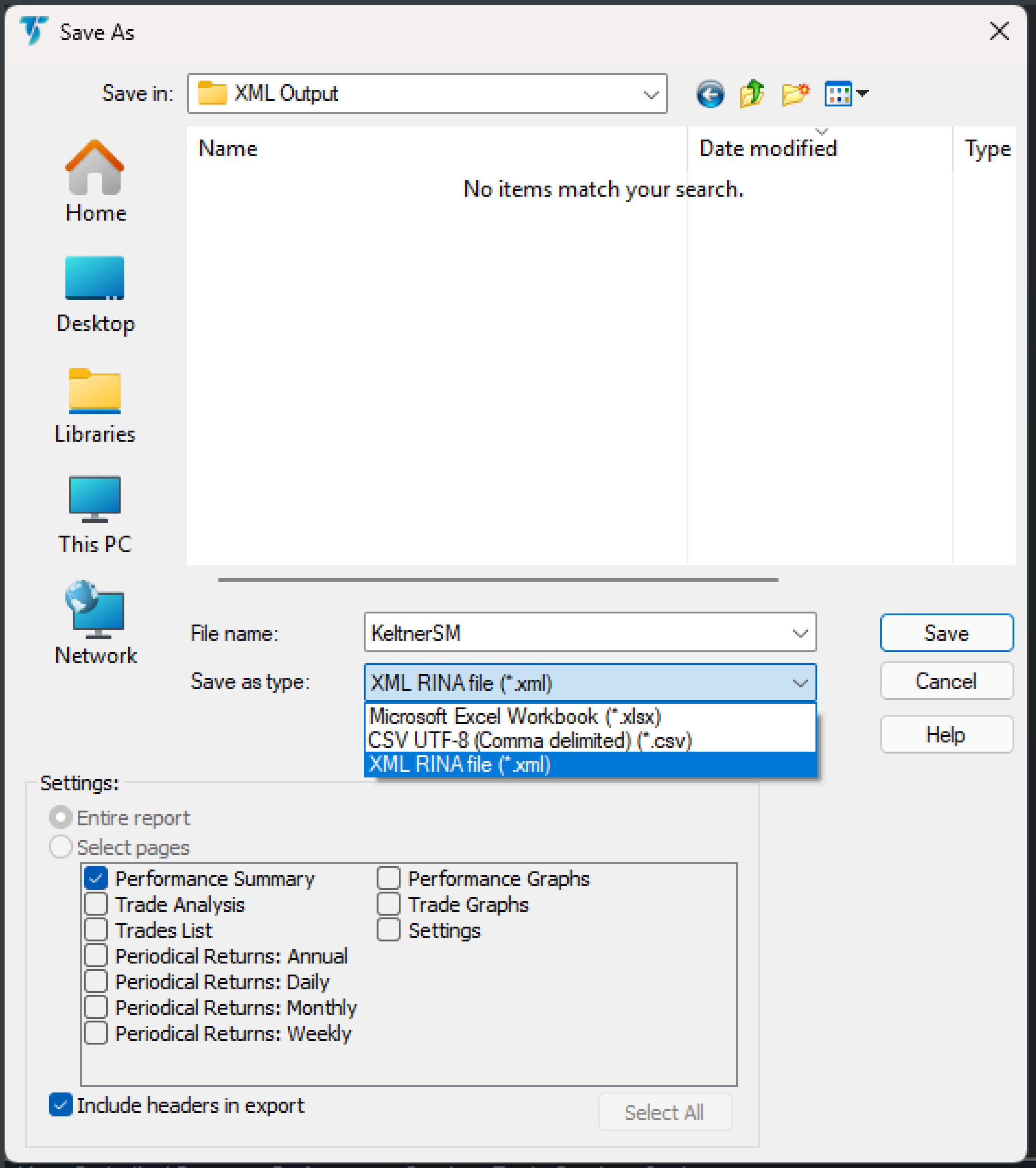
- batch multiple report creation with **TS-ChartCycler*** strategy

The source XML and CSV files are read by the application. They are not modified.

XML Format

*Note: Only **TradeStation** can take advantage of George's **TS-ChartCycler** batching strategy. Here you can spawn multiple symbols by using his tools and create a separate .cvs file that can be later imported into TS-PortfolioMerge.

When a TradeStation Performance Report is exported as an XML file, it contains both the chart data and all trades from the report. These files can become quite large, especially when the strategy is based on minute bars. Because the XML includes both data and strategy information, this manual refers to the file as a System-Market. Although these System-Market files may be large, they can be quickly separated into their data and strategy components. Once separated, the components can be normalized and combined efficiently. This process serves as a practical alternative to building a Portfolio Maestro portfolio, which is often time-consuming and prone to errors.



Performance Report XML File Naming Convention

When exporting XML files, it is best to use a clear and consistent naming convention. Follow these steps:

Choose a file name

- Use a shortened version of the strategy name along with the chart symbol.
- Example: `KelterSM` for the Keltner strategy on the soymeal.

Save the first file

- Select **File → Save As** in the Performance Report.
- Enter the strategy-symbol name and choose **XML Rina file (*.xml)** as the file type.

Save additional files for other markets

- Highlight the previously saved file name.
- The File name field will auto-populate.
- Replace only the symbol with the new market's symbol.

Repeat as needed

- Continue saving System-Market files for each strategy/market combination.
- Use the same naming convention for consistency.

Note

- This tool allows strategies tested on minute bars to be combined with strategies tested on daily bars.
- TradeStation does not enforce naming standards—it is up to you to maintain your own file naming system.

Organizing XML Files into Project Folders

It is recommended to create a dedicated folder for each project to keep XML files organized. For example, if the project involves only the Andromeda-Like strategy, create a folder specifically for its output.

- Store all related XML files in that folder using the System-Market naming convention.
- If you later decide to combine another strategy with Andromeda-Like, continue saving the additional XML files in the same project folder.

This approach keeps related files together and makes it easier to manage and combine System-Market files.

CVS-Format

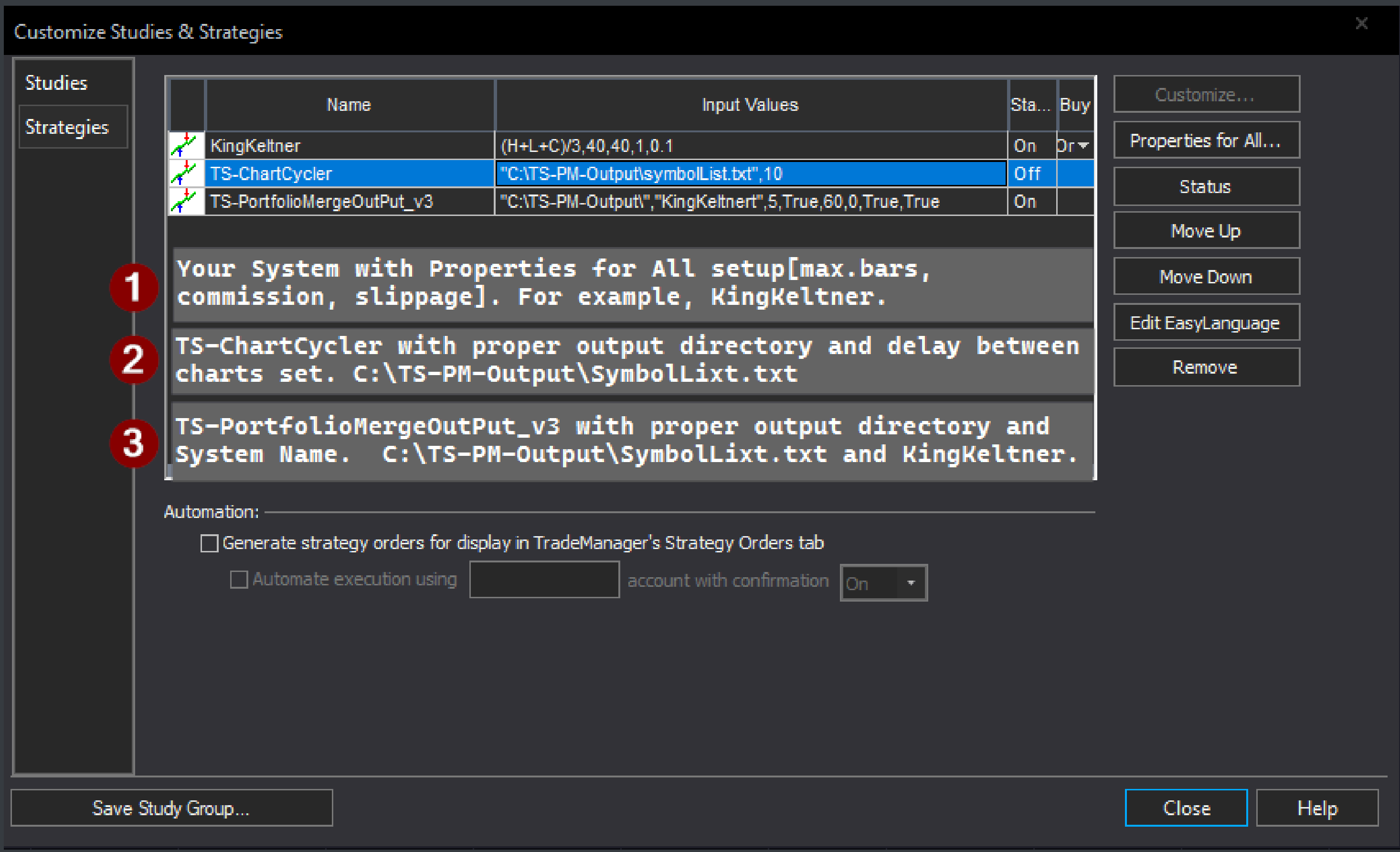
Exporting with Batch Control

If you do not want to export in xml format and there a couple of reasons you may not want to do this then you can utilize CSV format files. The CSV files must follow the format expected by TS-PortfolioMerge Pro. Saving the performance report as XML is the most accurate method of getting the trades from TradeStation to TS-PortfolioMerge, but it can be very tedious. I have created companion strategies that you can add to the strategy that you want to analyze. However, it does require some forethought. When you downloaded the TS-PortfolioMerge you will receive two ELD files. One of the file contains the **TS-PortfolioMergeOutPut_v4** and **TS-ChartCycler** strategy. You will need to import this ELD to gain access to the strategies. This pro version contains the **TS-ChartCycler** strategy.

