

## **TradersStudio Turbo 1.1 Release Notes**

TradersStudio Turbo is an extensive rewrite (over 75%) of the TradersStudio Professional codebase. This version runs up to 15 times faster than TradersStudio Professional on a six-core Intelbased computer. An optimization that once took up to 24 hours can now be done over a lunch break.

Originally, the Professional version was written in both VB 6.0 and C++. However, VB 6.0 does not support multiple-threading. In addition, all of the C++ code needed to be modified and reworked to support thread-safe operations. The Turbo version converted this old code to either faster C++ code or VB.NET.

Version 1.1 is the first release of the Turbo version. It functions and looks exactly the same as TradersStudio Professional, but it is significantly faster. This increase in speed makes it possible to test complex systems in very little time. For example, on this version it is possible to test a stock trading system with large baskets of 100-200 stocks. Before, this type of optimization would have taken weeks, but it can be now done in a day.

We plan on making substantial and continuous improvements to this version including a new interface, a 64-bit version, and snapshot real-time. We expect many of these improvements to this version to be available by the end of 2015.

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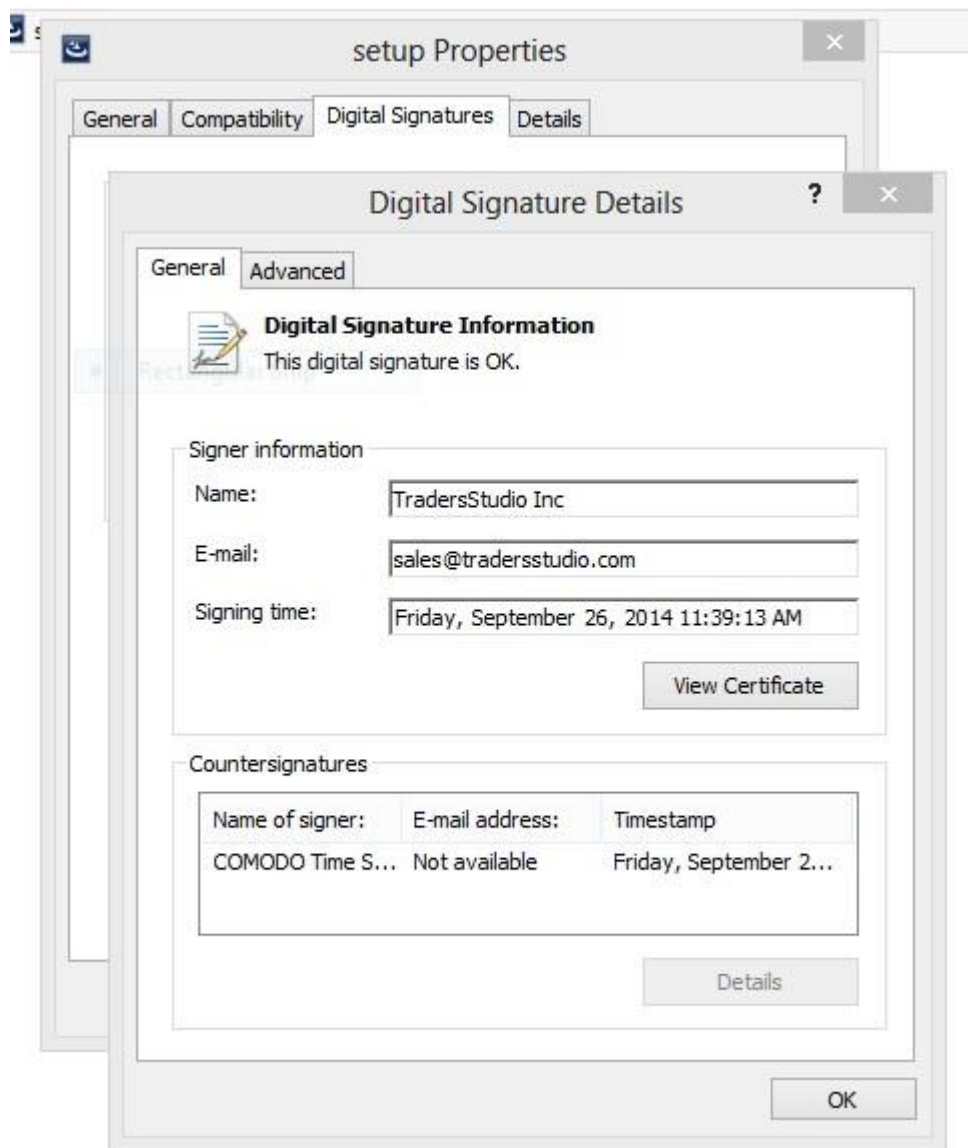
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## **Can Be Run on Same Machine**

