TradeSim®

Advanced Trading Simulator and Back Tester

Technical Brief 2

The Universal Text Trade Database File Format

✓   TradeSim Professional Edition
✓   TradeSim Enterprise Edition

Last Update 29 March 2007

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The Universal Text Trade Database File Format {P,E}. UPDATED

The Professional and Enterprise Editions have the ability to read and import ASCII text file versions of the trade database. This means that you are not limited to using Metastock to generate your trade database files. For example you could import a trade database that was generated with another program such as Excel™, the Notepad text editor or another charting package such as Trade Station™ for example.

The Universal text trade database file format must meet certain requirements otherwise the file will be rejected when it is loaded into TradeSim. The data within the text file is organized into columns and is separated by at least one space character. Some columns are required to have valid data fields whereas the optional columns should be left blank if the correct data cannot be generated. The data should be separated by at least one space character and the file name must be appended with a ".trt" file extension for TradeSim to accept it.

Column	Definition	Required	Format	Valid Values	Example	Place Holder
1	Symbol	Yes	Character String		ABC	-
2	Trade Position	Yes	L=long or S=short	L or S	L	-
3	Entry Date	Yes	YYYYMMDD		19970502	-
4	Exit Date	Yes	YYYYMMDD		19970725	-
5	Initial Stop**	Yes	Floating point	> 0	17.5900	0
6	Entry Price	Yes	Floating point	> 0	18.0400	-
7	Exit Price	Yes	Floating point	> 0	19.0000	-
8	Low Entry Price	Optional	Floating point	> 0	17.7500	0
9	High Entry Price	Optional	Floating point	> 0	18.2500	0
10	Low Exit Price	Optional	Floating point	> 0	18.5300	0
11	High Exit Price	Optional	Floating point	> 0	19.1600	0
12	Traded Volume	Optional	Integer	> 0	1200000	0
13	Trade Rank	Optional	Floating point	> 0	20	0
14	Point Value	Optional	Floating point	> 0	30	0
15	Initial Margin	Optional	Floating point	> 0	30000	0

** If Initial Stop data is not available then the placeholder should be used.

Data Formats

When generating a text trade database there are certain rules that should be followed regarding data formatting. These rules are described in the following sections.

Comments

You can add comments to your text trade database file. The first character of a comment should always be a hash (#) character which indicates to TradeSim that the remaining data be ignored when processing. If a hash character is not used as the first character then TradeSim will try and interpret the comment data as valid trade data and most likely will generate an error.

Floating Point Format

When TradeSim processes numerical data all floating-point numbers are stored internally in 32-bit IEEE format.

Long Date Format

The entry and exit dates are expressed in long date format, which means they are written as a single number with no separation characters between the year, month and day fields. Therefore the date dd/mm/yyyy or mm/dd/yyyy would be rewritten as YYYYMMDD where DD=day of month(1-31), MM=month of year(1-12) and YYYY=year. As an example 26/7/1991 would be written as 19910721. The day and month fields are 1 based which means the lowest value is 1 not 0.

The 'Required' Field and Place Holders

If the required field is 'Optional' and the field is not required then the place holder value in the above table should be used if the field is not the last field used otherwise the field can be left blank. The following examples are used to illustrate how the placeholders are used when certain optional data fields are unavailable.

Traded Volume used but extended price data unavailable:-

```
SGS L 19920210 19950929 0.309122 0.386000 0.170000 0 0 0 0 8000
```

Extended Prices and the Initial Margin field used:-

```
XPI L 20000530 20000714 2952.802734 3048.899902 3303.000000 3031.500000
3049.199951 3295.199951 3307.899902 0 0 0 2700
```

Only the Extended Price Data fields used:-

```
SGS L 19920210 19950929 0.309122 0.386000 0.170000 0.377000 0.386000 0.170000
0.170000
```

Import Limitations

There is no Exit Status column so all trades are assigned a *Normal Exit* status. Because the original chart data is not available it is not possible to calculate the "bars in trade" however the "days in trade" is computed from the entry and exit dates as it is with the normal native binary trade database files.