Utilize the provided **TS-PortfolioMergeOutPut_v4** strategy to output the trades and data information in the TS-PortfolioMerge Pro compatible format. Exporting the results via CSV produces similar results as the XML, but there could be slight differences. With CSV format, you can take advantage of the **TS-ChartCycler**

TS-ChartCycler - included with Pro

This strategy allows a single chart with your strateg y applied and the **TS-PortfolioMergeOutput_v3** applied as well to cycle through a custom list of symbols (symbolList.txt) and produce individual reports for each symbol. **Note**: The image below shows TS-PortfolioMergeOutPut_v3 and it should be **TS-PortfolioMergeOutPut_v4**



Make sure you have created a folder in the directory that you specify in the inputs section of the strategy. Below I have created a folder on my C drive named **TS-PM-Output or C:\TS-PM-Output**

TS-PM Batch Symbol Cycler Overview

The **TS-ChartCycler** is a TradeStation EasyLanguage / OOEL utility designed to automate the process of changing chart symbols in a batch sequence. It reads a list of symbols from an external text file and automatically advances the chart symbol by symbol, waiting for a user-defined interval between changes. This is a real game changer.

Key Workflow

- **External Control**: The processing sequence is defined by a simple text file (`C:\TS-PM-Output\symbolList.txt`), which allows you to modify the batch list without recompiling code. Make sure these are exact TradeStation symbols. Some markets force you to create custom symbols for continuous data such as lumber and palladium. Notice I have two symbols for lumber (old and new with the new being @LBR=11INC).
  - ```
    @GC
    @CC
    @SF
    ```
    ```

```
@ES.D
@ES
@W
@SM
@RR
@RB
@OJ
@NG
@LH
@LC
@KC
@ED
@FC
@FV
@HG
@US
@TU
@PA=11INC
@DX
@SI
@TY
@BO
@BP
@AD
@S
@EC
@SB
@JY
@LB=11INC
@LBR=11INC
@C
```

- **Automation**: The tool reads the file, waits for the duration specified in `iIntervalSeconds`, and triggers `ChartingHost.ChangeSymbol()` to move to the next item in the list. This is a snapshot of the complete file. The one shipped with the demo module ends with @C or corn. Looping through the entire loop requires the current chart to be @GC. It will look from gold to corn. If you have a different symbol it will loop from the symbol through corn and stop looping.
- **Controlled Termination**: The utility stops automatically once the final symbol in the list is

reached; it does not loop back to the beginning or require external state files.

Operating Requirements

- **Starting Position**: To ensure a full batch run, you must manually set the chart to the first symbol listed in your `symbols.txt` file before applying the tool.
- **Timing**: The `iIntervalSeconds` input should be tuned based on your system's performance. A 10-second delay is standard for daily bars, but you should increase this if your strategy or exporter requires more time to process data for each symbol. If you are loading 15 years of 1 or 5 minute bars then you need to use 30 seconds or more.
- **Matching**: The tool verifies that the current chart symbol exists within the provided text file; ensure the symbol names in your file exactly match those used in your TradeStation charts.

Troubleshooting Tips

- **Stop Errors**: If the tool stops immediately, verify that your chart is currently loaded on the first symbol of the list.
- **"Symbol Not Found"**: If you receive a warning that the symbol was not found, confirm there are no hidden spaces or formatting issues in the text file and that the symbol names match perfectly.
- **Processing Speed**: If the tool moves to the next symbol before your exporter has finished saving data, increase the `iIntervalSeconds` input value.

TS-PortfolioMergeOutput_v4

This strategy has been improved for accuracy for multiple single bar entries. It is simply a refinement designed to match the XML format more closely. Remember it needs to be installed in the one chart.

2. Installation and Output Folder Locations

This chapter explains where TS-PortfolioMerge Pro is installed, where supporting files are stored, and where generated files are written.

Installation Folder

After you purchase TS-PortfolioMerge_Pro you will receive a zip file that will contain the following:

Example:

```
C:\TS-PortfolioMerge
```

XML and CSV Data Folder

Save all of your XML and CSV files to this specific folder. It will make things much easier in your workflow.

The preferred location is:

```
C:\TS-PM-Output
```

Output Folder

TS-PortfolioMerge Pro writes certain generated files to the PortfolioMerge-TradeFiles folder.

The preferred location is:

```
C:\Users\Public\Documents\PortfolioMerge-TradeFiles
```

If that location is not available, the program may fall back to the user's Documents folder, AppData, or the current working folder.

FXRates Folder

For Forex conversion, the application uses an FXRates subfolder:

```
C:\Users\Public\Documents\PortfolioMerge-TradeFiles\FXRates
```

The program may create this folder if it does not already exist.

Files Created by the Application

During normal processing, TS-PortfolioMerge Pro may create:

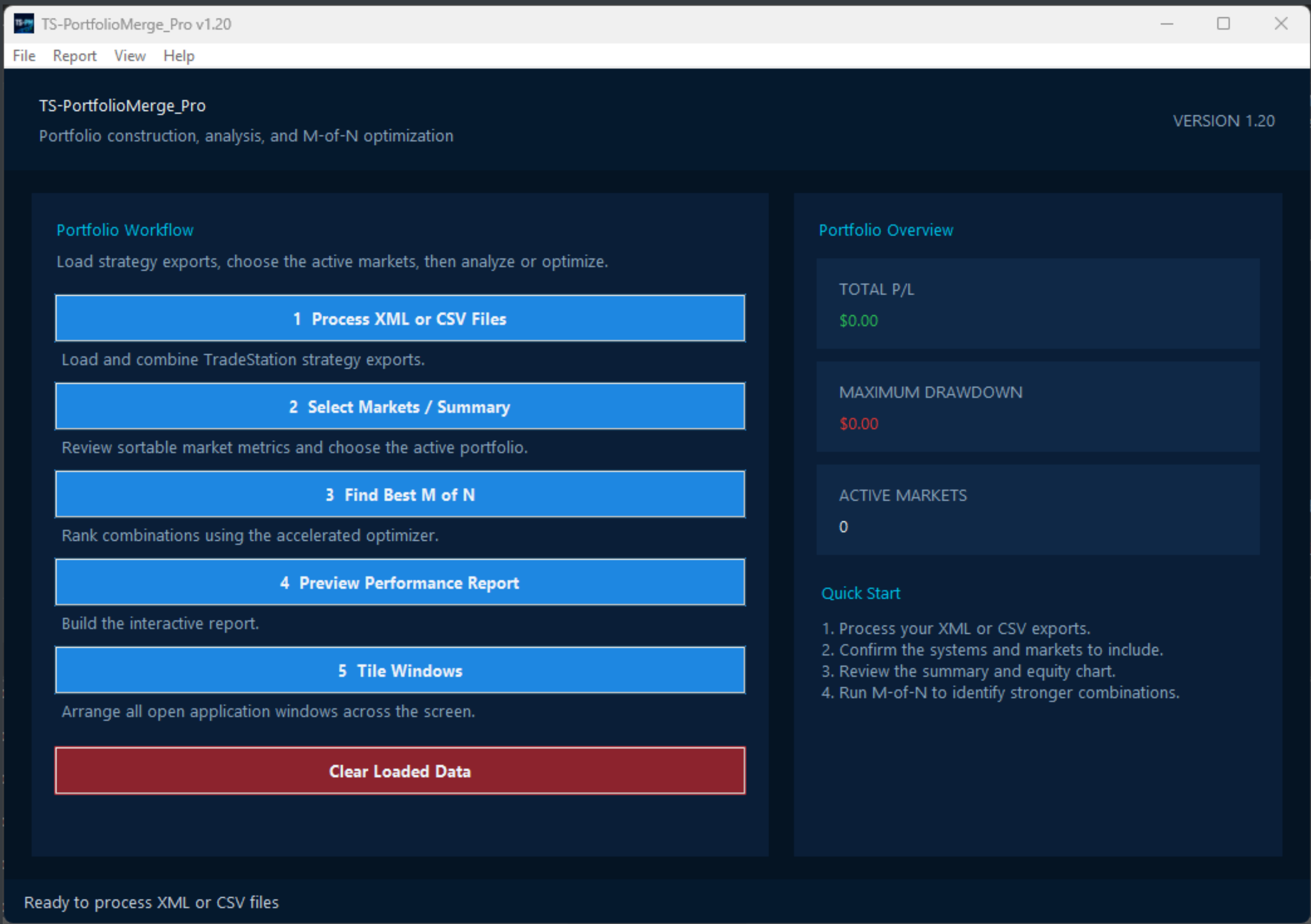
```
<source-filename>_trades.csv
```

These files contain captured trade information for each processed source file.

The application does not modify the original XML or CSV source files.

---

3. Pro Dashboard Quick Start



The Pro dashboard is organized around the primary workflow. The user begins by processing strategy export files, then selects markets, reviews the portfolio, optionally runs the optimizer, and previews the final performance report.

Dashboard Areas

The main dashboard contains:

- Portfolio Workflow buttons
- Portfolio Overview cards
- Quick Start guide
- Version information
- Status bar

Quick Start

1. Launch TS-PortfolioMerge Pro.
2. Click **1 Process XML or CSV Files**.
3. Select one or more XML or CSV strategy export files.
4. Review the loaded systems in the **Select Markets** dialog.
5. Check the markets or systems to include in the active portfolio.
6. Click **OK** to activate the selected portfolio.
7. Review the combined equity and drawdown window.
8. Use **Find Best M of N** if you want to rank portfolio combinations.
9. Use **Preview Performance Report** to inspect the full report.
10. Save the report as a PDF if desired.

Portfolio Overview Cards

The Portfolio Overview area displays:

- **Total P/L**
- **Maximum Drawdown**
- **Active Markets**

These values update after files are processed or when the active portfolio changes.

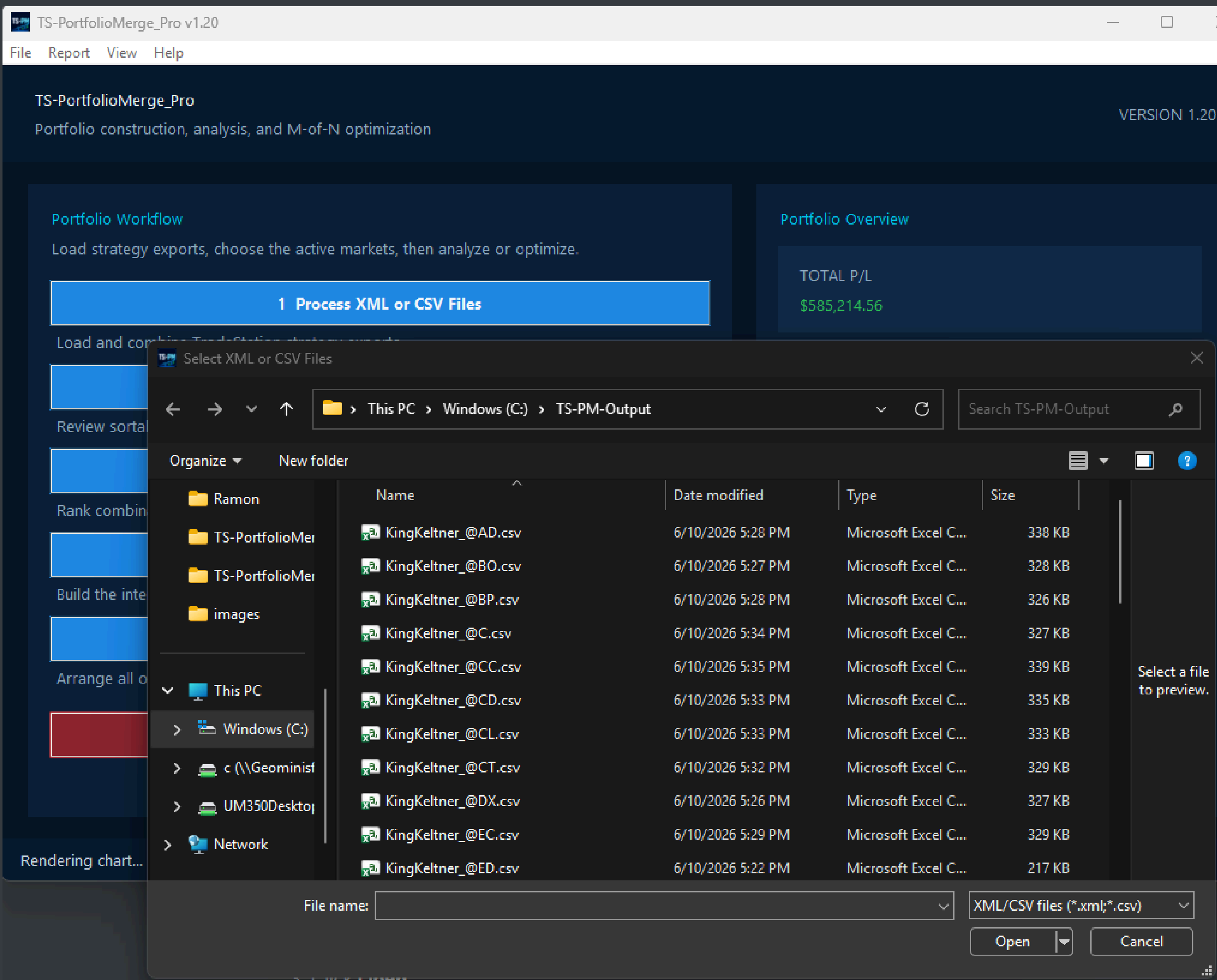
Status Bar

The status bar displays processing messages, optimization progress, report generation progress, and general application status.

---

4. Processing XML and CSV Files

The **Process XML or CSV Files** button is the starting point for most sessions. Make sure you have a folder on your C: drive - C:\TS-PM-Output. This folder may have already been created.



Starting the File Processing Workflow

To process files:

1. Click **1 Process XML or CSV Files**.
2. Select one or more XML or CSV files.
3. Click **Open**.
4. Wait for the status bar to show processing progress.
5. Respond to any duplicate-data warning if one appears.
6. Select the markets to include in the active portfolio.
7. Click **OK**.

What Happens During Processing

During processing, TS-PortfolioMerge Pro:

- Reads the selected XML or CSV files.
- Extracts daily equity data.
- Captures trade information.
- Builds per-market statistics.
- Builds combined portfolio equity.
- Prepares data for the optimizer.
- Prepares data for the performance report.
- Opens the combined Equity & Drawdown window.

XML Files

XML files are typically exported from TradeStation or MultiCharts strategy reports.

When a TradeStation Performance Report is exported as an XML file, it contains both the chart data and all trades from the report. These files can become quite large, especially when the strategy is based on minute bars. Because the XML includes both data and strategy information, this manual refers to the file as a System-Market. Although these System-Market files may be large, they can be quickly separated into their data and strategy components. Once separated, the components can be normalized and combined efficiently. This process serves as a practical alternative to building a Portfolio Maestro portfolio, which is often time-consuming and prone to errors.

Trade CSV Output

When files are processed through the main processing workflow, TS-PortfolioMerge Pro may create one trade CSV file per source file. These files will be located in the users public documents folder.

Example:

```
C:\Users\Public\Documents\PortfolioMerge-TradeFiles\KingKeltner_@TU.csv_trades.csv
```

These files are written to the PortfolioMerge-TradeFiles output folder.

---

5. Duplicate Data Detection

TS-PortfolioMerge Pro checks for identical strategy data streams. This helps prevent accidentally loading the same strategy, market, or equity stream more than once under different names.

What the Warning Means

If two files contain identical daily P/L streams, the application displays a **Duplicates Found** dialog.

This does not necessarily mean the files have the same filename. It means the underlying data stream appears to be identical.

User Choices

When the duplicate warning appears:

- Click **OK** to continue without changing the loaded files.

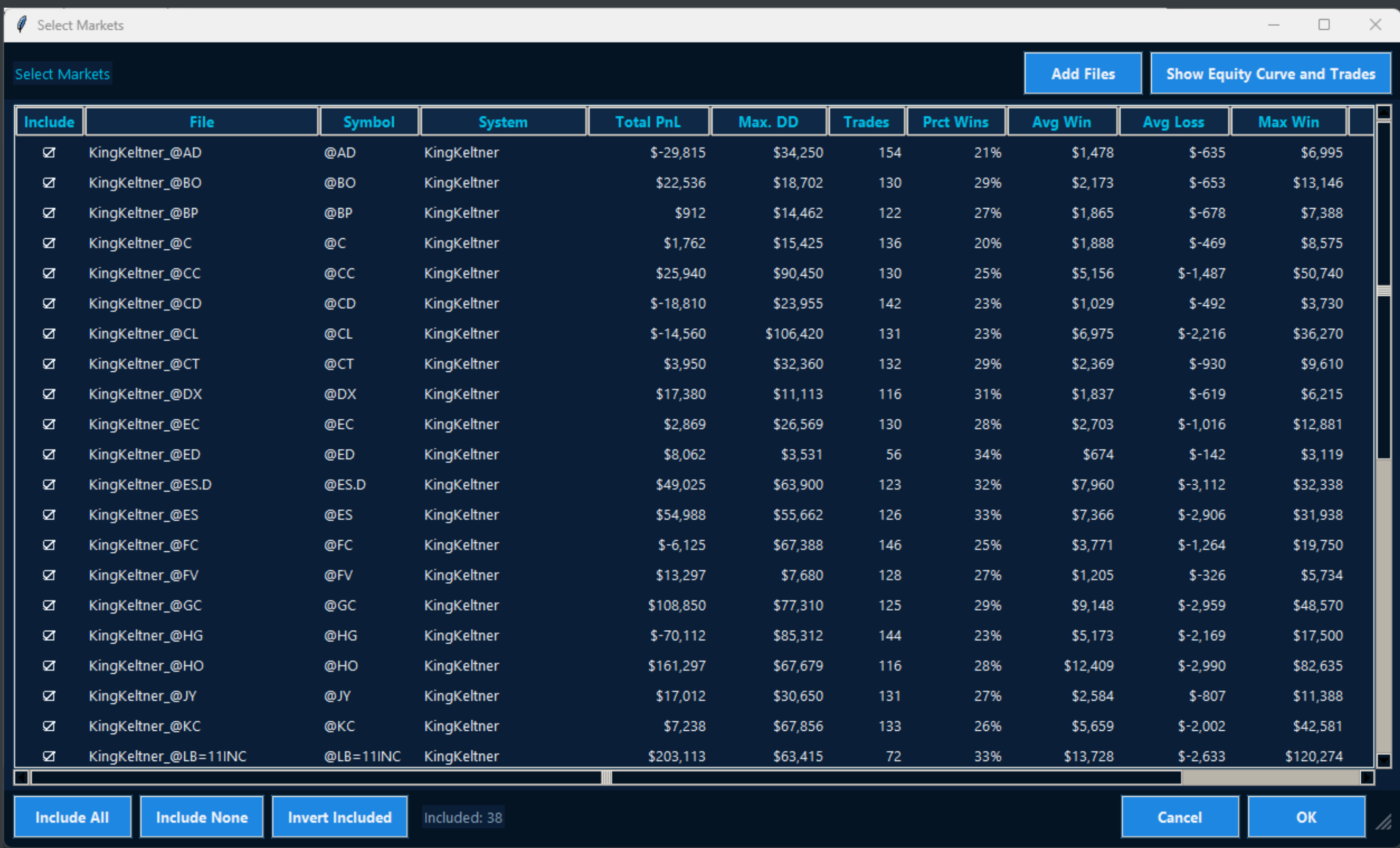
- Click **Cancel** to stop processing so you can review and correct the selected files.

Why This Matters

Duplicate systems can distort portfolio results. A duplicated stream may make the portfolio appear more diversified than it really is while simply doubling the influence of the same strategy behavior.

---

6. Selecting Markets and Reading the Summary Grid



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☑	KingKeltner_@LB=11INC	@LB=11INC	KingKeltner	$203,113	$63,415	72	33%	$13,728	$-2,633	$120,274

The **Select Markets / Summary** window controls which loaded markets or systems are included in the active portfolio.

Opening the Select Markets Window

You can open this window by clicking:

```
2 Select Markets / Summary
```

The window also appears automatically after processing files.

Summary Grid Columns

The grid includes:

- Include
- File
- Symbol
- System
- Total PnL
- Max. DD
- Trades
- Prct Wins
- Avg Win
- Avg Loss
- Max Win
- Max Loss
- Start

Including and Excluding Markets

Use the checkbox in the **Include** column to control whether a market is part of the active portfolio.

After selecting the desired markets, click **OK** to activate the portfolio.

Sorting the Grid

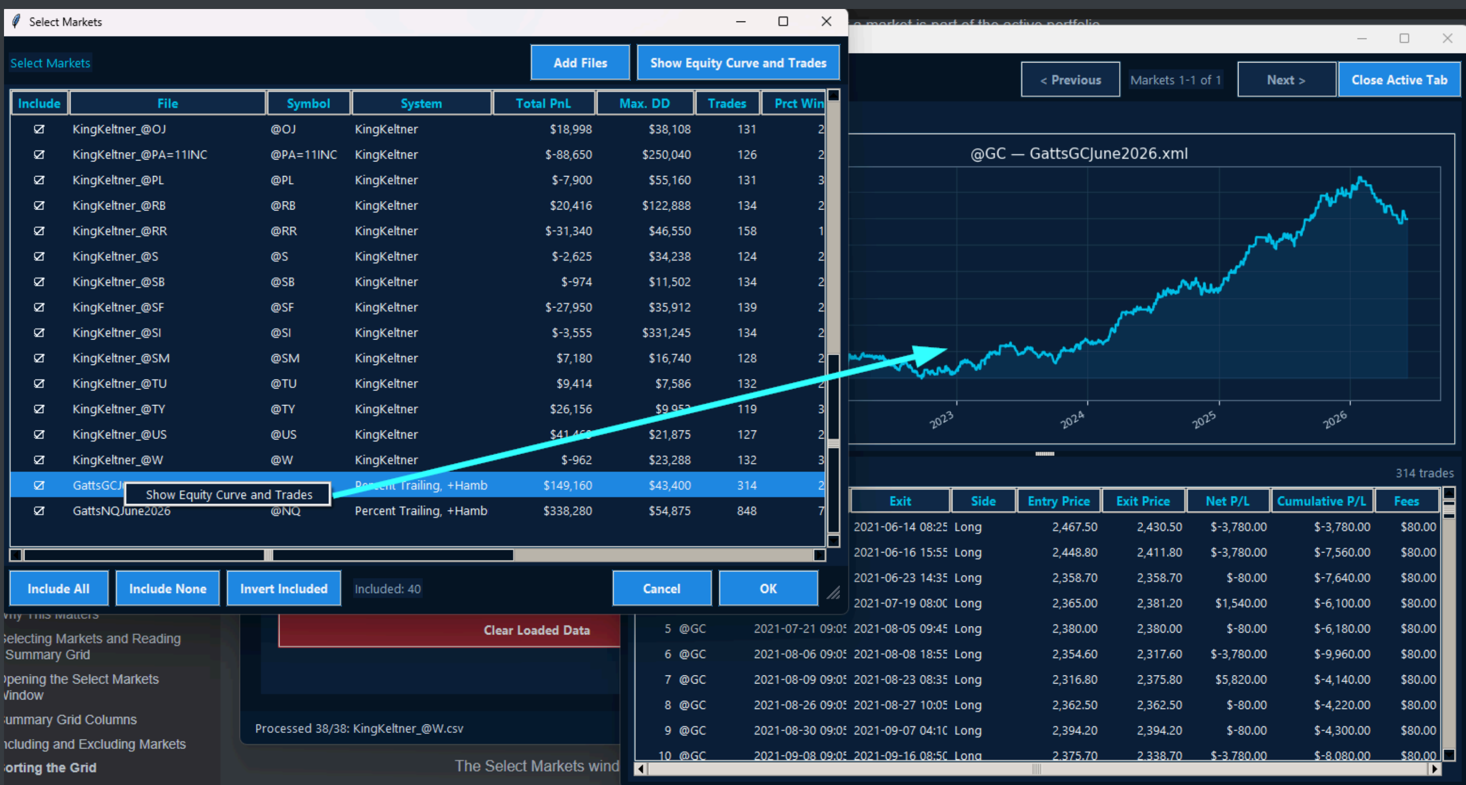
Click a column heading to sort by that column.

For example, you can sort by:

- Total PnL
- Max. DD
- Trades
- Prct Wins
- Avg Win
- Avg Loss
- Max Win
- Max Loss
- Start

Sorting is useful for identifying high-profit markets, large drawdown contributors, low-trade systems, or unusual data streams.

Previewing Equity Curve Prior to Selection



Here you can see if a market should be included in the batch merge. Remember even markets that are small losers my fit synergistically with the complete portfolio selection.

Bulk Selection Buttons

The Select Markets window includes:

- **Include All**
- **Include None**
- **Invert Included**

These buttons make it easier to quickly change the active portfolio selection.

Activating the Portfolio

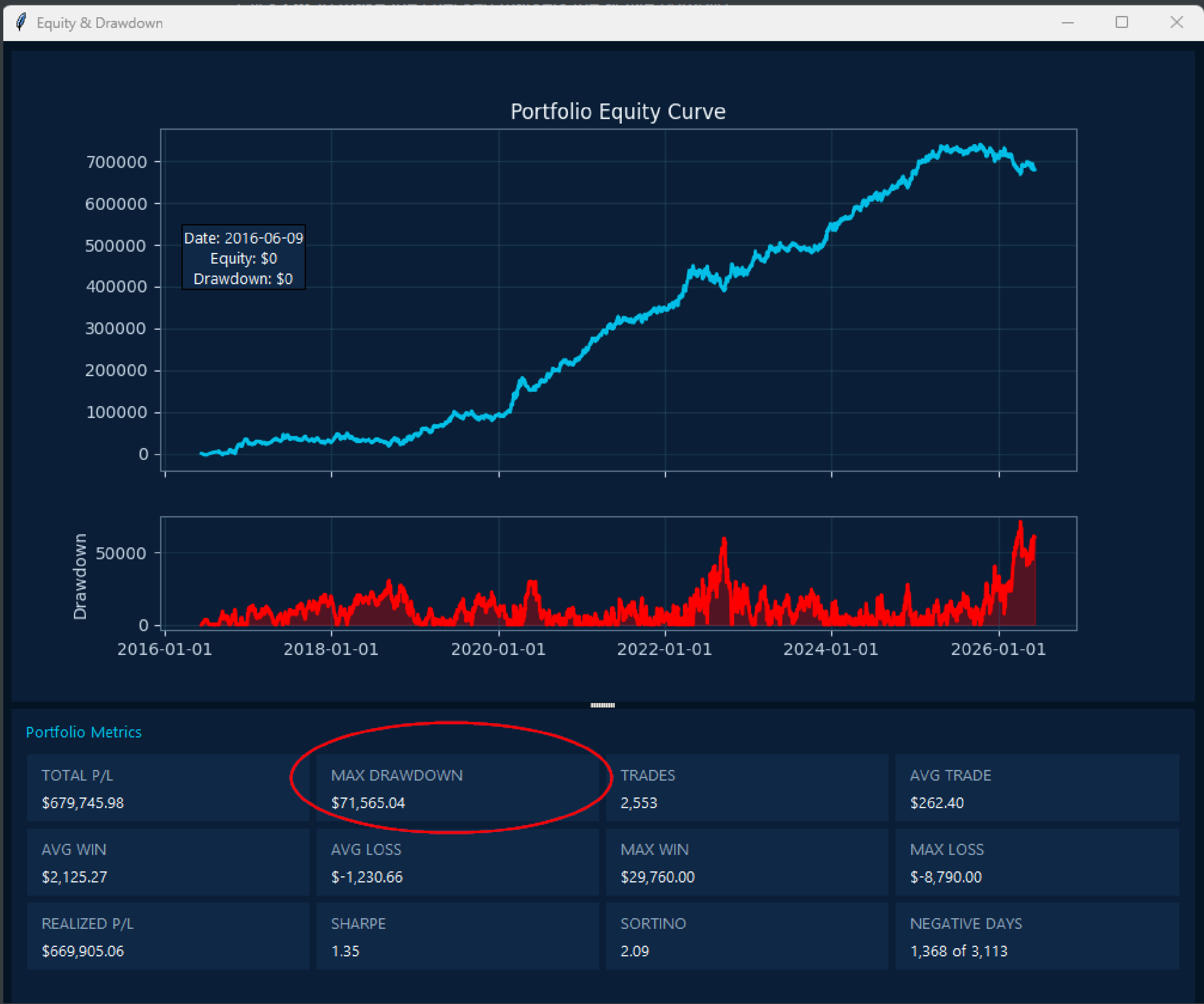
Click **OK** to make the checked markets the active portfolio.

When the active portfolio changes, TS-PortfolioMerge Pro recalculates:

- Combined portfolio equity
- Drawdown
- Portfolio metrics
- Active market count
- Report inputs
- Optimizer subset

---

7. Portfolio Equity, Drawdown, and Metric Cards



After files are processed or a market selection is confirmed, TS-PortfolioMerge Pro displays the active portfolio's Equity & Drawdown window.

Portfolio Equity Curve

The equity curve shows the combined equity of all active markets.

Drawdown Graph

The drawdown graph shows the decline from the most recent portfolio equity peak.

Hover Inspection

Move the pointer over the chart to inspect values by date.

The hover display may show:

- Date
- Equity
- Drawdown

Portfolio Metric Cards

The Equity & Drawdown window includes portfolio-level metric cards such as:

- Total P/L
- Max Drawdown
- Trades
- Avg Trade
- Avg Win
- Avg Loss
- Max Win
- Max Loss
- Realized P/L
- Sharpe
- Sortino
- Negative Days

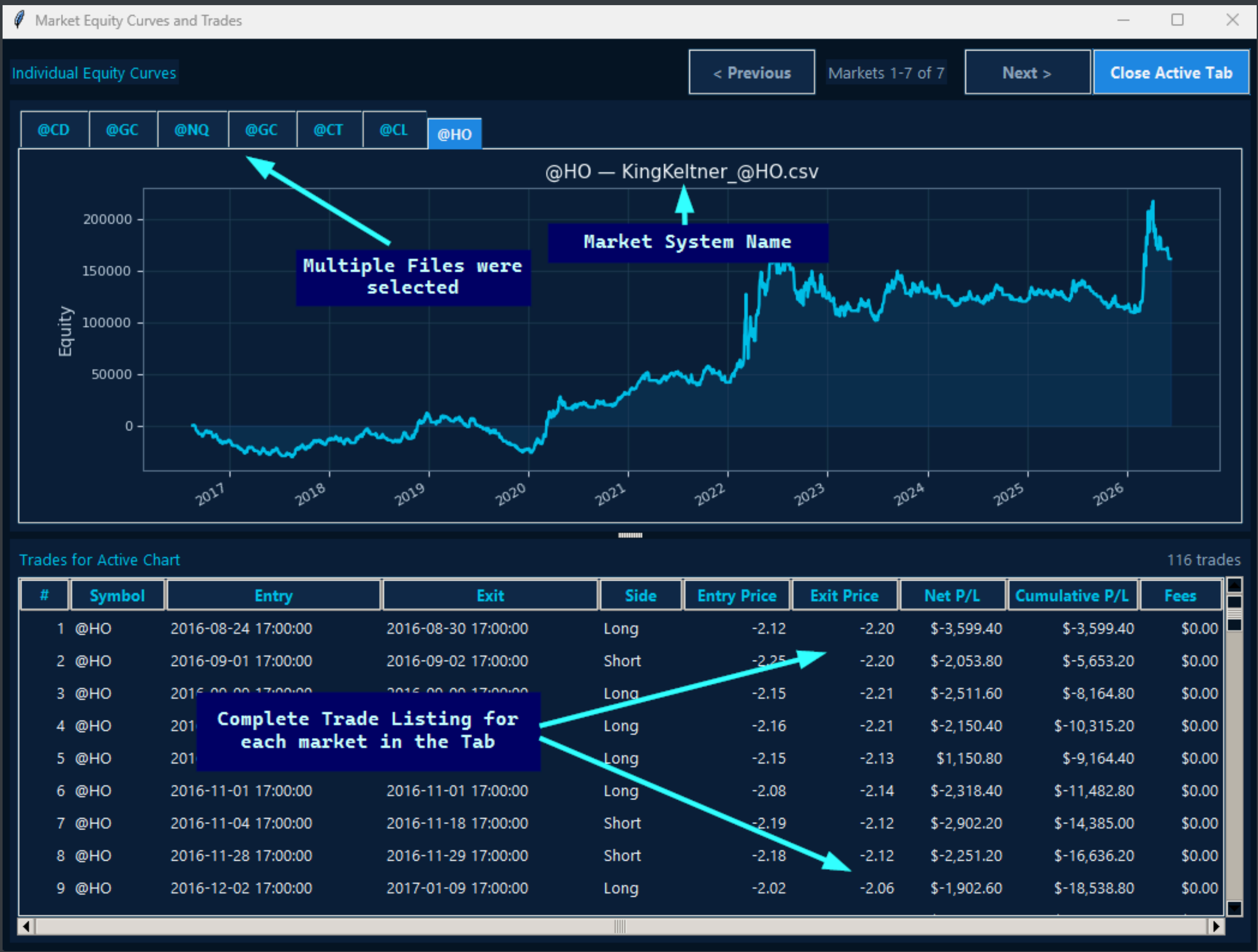
Interpretation Notes

A portfolio with the highest Total P/L is not always the best portfolio. Drawdown, trade count, return consistency, and concentration of profits should also be considered.

The purpose of this window is to give a fast visual and numerical summary of the currently active portfolio.

---

8. Individual Market Equity and Trade Viewer



The individual market viewer allows you to inspect one or more markets separately.