Both the Professional and Turbo version of TradersStudio can be run and installed on the same machine. Thus, you don't need to uninstall your old version of the software. The databases and code files are compatible with each version. However, the add-ins, such as NeuralStudio, CycleStudio, and Genetic Optimizer, are separate for each version. Each add-in needed to be rewritten to support multiple threads. Therefore, your NeuralStudio add-in for TradersStudio Professional will not work in TradersStudio Turbo and vice-versa.

## **Setup.exe**

For your safety, the TradersStudio application has been signed using the Comodo certificate. If you right click on Setup.exe you will see Properties and then look at the Digital Signatures. This helps you verify the authenticity of the package.



## Run as Admin

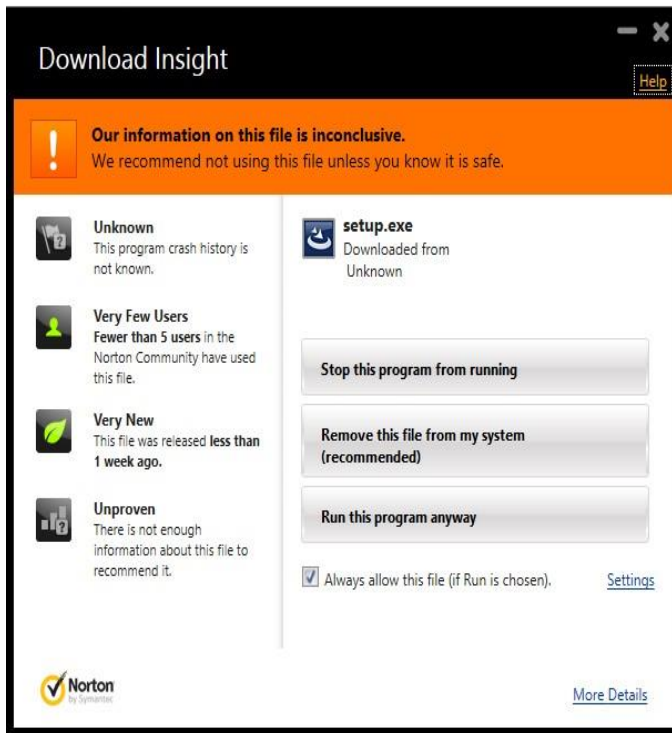
TradersStudio Turbo needs to be installed using a user account with administrator privileges.

Right-click on the setup.exe file and choose "Run As Administrator". When running the product, you also need to right-click on the TradersStudio Turbo shortcut and choose "Run as Administrator".



Select run as administrator both when installing and when launching this version of TradersStudio.

## Windows 8/8.1 Choose Run Anyways



On Windows 8 and 8.1, the TradersStudio Turbo install file will not be recognized by Windows. As such, you will need to select "Run Anyway" when prompted. This will happen with many of the AntiVirus programs. Most Anti-Virus programs will not say your program is totally known unless they are very popular like Excel or Word or you have paid that virus program's certificate fee. The problem is the general certificates like we have which follow the Microsoft's standards don't automatically mean that Norton, McAfee, or AVG recognize you. If you get a certificate from Norton, then AVG or McAfee will still say you might not be safe. This unfortunately has become a no win situation for small software

vendors. Rest assured though, the copy of TradersStudio that you have downloaded from tradersstudio.com is entirely virus-free.