A Simple Text Trade Database Example

Shown below is an example of a simple text trade database file with the minimal required columns of data. Note that in this example the optional extended price and volume data is not used.

```
# Comments always begin with the # character
BHP L 19960419 19960607 0.0000 19.2200 18.5800
BHP S 19960607 19961018 0.0000 18.5800 17.0400
BHP L 19961018 19970228 0.0000 17.0400 17.0500
BHP S 19970228 19970502 0.0000 17.0500 18.0400
BHP L 19970502 19970725 0.0000 18.0400 18.0000
BHP S 19970725 19980109 0.0000 18.0000 13.5000
BHP L 19980109 19980515 0.0000 13.5000 13.9700
BHP S 19980515 19980717 0.0000 13.9700 14.6400
BHP L 19980717 19980731 0.0000 14.6400 13.3550
BHP S 19980731 19981023 0.0000 13.3550 13.0000
BHP L 19981023 19981211 0.0000 13.0000 11.3000
BHP S 19981211 19990122 0.0000 11.3000 12.0500
BHP L 19990122 19990129 0.0000 12.0500 11.6810
```

```
BHP S 19990129 19990212 0.0000 11.6810 11.9400
BHP L 19990212 19990813 0.0000 11.9400 18.4500
BHP S 19990813 19991217 0.0000 18.4500 19.6000
BHP L 19991217 20000204 0.0000 19.6000 18.3200
BHP S 20000204 20000616 0.0000 18.3200 18.8900
BHP L 20000616 20001013 0.0000 18.8900 19.3400
BHP S 20001013 20010223 0.0000 19.3400 20.0500
```

An Extended Text Trade Database Example

Shown below is an example of a text trade database file which uses the extended price data and trade volume.

```
SGS L 19920210 19950929 0.309122 0.386000 0.170000 0.377000 0.386000 0.170000 0.170000 8000
ETR L 19920803 19930927 0.184916 0.286000 0.981000 0.286000 0.286000 0.817000 0.981000 630000
GDP L 19921105 19930303 0.193063 0.319000 0.695000 0.319000 0.319000 0.695000 0.695000 4000
HFY L 19921203 19930316 0.230637 0.307000 0.446000 0.307000 0.326000 0.437000 0.446000 26666
GRD L 19930114 19960122 0.327372 0.448402 0.837675 0.448402 0.448402 0.837675 0.837675 40588
SBC L 19930407 19931021 0.788915 0.830000 2.800000 0.830000 0.830000 2.800000 2.800000 47506
ION L 19930924 19940311 1.236009 1.700000 2.580000 1.700000 1.700000 2.500000 2.600000 406330
HFY L 19931001 19960401 0.542545 0.707000 0.288000 0.698000 0.707000 0.288000 0.288000 2000
ETR L 19931202 19950531 0.616952 0.777000 0.436000 0.777000 0.777000 0.381000 0.436000 46666
TEL L 19931209 19940322 3.536666 3.761000 4.580000 3.761000 3.761000 4.560000 4.580000 10100
SOH L 19931210 19940120 1.048620 1.222000 1.512000 1.222000 1.268000 1.512000 1.512000 3300
SFL L 19931216 19980605 0.279786 0.347000 0.444000 0.347000 0.347000 0.444000 0.444000 307000
TGG L 19940311 19950830 1.097350 1.211000 1.336000 1.162000 1.211000 1.336000 1.336000 32000
KSM L 19940322 19950828 0.266987 0.329000 0.378000 0.329000 0.362000 0.378000 0.378000 15000
SOH L 19940324 19940922 1.109720 1.249000 1.222000 1.249000 1.268000 1.222000 1.222000 4000
BDL L 19940330 19940803 0.592656 0.648000 0.620000 0.639000 0.648000 0.610000 0.620000 32500
HDR L 19940331 19960328 0.141975 0.177900 0.054700 0.165000 0.177900 0.053700 0.054700 255584
PAL L 19940426 19960522 0.116061 0.155500 0.069000 0.155500 0.187600 0.069000 0.074800 54346
PAS L 19940502 19940811 1.466909 1.637000 1.813000 1.637000 1.666000 1.804000 1.823000 1396700
TMS L 19940510 19951016 0.393655 0.445000 0.373000 0.436000 0.455000 0.373000 0.373000 108000
DOW L 19940511 19971013 0.440542 0.500000 0.530000 0.500000 0.500000 0.530000 0.530000 10000
SHL L 19940511 19960131 0.405593 0.550000 0.780000 0.550000 0.550000 0.780000 0.800000 173200
```

Importing a Text Trade Database into TradeSim.

