WS_MonteCarlo

Monte Carlo Calculator — User Guide

Stress-test a strategy's real trade history
November 2026

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1. What This Tool Does

`WS_MonteCarlo` is a free, standalone TradeStation TradingApp that stress-tests a strategy's real trade history. It reorders (or resamples) the same trades many times and shows the *range* of outcomes those trades could plausibly have produced — not only the one path the backtest happened to walk.

It takes a strategy (or an existing trades file) and returns a fan chart of simulated equity paths, a Max Drawdown histogram and a P5 / P50 percentile grid: how rough the ride could have been, not only how it actually went.

Trades in → many reshuffled runs → fan chart + drawdown distribution + percentile grid

1.1 Who Is This For

Anyone running a systematic strategy in TradeStation who wants an honest answer to the question "how much of the backtest's result was lucky sequencing, and how deep could the drawdown realistically get?" It works for one's own strategy or one being evaluated, from either a strategy TradeStation can run or a trades file that already exists.

No programming is needed; everything is point-and-click. The only prerequisites are TradeStation itself and either a compiled strategy or an existing trades file.

1.2 How It Fits Into the TradeStation Workflow

`WS_MonteCarlo` is a stand-alone TradingApp: no chart is required, and it does not depend on the WalkStrat application. It opens from TradeStation Apps like any other TradingApp and stays available for the session.

2. Installation

1. Import (double-click) `WS_MonteCarlo.eld`. The import also adds the `WS_TradesRecorder` strategy the tool uses to capture trades; it needs no setup.
2. In any Workspace, go to the TradeStation Apps and click on `WS_MonteCarlo`.

There is no separate installer and nothing to configure before first use. To create trades from a strategy, the tool only needs a working folder for its temporary trades file (§4.4).