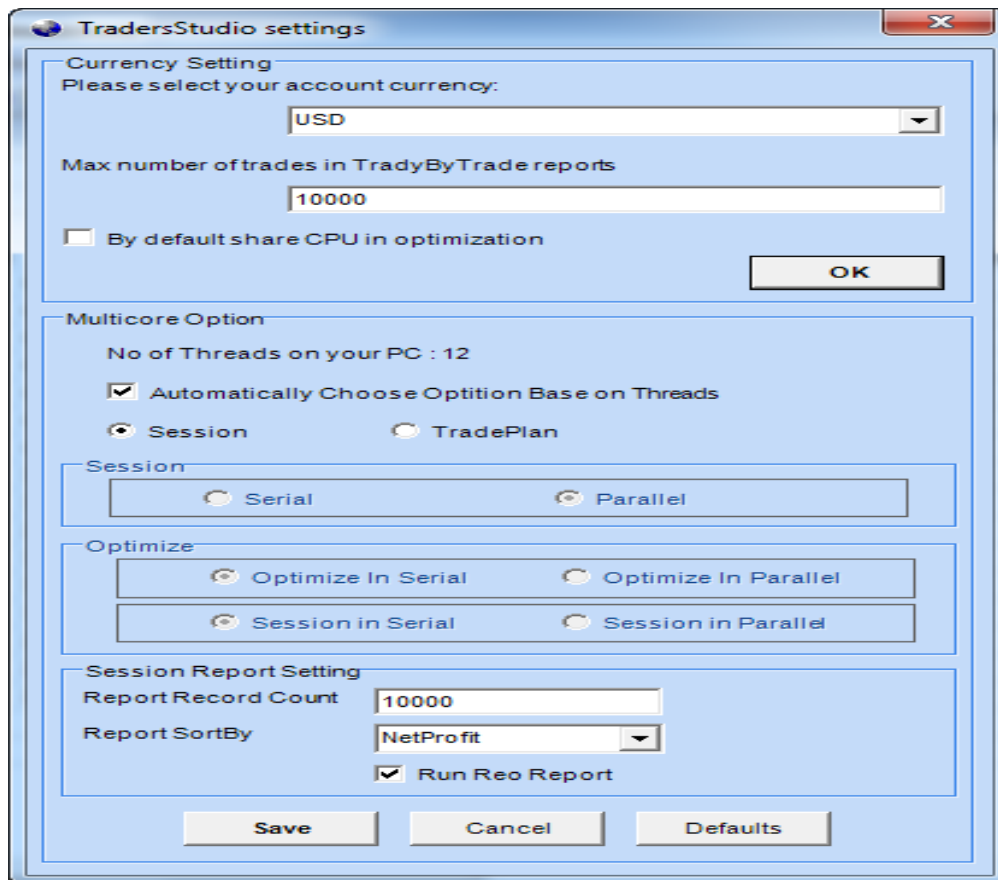
## **Generating a key for your copy of TradersStudio Turbo**

TradersStudio Turbo has a new key mechanism versus the one used in TradersStudio Professional. To generate a key, the process goes as follows:

After installing the TradersStudio Turbo you will have a 30 day grace period to generate a license key file. To do this, please go to C:\Program Files (x86)\TradersStudio\TSMulticore and look for an executable called "HID.exe". Run that program. It will give you a file called hardwareid.txt. Please email [info@tradersstudio.com](mailto:info@tradersstudio.com) with that hardwareid.txt file and we will generate a license key for you within 48 hours at the latest.

## **Interface Similarities/Differences**

Both products have an identical interface, so you can continue to use TradersStudio in the same manner that you have already come to know and love. The exception to this is the settings screen. In this screen you can set choose to use the parallel features or revert back to the standard serial processing. Most people will want to leave these settings as-is. Please note that if you're looking to debug a system, you are best doing so with the serial option. Parallelized debugging is not in real-time and can lead to race conditions that can make it harder to identify problems. As such, we strongly recommend debugging in serial.



## **Turbo Option**

Under this label, you will see that TradersStudio automatically detects and shows the number of cores present on your PC.