Opening the Viewer

From the Select Markets window:

1. Highlight one or more rows.
2. Click **Show Equity Curve and Trades**.

You may also open the viewer by double-clicking a selected market, depending on the application behavior.

What the Viewer Shows

The viewer displays:

- Individual equity curves
- Paged market tabs
- Trade table
- Entry time
- Exit time
- Side
- Entry price
- Exit price
- Net P/L
- Cumulative P/L
- Fees
- Trade count

Navigating Market Tabs

Use:

- **Next >**
- **< Previous**
- Individual tabs

to move through loaded market charts.

Closing Tabs

Use **Close Active Tab** or the tab context menu to close an individual market chart.

Why This Viewer Is Useful

The combined portfolio can hide important details. The individual viewer lets you inspect whether a market has smooth contribution, erratic performance, isolated large wins, or unusual trade behavior.

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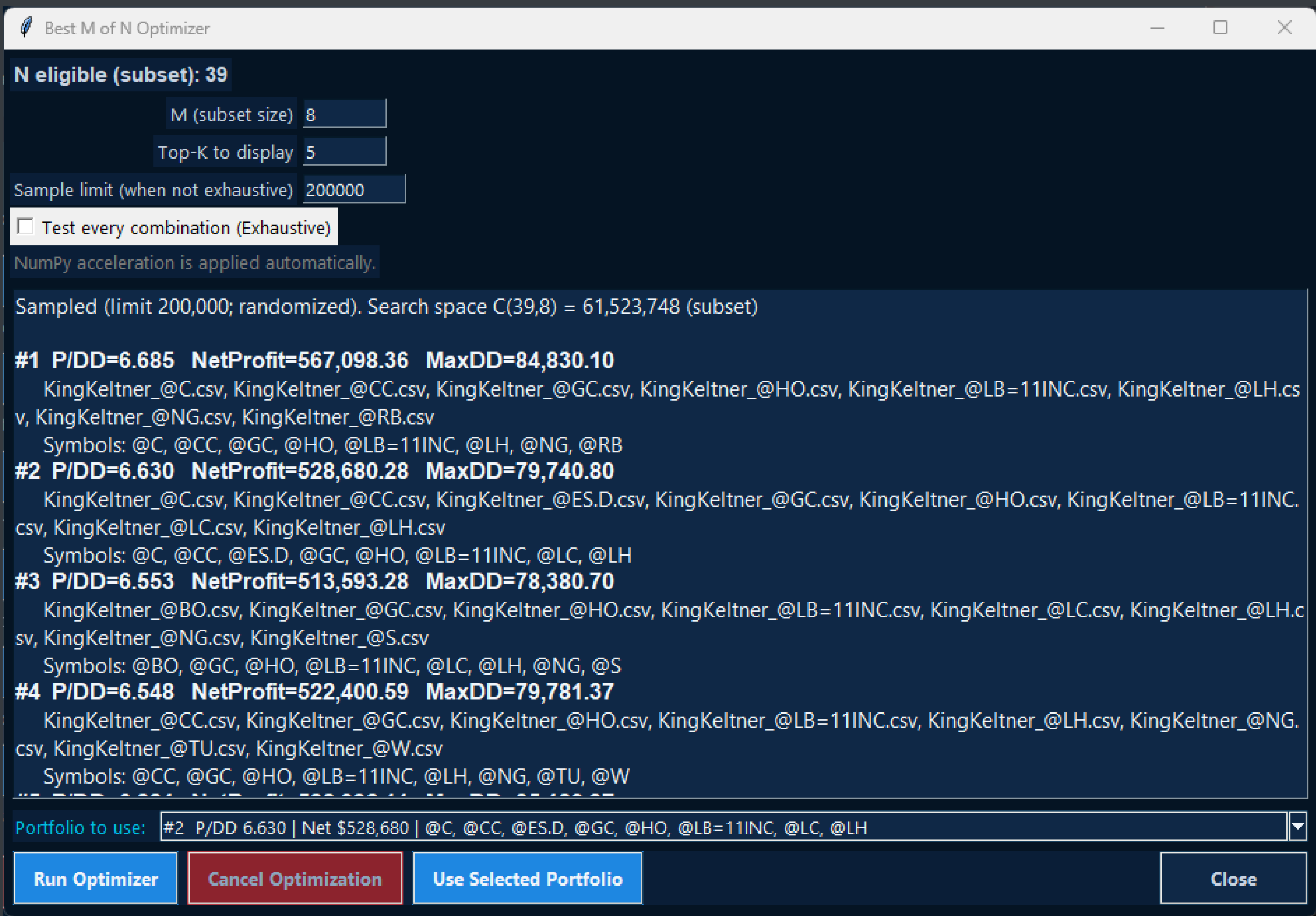
9. M-of-N Optimization



The M-of-N optimizer ranks combinations of markets or systems from the currently eligible set. If you have many different markets then always Use Speed Mode (numpy.) In this example if **Test every combination Exhaustive Mode** is selected the number of combinations grow quickly and then declines. Here is an example if we have 39 markets:

Choose 1 out of 39 = 39
Choose 2 out of 39 = 741
Choose 3 out of 39 = 9,139
Choose 4 out of 39 = 82,251
Choose 5 out of 39 = 575,757
Choose 6 out of 39 = 3,262,623
Choose 7 out of 39 = 15,380,937
Choose 8 out of 39 = 61,523,748
Choose 9 out of 39 = 211,915,132
Choose 10 out of 39 = 635,745,396
Choose 11 out of 39 = 1,676,056,044
Choose 12 out of 39 = 3,910,797,436
Choose 13 out of 39 = 8,122,425,444
Choose 14 out of 39 = 15,084,504,396
Choose 15 out of 39 = 25,140,840,660
Choose 16 out of 39 = 37,711,260,990
Choose 17 out of 39 = 51,021,117,810
Choose 18 out of 39 = 62,359,143,990
Choose 19 out of 39 = 68,923,264,410
Choose 20 out of 39 = 68,923,264,410
Choose 21 out of 39 = 62,359,143,990
Choose 22 out of 39 = 51,021,117,810
Choose 23 out of 39 = 37,711,260,990
Choose 24 out of 39 = 25,140,840,660
Choose 25 out of 39 = 15,084,504,396
Choose 26 out of 39 = 8,122,425,444
Choose 27 out of 39 = 3,910,797,436
Choose 28 out of 39 = 1,676,056,044
Choose 29 out of 39 = 635,745,396
Choose 30 out of 39 = 211,915,132
Choose 31 out of 39 = 61,523,748
Choose 32 out of 39 = 15,380,937
Choose 33 out of 39 = 3,262,623

Choose 34 out of 39 = 575,757
Choose 35 out of 39 = 82,251
Choose 36 out of 39 = 9,139
Choose 37 out of 39 = 741
Choose 38 out of 39 = 39

Yes if you want a 19 market selection out of 39 you would have to wade through 68 billion combinations. At one second per 5000 iterations that would be equivalent to 60+ days.

Opening the Optimizer

Click:

```
3 Find Best M of N
```

What M-of-N Means

M-of-N means selecting **M markets** from a larger group of **N eligible markets**.

For example, if 20 markets are loaded and you ask for the best 5, the optimizer evaluates combinations of 5 markets from the eligible set.

Optimizer Inputs

The optimizer window includes:

- **N eligible**
- **M**
- **Top-K to display**
- **Sample limit**
- **Exhaustive**
- **Use speed mode (NumPy)**

M

This is the number of markets to include in each tested portfolio combination.

Top-K

This controls how many ranked results are displayed.

Sample Limit

When exhaustive search is not used, the sample limit controls how many randomized combinations are tested.

Exhaustive Search

Exhaustive search evaluates every possible combination.

This can be slow when the number of combinations is large. I picked 8 out of 39 and it generated 61,523,758 combinations across 10 years of daily bars and it took about

Speed Mode

Speed mode uses NumPy when available to accelerate optimizer calculations.

Optimizer Results

The result list includes:

- Rank
- P/DD
- Net Profit
- Max DD
- File names
- Symbols

Copying Results

The result text area supports:

- Copy
- Select All
- Copy All

This is useful for saving optimizer results outside the application.

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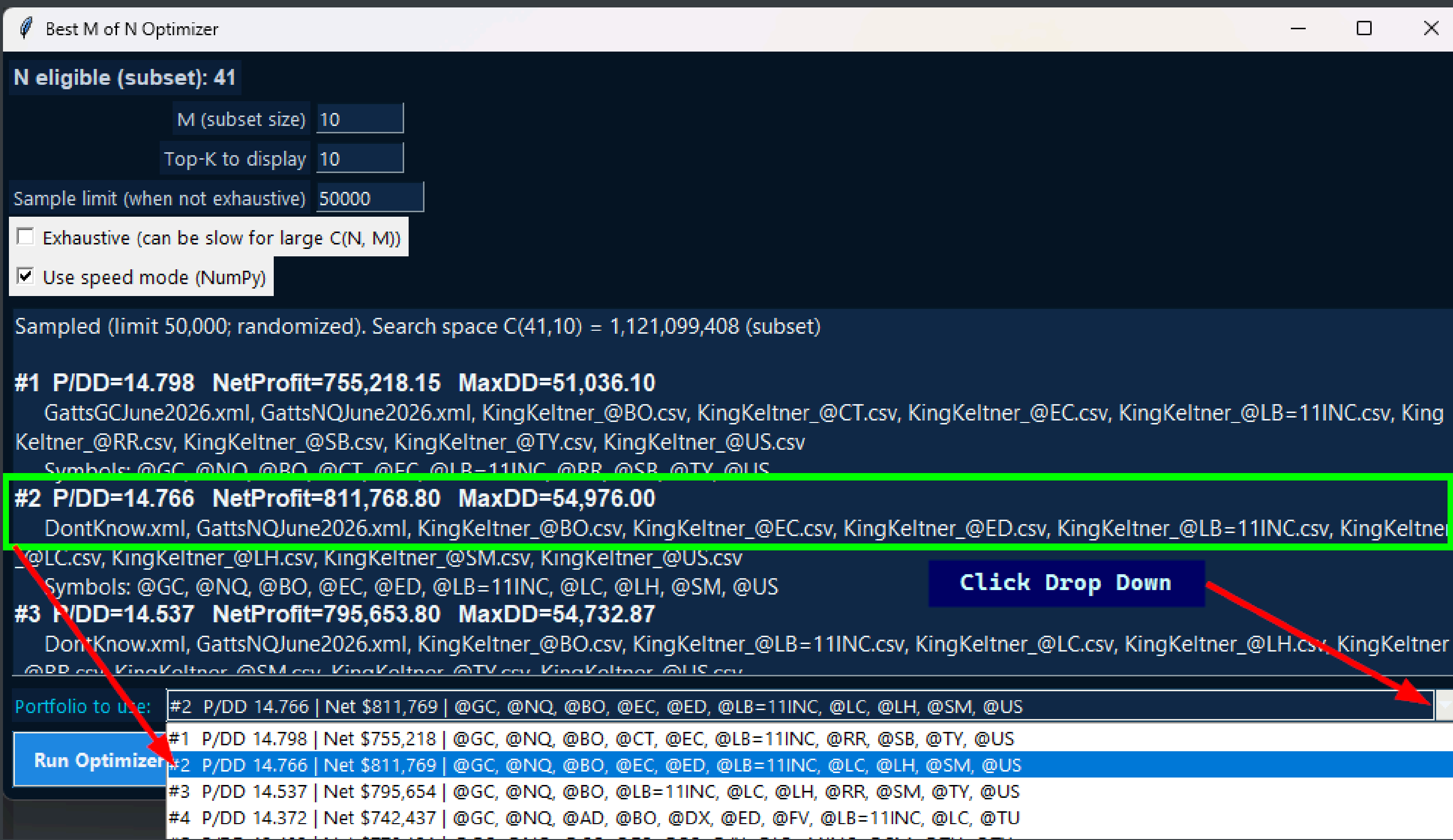
10. Activating an Optimized Portfolio



After running the optimizer, you can make one of the ranked results the active portfolio.

Portfolio to Use

The optimizer window includes a **Portfolio to use** drop-down list containing ranked optimizer results.

Activating a Result

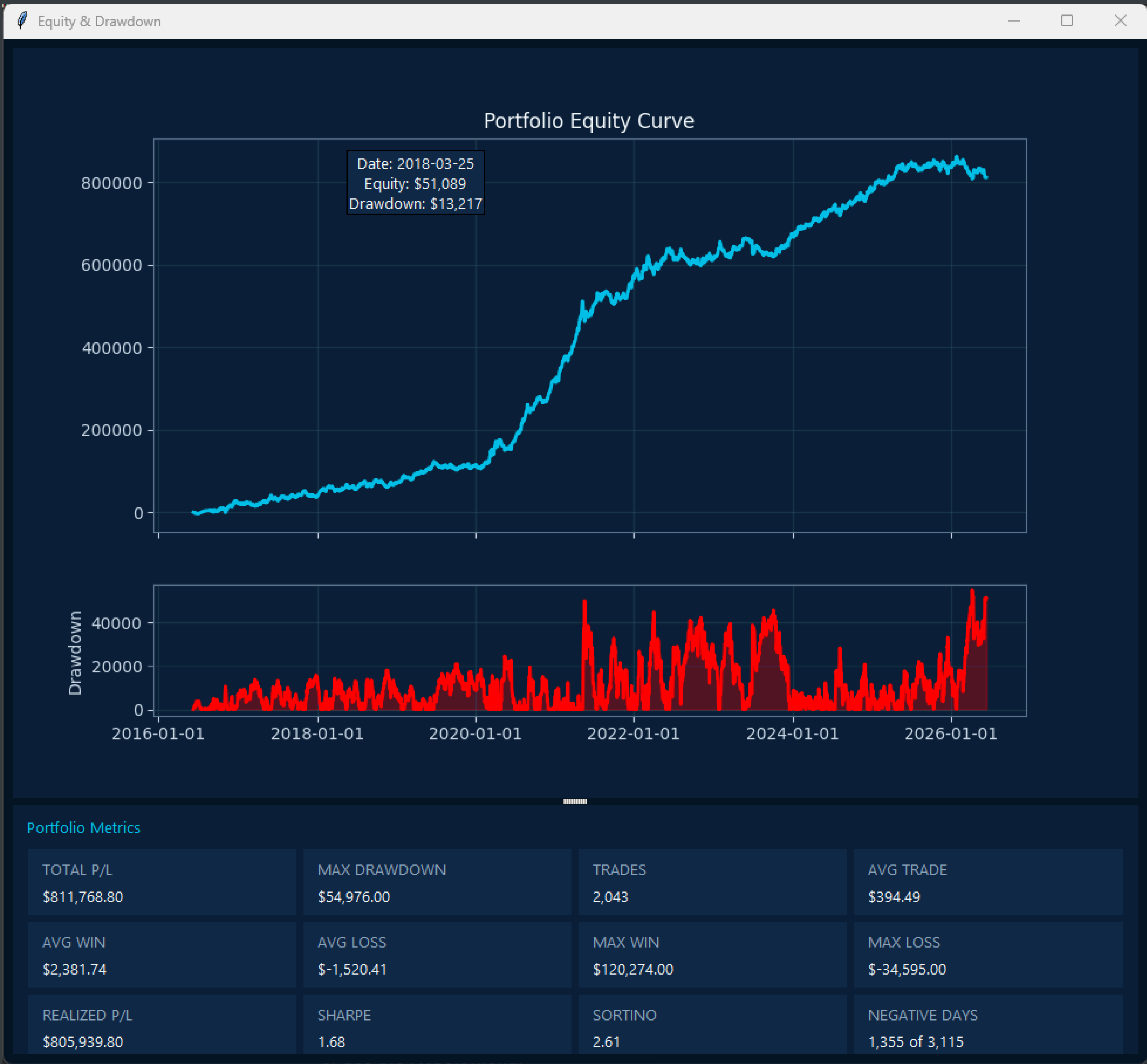
To activate an optimized portfolio:

1. Run the optimizer.
2. Choose a result from the **Portfolio to use** drop-down.
3. Click **Use Selected Portfolio**.
4. Confirm the portfolio activation message.

What Happens After Activation

When an optimizer result is activated:

- The selected combination becomes the active portfolio.
- Portfolio overview metrics refresh.
- The equity and drawdown window refreshes.
- Report inputs are updated.
- The active market subset changes to the optimized portfolio.



Reporting an Optimized Portfolio

After activating an optimizer result, use the Performance Report feature to generate a report for that optimized subset.

11. Performance Report Preview and PDF Export

TS-PortfolioMerge Pro includes a multi-page performance report preview and PDF export workflow.

Opening the Report Preview

Click:

```
Preview Performance Report
```

or use the Report menu:

```
Report > Export Performance Report... (Preview then Save)
```

Performance Summary

Initial Capital	$100,000.00	**CAGR**	24.72%
Total Net Profit	$811,768.80	**Sharpe (monthly)**	1.51
Gross Profit	$1,043,220.00	**Sortino (monthly)**	3.72
Gross Loss	$-704,940.00	**MAR**	0.45
Profit Factor	1.48	**Avg Monthly Return**	$6,708.83
% Profitable	78.07%	**Std Monthly Return**	$15,368.35
Avg Trade	$957.27	**% Profitable Months**	67.77%
Avg Win	$1,575.86	**Avg Annual Return ($)**	$73,457.16
Avg Loss	$-3,790.00	**Avg Annual Return (% init)**	73.46%
Largest Win	$10,930.00	**Longest DD (days)**	215.00
Largest Loss	$-3,790.00	**Longest Flat (days)**	253.00
Max Cons Winners	19.00	**Total Trades**	848.00
Max Cons Losers	3.00	**Wins**	662.00
Max Drawdown	$-54,976.00	**Losses**	186.00
Max Intraday DD	$-54,976.00	**Total Slippage**	$16,960.00
Recovery Factor	14.77	**Total Commission**	$16,960.00

Initial Capital

Before generating the report, the application prompts for initial capital.

This value is used in the report calculations where capital-based metrics are required.

Report Preview Pages

The performance report may include pages such as:

- Title / markets
- Performance summary
- Periodical returns
- Monthly P/L pivot
- Equity graphs

- Drawdowns
- Periodicity
- Per-file P/L
- Correlation heatmap
- Distributions
- Monte Carlo analysis
- Strategy and input pages for XML files, when available

Navigating the Report

The preview window allows you to move through the report one page at a time.

Use:

- **Prev**
- **Next**

The window title may show the current report page number.

Chart Toolbar

The report preview uses chart controls that may allow:

- Zooming
- Panning
- Resetting the view
- Saving individual chart views

Saving as PDF

To save the previewed report:

1. Click **Save as PDF...**.
2. Choose the destination folder.
3. Enter the desired PDF filename.

4. Click **Save**.

Direct PDF Export

The Report menu may also provide:

```
Report > Save Performance Report As...
```

This option creates a PDF report directly without stepping through the preview workflow first.

Important Note

The report is generated from the currently active portfolio. If you want to report an optimized portfolio, activate the optimizer result before generating the report.

Sample Report Pages

#

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12. Forex Compatibility and FX Database Maintenance

Getting FX Exchange Rates for Forex Pairs

TS-PortfolioMerge Pro can convert non-USD-quoted Forex P/L into USD when the required FX rate history is available.

Some Forex pairs are not quoted in U.S. dollars (for example, USDJPY, USDCHF, USDCAD). In those cases, TradeStation's XML trade output does not include a built-in USD conversion factor. To generate a correct USD-based equity curve, **TS-PortfolioMerge** must have access to historical daily conversion rates that cover your test period.

Because you already have Forex price data in TradeStation, the easiest solution is to use the included indicator **TS-PortfolioMergeFXDB** to build a daily conversion-rate database.

FXRates folder location

C:\Users\Public\Documents\PortfolioMerge-TradeFiles\FXRates

When you install TS-PortfolioMerge_Pro, the installer creates this folder: C:\Users→ Public → Documents → PortfolioMerge-TradeFiles → FXRates This is the folder you will tell the indicator to write the conversion-rate files into.

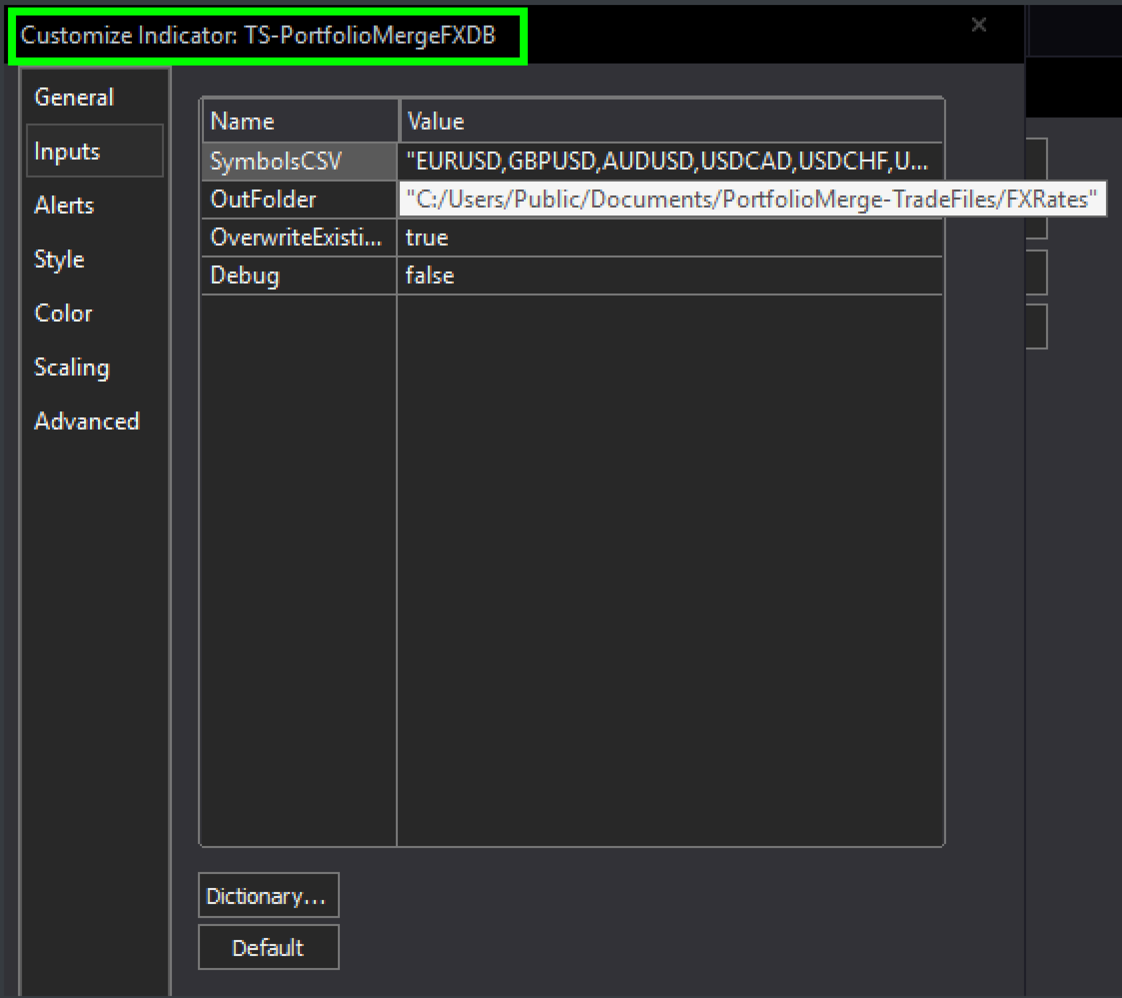
What TS-PortfolioMerge does

- TS-PortfolioMerge automatically detects whether a Forex trade requires conversion.
- If a conversion rate is required, TS-PortfolioMerge looks in the FXRates folder for the appropriate daily rate file.
- If the file is missing or does not go back far enough in history, TS-PortfolioMerge will display a message telling you to rebuild/update the FX database.

Creating the FX conversion database

1. Create a USDJPY daily chart in TradeStation and load enough history to cover your test period.
2. Insert the indicator **TS-PortfolioMergeFXDB** on the chart. (If you don't see it in your Indicator list, import the EasyLanguage file TS-PortfolioFX.ELD first.)
3. When the indicator is applied, open its Format → Inputs. The indicator writes conversion-rate CSV files to the folder specified in OutFolder.
4. Set OutFolder to your FXRates folder. It should derfault to the default location, but if you want to change it:
    - In Windows File Explorer, go to: Documents → PortfolioMerge-TradeFiles → FXRates
    - Click the address bar to highlight the full path
    - Press Ctrl+C to copy it
    - Paste it into OutFolder in the indicator inputs (Ctrl+V)

Below is an example of the indicator's input screen. Notice that OutFolder is set to my FXRates folder where TS-PortfolioMerge will read the conversion files. You will need to make sure you change this if it is different.



FX Conversion Behavior

Forex P/L conversion is applied during XML processing.

The application converts the money value of P/L into USD. It does not simply convert the displayed prices.

FXRates Folder

The FX conversion database is expected in:

```
C:\Users\Public\Documents\PortfolioMerge-TradeFiles\FXRates
```

Required Filename Pattern

FX rate files should use the following naming pattern:

```
USD_per_<currency>.csv
```

Examples:

```
USD_per_EUR.csv
USD_per_GBP.csv
USD_per_AUD.csv
USD_per_CAD.csv
USD_per_CHF.csv
USD_per_JPY.csv
```

Prior-Day Rate Rule

Add exact explanation of prior-day displacement rule here.

Missing FX Database

If the FX rate database is missing, the application may display a warning such as:

```
Missing FX Conversion Database
```

FX Database Out of Range

If the required date is outside the available FX history, the application may display a warning such as:

```
FX Rates Database Out of Range
```

Recovery Steps

If an FX warning appears:

1. Confirm the correct FXRates folder exists.
2. Confirm the required currency CSV file exists.
3. Confirm the rate file contains enough history.
4. Add or update the required FX data.

5. Process the strategy files again.

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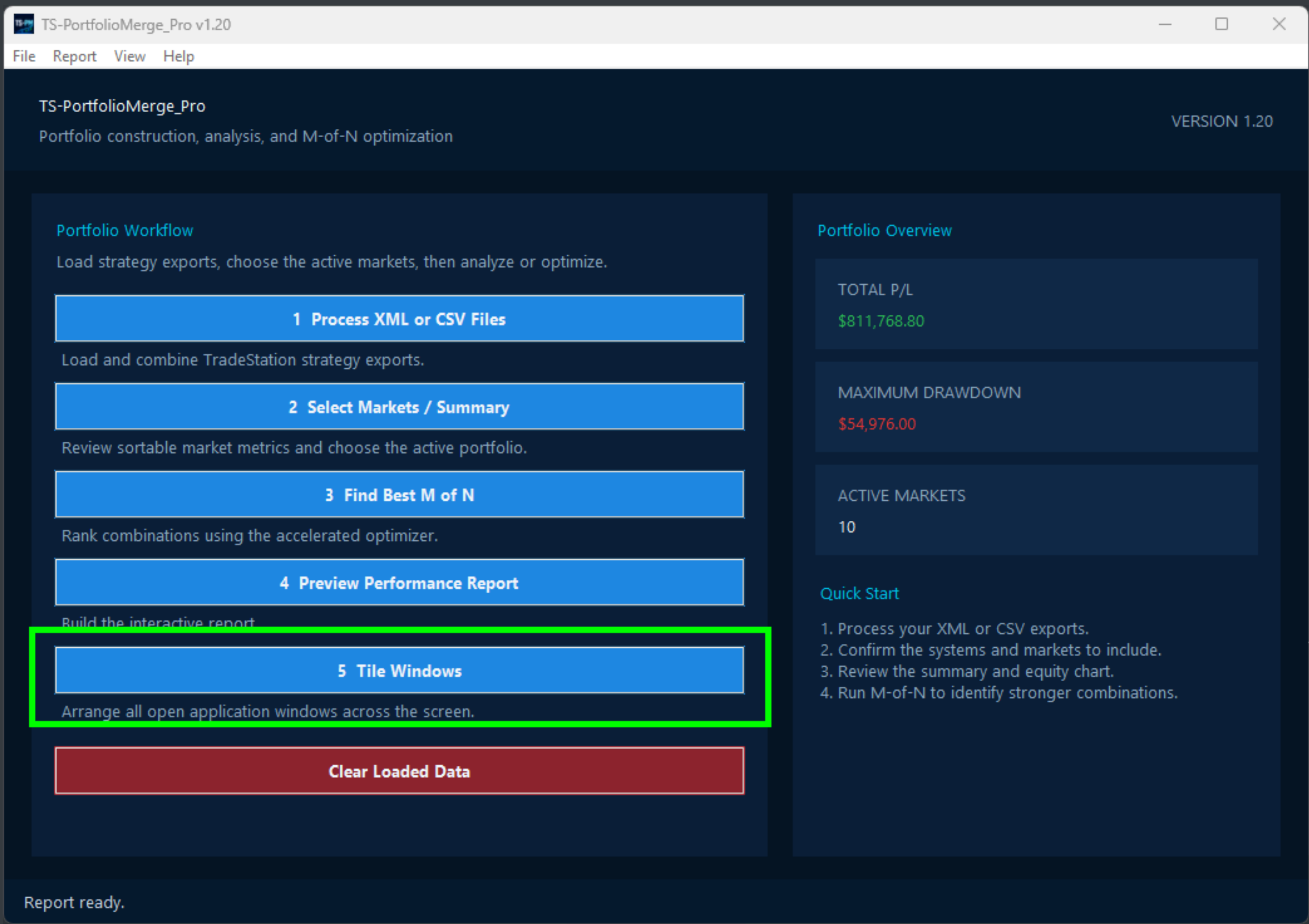
13. Managing Windows, Clearing Data, and Exiting

Tiling Open Windows



TS-PortfolioMerge Pro can arrange open secondary windows into a balanced grid.

Click:

```
5 Tile Windows
```

or use:

```
View > Tile Windows
```

The main dashboard remains in place while secondary analysis windows are arranged.

Clearing the Current Session

Click:

```
Clear Loaded Data
```

This removes the currently loaded in-memory data and resets the portfolio values.

Clearing loaded data does not delete:

- Source XML files
- Source CSV files
- Trade CSV exports
- FX rate files
- Saved PDF reports

Closing the Application

To close TS-PortfolioMerge Pro, use:

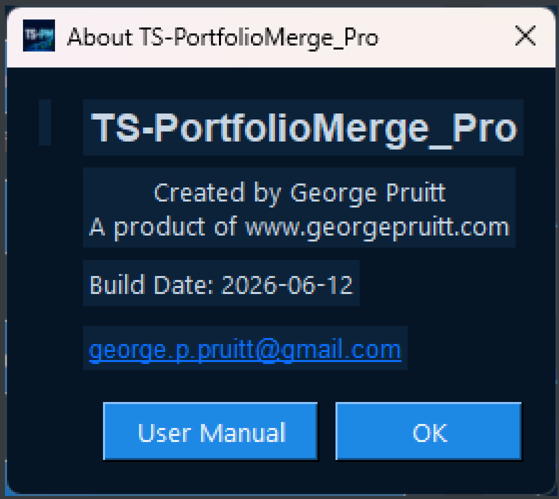
```
File > Exit
```

or close the main dashboard window.

---

14. About, Support, and Opening the User Manual

Product and support information.



About TS-PortfolioMerge

Use:

```
Help > About TS-PortfolioMerge...
```

The About dialog may include:

- Product name
- Version
- Author
- Company
- Build date
- Contact email
- User Manual button

Opening the User Manual

Click **User Manual** from the About dialog to open the local or online manual.

Contact and Support

Add support email and website here.

Example:

```
George Pruitt
George Pruitt Trading
support email: <insert email here>
website: <insert website here>
```

15. Appendix: Metric Definitions

This appendix defines the major performance metrics used throughout TS-PortfolioMerge Pro.

Total P/L

Total P/L is the final profit or loss of the active portfolio over the tested period.

Realized P/L

Realized P/L is the sum of closed-trade profits and losses.

Max Drawdown

Max Drawdown is the largest peak-to-valley decline in the portfolio equity curve.

Trades

Trades is the number of closed trades captured from the active portfolio.

Avg Trade

Avg Trade is the average profit or loss per closed trade.

Avg Win

Avg Win is the average profit of winning trades.

Avg Loss

Avg Loss is the average loss of losing trades.

Max Win

Max Win is the largest winning trade.

Max Loss

Max Loss is the largest losing trade.

Percent Wins

Percent Wins is the percentage of closed trades that were profitable.

Sharpe and Sortino Ratios

The Sharpe and Sortino ratios measure portfolio return relative to risk. Higher values generally indicate better risk-adjusted performance.

Sharpe Ratio

The Sharpe ratio compares the portfolio's average return with the variability of all returns. Both profitable and losing periods contribute to the risk measurement.

A higher Sharpe ratio indicates that the portfolio produced more return for the amount of overall volatility experienced.

General interpretation:

- Below `0`: Negative risk-adjusted performance
- `0` to `1`: Limited or inconsistent risk-adjusted performance
- `1` to `2`: Good risk-adjusted performance
- `2` to `3`: Very good risk-adjusted performance
- Above `3`: Exceptionally strong performance

Sortino Ratio

The Sortino ratio is similar to the Sharpe ratio, but it treats only negative returns as risk. Positive volatility is not penalized.

This can make the Sortino ratio especially useful when evaluating trading systems because traders are generally more concerned with losses than unusually large gains.

A higher Sortino ratio indicates that the portfolio generated more return relative to its downside risk.

How TS-PortfolioMerge_Pro Calculates Them

TS-PortfolioMerge_Pro calculates daily portfolio profit or loss from changes in the combined equity curve. Each daily result is divided by a fixed `$100,000` notional account value to create a normalized daily return.

The ratios are annualized according to the observed frequency of the portfolio data:

- **Sharpe:** Average daily return divided by the standard deviation of all daily returns.
- **Sortino:** Average daily return divided by the downside deviation of negative daily returns.

The calculation uses a zero risk-free or minimum acceptable return.

Important Considerations

Sharpe and Sortino ratios should not be considered alone. A portfolio can have attractive ratios while still experiencing an unacceptable maximum drawdown, limited trade history, or unusual concentration in a small number of markets.

Always evaluate these ratios together with Total P/L, Maximum Drawdown, trade count, equity-curve consistency, and the length of the test period.

CAGR and MAR Ratio

Compound Annual Growth Rate (CAGR)

CAGR represents the average annual rate at which a portfolio would have grown if its growth had occurred at a steady compounded rate.

It considers:

- Beginning account value
- Ending account value
- Length of the test period

CAGR smooths the portfolio's actual gains and losses into one annualized percentage. It does not describe volatility or drawdown.

Formula:

```
CAGR = (Ending Value / Beginning Value)^(1 / Years) - 1
```

For example, a CAGR of `15%` means the portfolio produced the equivalent of approximately 15% compounded growth per year over the measured period.

MAR Ratio

The MAR ratio compares annualized growth with the portfolio's maximum drawdown.

Formula:

```
MAR Ratio = CAGR / Maximum Drawdown Percentage
```

For example, a portfolio with a 20% CAGR and a 10% maximum drawdown has a MAR ratio of `2.0`.

A higher MAR ratio generally indicates better performance relative to drawdown risk:

- Below `0`: Negative growth
- `0` to `0.5`: Low return relative to drawdown
- `0.5` to `1.0`: Moderate risk-adjusted performance
- `1.0` to `2.0`: Strong performance
- Above `2.0`: Very strong performance

CAGR and MAR should be considered with the test period, number of trades, equity-curve consistency, and the realism of commissions and slippage. Short test periods can produce misleadingly high values.

Negative Days

Negative Days is the number of days in which the portfolio equity declined from the prior observation.

P/DD

P/DD is the ratio of Net Profit to Max Drawdown.

It is used by the M-of-N optimizer to rank portfolio combinations.

Correlation Heatmap

The correlation heatmap shows the relationship among active market equity streams.

Monte Carlo Analysis

*Monte Carlo analysis estimates how a trading portfolio might perform if its historical daily results occurred in different sequences.

TS-PortfolioMerge_Pro creates many simulated equity paths by rearranging blocks of historical daily profit and loss. Each path starts with the initial capital entered when the report is generated.

What It Shows

- **Equity Paths:** A range of possible portfolio growth paths.
- **Historical Path:** The actual historical result for comparison.
- **Net-Profit Distribution:** The range and frequency of simulated ending profits.
- **Percentiles:** Representative outcomes across the simulations.

For example, the 25th percentile indicates that approximately 25% of simulated outcomes finished below that value and 75% finished above it.

How to Interpret It

A narrow group of steadily rising paths suggests relatively consistent results. A wide spread indicates greater uncertainty and stronger dependence on the sequence of returns.

Many paths that fall substantially below the historical result may indicate that the actual outcome benefited from favorable timing. Paths with deep or prolonged declines reveal risks that may not be obvious from the original equity curve.

Important Limitations

Monte Carlo analysis does not predict future performance. It assumes the historical daily results are reasonably representative of possible future behavior.

It cannot account for:

- Future market conditions absent from the historical data
- Strategy deterioration
- Execution or liquidity changes
- Increased commissions or slippage
- Structural relationships not preserved by resampling

Use Monte Carlo results with CAGR, MAR, Sharpe, Sortino, maximum drawdown, and the original equity curve to evaluate portfolio robustness.