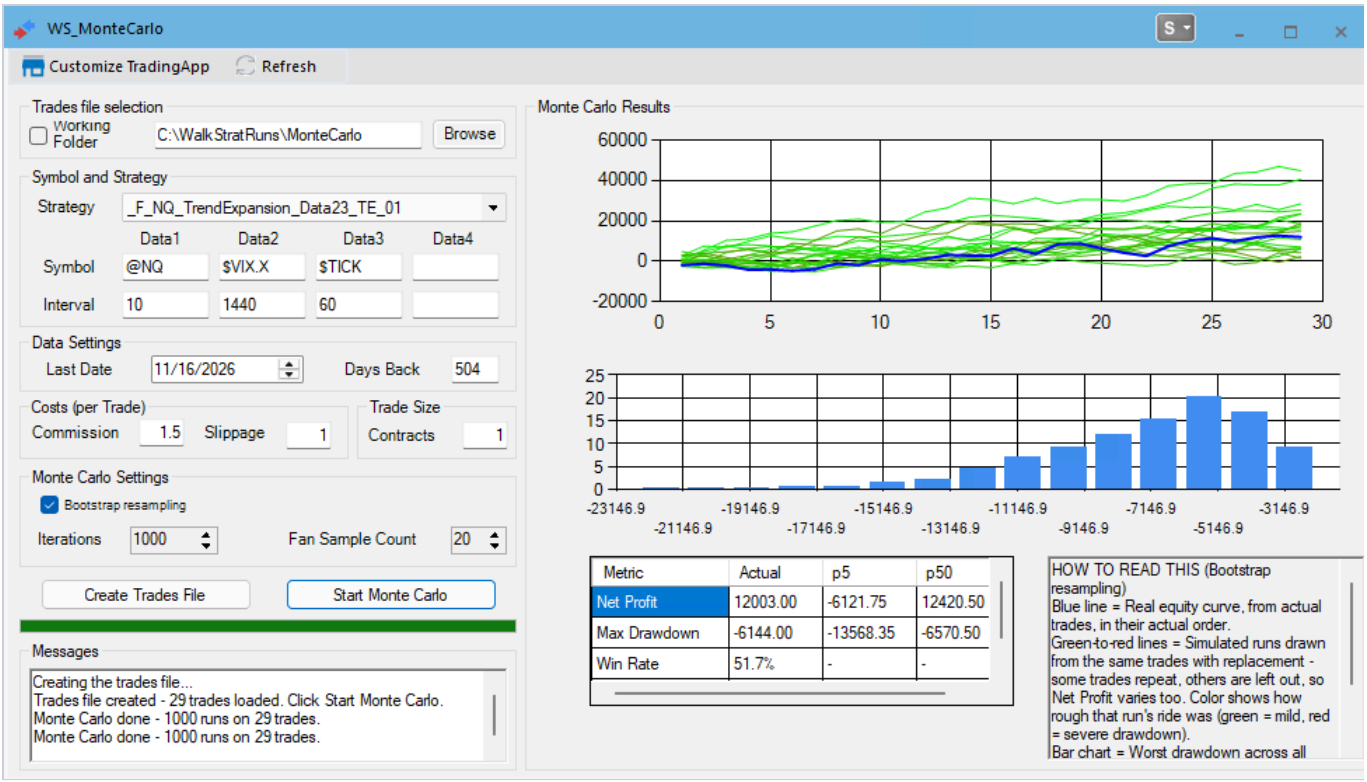
3. Quick Start

From an existing trades file (a `WS_TradesRecorder`-format CSV, for example one written by `WS_TradesExporter`, or any CSV with `TradePnLNet` and `CumNetPnL` columns):

1. Tick the **Trades File** checkbox.
2. Click **Browse** and select the file.
3. Click **Start Monte Carlo**.

From a strategy (checkbox unticked — **Working Folder**, the default):

1. Click **Browse** and pick a working folder (or type its path). The tool writes a temporary trades file there.
2. Fill in **Symbol** and **Interval** under **Data1**, and pick a **Strategy** from the dropdown.
3. Set **Last Date**, **Days Back**, **Commission**, **Slippage** and **Contracts**.
4. Click **Create Trades File**. It runs the strategy once and captures its trades; the button returns immediately and **Messages** reports "Trades file created" when the trades are in.
5. When **Start Monte Carlo** lights up, click it.



From a strategy — Working Folder mode, trades file created by the tool

Either path ends in the same place: a fan chart, a drawdown histogram and a metrics grid.

4. Field Reference

4.1 Symbol and Strategy

Used only when creating trades from a strategy (§3, second path). A Browsed trades file already holds everything the simulation needs: in **Trades File** mode these fields, Data Settings, Costs, Trade Size and **Create Trades File** are greyed out. They keep their values for when the box is unticked again.

Field	What it does
Symbol / **Interval** (Data1)	The market and bar interval the strategy runs on. The interval is in **minutes** (e.g. `5`). Symbol is required, and the interval must be a number greater than 0. Typing into either one enables **Create Trades File**.
Data2, **Data3**, **Data4**	Optional extra data streams, for strategies that read them (e.g. a second market as a filter). Each needs both a Symbol and an Interval (minutes, greater than 0), or neither. In Data2's Symbol, a comma-separated list is allowed: the entry matching the Data1 symbol is used, otherwise the first one.
Strategy dropdown	Every strategy currently compiled in TradeStation. The strategy runs once with its own current input values — the tool does not sweep or optimize inputs.

4.2 Data Settings

Field	What it does
Last Date	End date of the history window for the run.
Days Back	How much history to load, in trading days (not calendar days). Must be greater than 0.

4.3 Costs (per Trade) and Trade Size

Field	What it does
Commission	Dollars per side, charged on entry and again on exit — once per trade, whatever the number of contracts.
Slippage	Ticks per side, also charged on entry and exit, converted at the instrument's tick value.
Contracts	Position size for the run. Must be greater than 0.

All results are net of these costs.