Automatically Choose Option Base on Threads: If you check this box then TraderStudio Turbo will automatically distributes task between different cores. This is by far the best option for speed as we have spent a lot of time optimizing the performance of backtests and selecting how to assign tasks.

## **Radio buttons:**

- 1) Session: You can set the settings described below for Session if you select this radio button.
- 2) Tradeplan: You can set settings described below for Tradeplan if you select this radio button.

## **Session:**

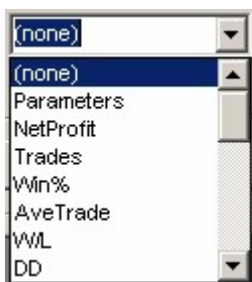
- 1) Serial: If you select serial, then TraderStudio Turbo will run on single thread.
- 2) Parallel: If you select parallel, then TraderStudio Turbo will distribute tasks amongst all available cores on the system. This option has the best speed.

## **Optimize:**

- 1) Optimize in Serial: If you select this option, then TraderStudio Turbo will run optimizations on a single thread.
- 2) Optimize in Parallel: If you select this option, then TraderStudio Turbo will distribute optimization tasks on all available threads.
- 3) Session in Serial: If you select serial, then TraderStudio Turbo will run on a single thread.
- 4) Session in Parallel: If you select parallel, then TraderStudio Turbo will distribute tasks between all available threads.

## **Session Record Setting:**

- 1) Report Record Count
- 2) Report SortBy: You can select one of the following options to sort the report.



- 3) Run Reo Report: If you check this you can see reports much faster but they use more memory.

## **Buttons:**

**Save:** After filling above settings please click on this button so that they can be saved and used by the program.

**Cancel:** Discards the changes.

**Default:** TradersStudio Turbo will use the predefined, default settings if this button is clicked. You can open this box up by going to "Tools" -> "Settings". To change this to "serial" or "one-core" mode, simply check serial for each option on this screen. Serial mode is typically used for debugging purposes.

## **Debug in Serial**

When looking to debug your session, please do so in serial or only with one market. Debugging in parallel can be more difficult to understand and the output from PrintMC is not done in real-time. If you run in serial, single thread then you can use Print. Print will crash randomly if used while in Turbo mode.

If you need to debug your sessions in parallel, please use the PrintMC command (as you may have guessed this stands for "Print Multi-Core"). If you're debugging in serial, please continue to use the Print command.

## **Using Add-ins With This Version**

Old add-ins which used DLLs (e.g. CycleStudio or NeuralStudio) will not work with the multi-core version. We are working diligently to make these available to our customers as quickly as possible. Any sessions or plans which did not make use of these add-ins will work perfectly in the new version of



TradersStudio. There may be some slight changes to make the custom reporting work correctly, but other than that zero changes are required. We will be posting updated, significantly faster versions of the add-ins in the coming months.

## **Typical Performance Improvements**

Most people will notice a marked speed increase when running the multi-core version on a processor with more than one core. Our benchmarks show the following:

- On a quad core processor, sessions run 5-7x faster
- On a six core processor, sessions run 7-10x faster for 20-30 markets, 15X after for larger portfolio's
- TradersStudio Turbo has a new reporting engine. As described above, there is an option in the Setup box ("Run Reo Report") that can be disabled if you would like to use the old reporting engine. Trade-plans can perform as much as 20-30% faster although the odd plan may see a performance decrease. Significant speed increases are found in optimizations, however, which is done in parallel.

## **Custom Reports**

If you are running custom reports a minor change must be made in the Turbo version. This is simple you need to add two function calls to your custom report code.

```
StartCustomReport()
```

```
..... Code for report
```

EndCustomReport()

## **Other Minor Issues**

Goto statements no longer supported. You need to rewrite your code so that it no longer uses goto statements. TradersStudio Turbo is still a 32 bit application which means it limited to 1.5 gigabytes of memory space. If you are loading 100s of market sessions and trade-plans, for example, it's possible that due to memory constraints you will need to restart TradersStudio. The program will warn you in advance if memory is getting tight. We're actively working on a 64-bit version of the platform.