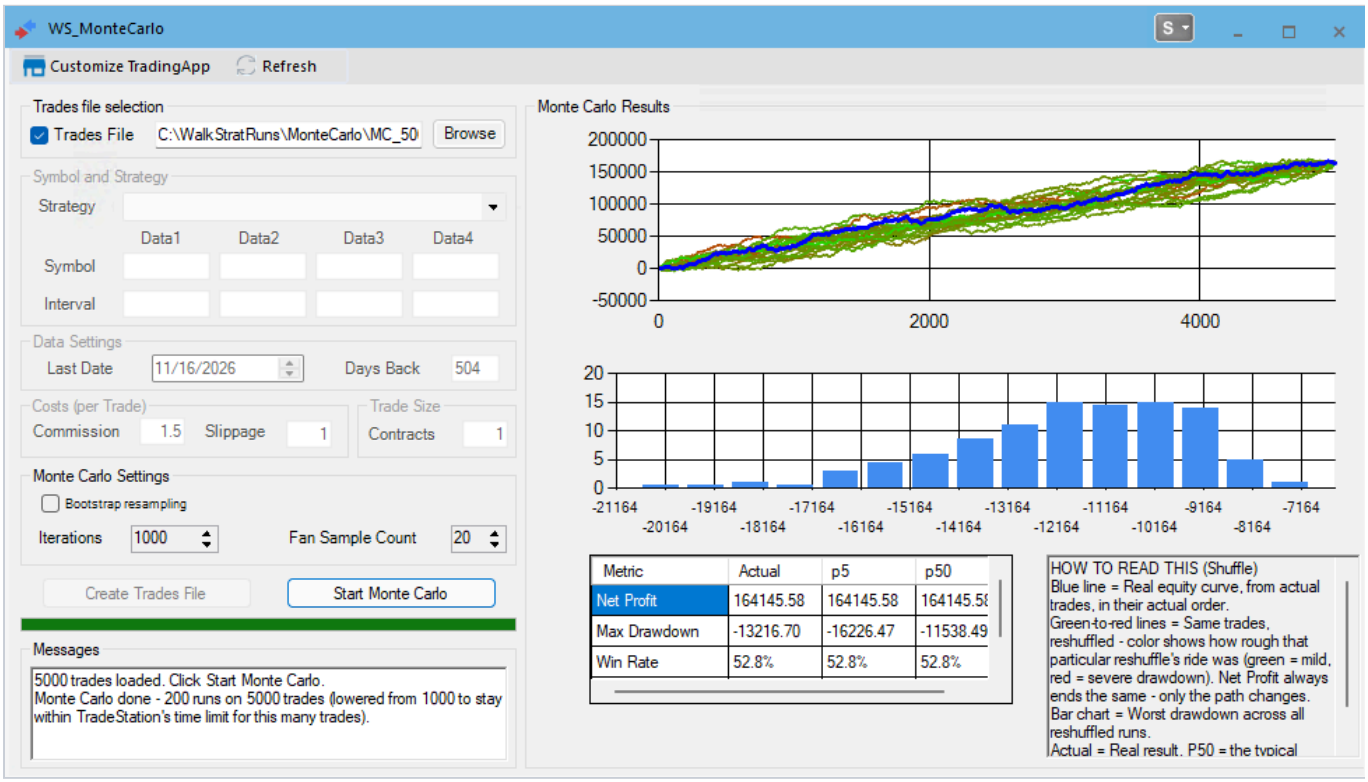
4.4 Trades File Selection

Control	What it does
Working Folder / Trades File checkbox	Chooses what the box next to **Browse** holds. Unticked (**Working Folder**, the default): the folder where **Create Trades File** writes its temporary trades file. Ticked (**Trades File**): an existing trades CSV to analyse directly.
Browse	**Working Folder** mode: TradeStation offers no folder picker, so navigate into the folder and open any file name there; only the folder is kept. **Trades File** mode: pick an existing trades CSV; it loads at once and enables **Start Monte Carlo**. Cancelling the dialog changes nothing.
Create Trades File	Runs the strategy from §4.1 once, through a companion recorder that captures every trade whatever the strategy itself does with files. Returns immediately; watch **Messages** and the progress bar.
Start Monte Carlo	Runs the simulation and shows the results. Enabled only once trades are loaded — from Browse or from a finished Create Trades File run. At least 2 trades are needed.

4.5 Monte Carlo Settings

Field	What it does
Iterations	How many simulated runs (500 to 2,000). More runs give steadier percentiles. On large trades files the tool lowers the number automatically so a run stays fast (never below 200); fewer runs than requested on a big file is expected, not an error. **Messages** says how many runs were done, and when they were lowered.
Fan Sample Count	How many of the runs are drawn as full equity paths on the fan chart (20 to 100). All runs count in the percentiles and the histogram either way; this only sets how many lines are drawn.
Bootstrap resampling checkbox	Switches the simulation mode — see §6. Unticked (default) = Shuffle.

5. Reading the Results



Monte Carlo Results — Shuffle, a 5,000-trade file (runs lowered to 200)

5.1 Equity Chart

The blue line is the strategy's real equity curve: its actual trades in their actual order. Every other line is one simulated run, coloured green-to-red by how deep *that run's* own drawdown was, relative to the mildest and the worst seen in this simulation. A chart that is mostly green with a few red streaks is a much better sign than one that is mostly orange and red.

In Shuffle mode every line ends at the same final value as the blue line — only the path differs. In Bootstrap mode the end points vary too (§6).

5.2 Max Drawdown Histogram

How deep the worst drawdown got, bucketed across every simulated run (not only the lines drawn on the fan chart). It is the fuller picture behind the P5 / P50 numbers in the grid.

5.3 Metrics Grid

Column	Meaning
Actual	The real result, from the actual trade order. Max Drawdown is measured on closed-trade equity, exactly as in the simulated runs, so Actual, P5 and P50 can be compared directly.
P5	Only 5% of the simulated runs were worse than this — the tail-risk read, usually more useful for position sizing than the median.
P50	The median simulated run: half were worse, half better.

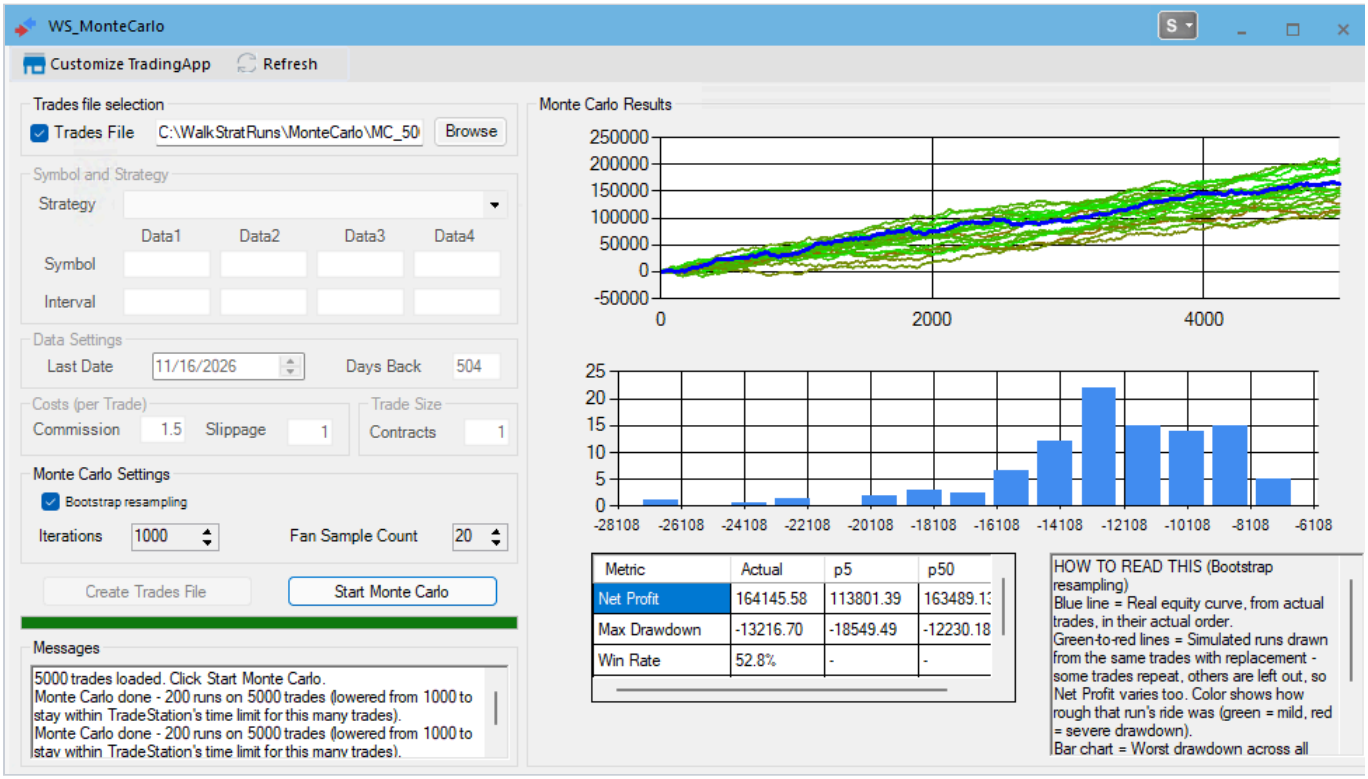
Row	Notes
Net Profit	In Shuffle mode, Actual, P5 and P50 are always equal — the same trades in a different order add up to the same total. That is expected, not a bug. In Bootstrap mode they differ (§6).

Row	Notes
Max Drawdown	The row the tool exists for. It varies from run to run in both modes.
Win Rate	In Shuffle mode Actual, P5 and P50 are equal — the order does not change which trades won. In Bootstrap mode the win rate of each run can differ and is not simulated here, so P5 and P50 show "–".

5.4 How to Read This

The panel beside the grid repeats the essentials in plain language, worded for the mode that ran (Shuffle or Bootstrap). It appears once the first simulation has finished.

6. Shuffle vs. Bootstrap Resampling



Monte Carlo Results — Bootstrap resampling, the same 5,000 trades: Net Profit now varies

Two different questions about the same trade history:

- **Shuffle (default, unticked)** — every trade is used exactly once, in a new random order. Question answered: "had these same trades come in a different sequence, how much rougher could the ride have been?" Net Profit is the same in every run; only the drawdown path changes.
- **Bootstrap (ticked)** — each run draws trades at random *with replacement* from the same pool, so a trade can be picked several times or not at all. Question answered: "drawing from this same population of trade outcomes, how much could the total result itself have varied?" Net Profit varies here too, not only the drawdown.

Shuffle is the standard, conservative read and stays the default. Bootstrap is for when the variability of the result itself is the question, not only the variability of the path.

7. Tips & Troubleshooting

Trades File mode greys out what it does not use. Symbol and Strategy, Data Settings, Costs, Trade Size and **Create Trades File** only matter for creating trades from a strategy. With the box ticked they are greyed out; unticked, they come back with their values.

Create Trades File returns immediately — by design, not a hang. The strategy runs in the background; wait for "Trades file created" in **Messages** before expecting **Start Monte Carlo** to light up.

Fewer runs than requested on a very large trades file is expected (§4.5).

The created trades file is temporary. The file written by Create Trades File (`WS_MonteCarlo_TempTrades.csv`, in the working folder) is deleted when the tool closes. If TradeStation closes unexpectedly it may stay behind; the next run simply overwrites it. To keep it, copy it elsewhere before closing the tool. A file selected with Browse is never changed or deleted.

Common issues:

- **Start Monte Carlo stays greyed out** — no trades are loaded yet. Browse a file or finish a Create Trades File run first. At least 2 trades are needed; **Messages** says so when there are fewer.
- **"Set a valid working folder first"** — in Working Folder mode, Browse to a folder (or type an existing path) before Create Trades File.
- **"Symbol is required"** / **"Interval is required: minutes, a number greater than 0"** — fill in Data1's **Symbol** and **Interval** before Create Trades File.
- **"DATA2 requires both Symbol and Interval"** (or DATA3 / DATA4) — fill both boxes of that data stream, or clear both. **"A Data2-4 Interval must be minutes, a number greater than 0"** — fix that interval.
- **The grid shows 0.00 everywhere** — the trades file lacks the `TradePnLNet` and `CumNetPnL` columns (or their headers are spelled differently). Only `WS_TradesRecorder`-format files, or files with the same column names, are supported.
- **"Strategy run failed"** in **Messages** — the line includes TradeStation's own error; usually a symbol, interval or data issue with the run itself.