To import a text trade database into TradeSim simply bring up the *Open trade database* dialogue box by selecting the *Open Trade Database* menu item from the *File* menu or simply select the *Open File* icon from the toolbar. Once the Open Trade Database dialogue box is open then select *Text Trade Database files (*.trt)* from the *Files of type:* drop-down menu. This will allow you to view all of the text trade database files in the current directory as is shown in the example below.
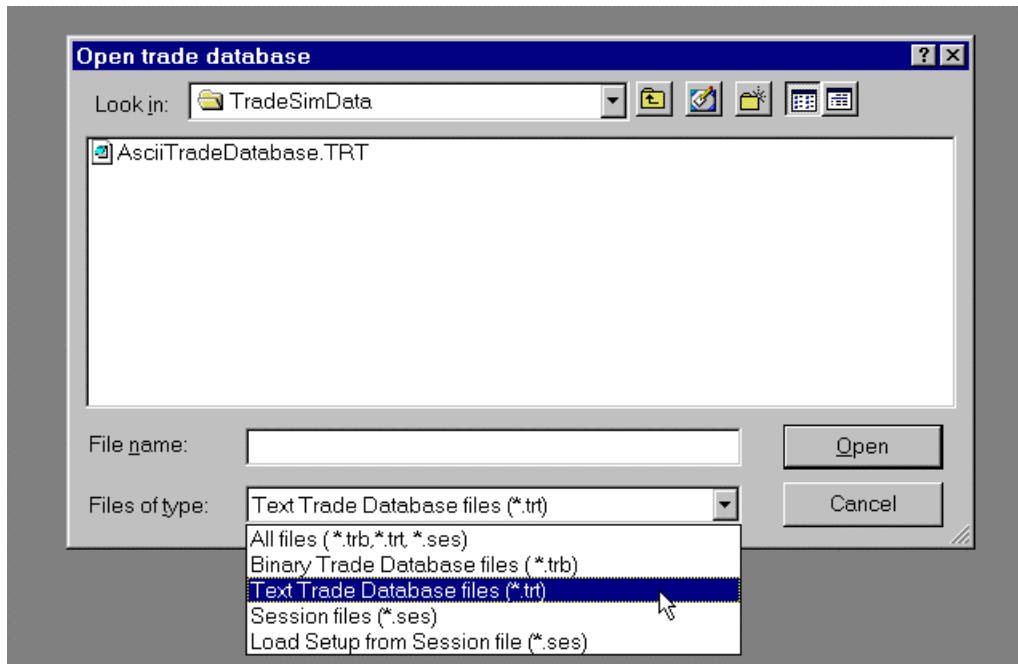
Just click on the relevant file and click on the Open button and the trade database file should be imported. If there are any problems importing the trade database then you should check the Message Log window for the error details.

## Creating a Text Trade Database file from a Binary Trade Database file.

You can generate a text trade database file from an existing database loaded in TradeSim using the Export Trade Database facility available in the Professional and Enterprise Editions of TradeSim. To access this facility just right click on the Trade Database Manager Window and select the Export file option. A file save dialogue box will appear asking you to select the appropriate file and file format. Select the *Universal Text Trade Database file (*.trt)* format from the *Save as Type:* drop-down menu and then select a file or use the optional filename given in the *File Name* field. You do not need to specify a file extension, as one will be automatically appended.

Using Excel to View or Edit a Text Trade Database File

You can use Microsoft Excel® to view or edit a text trade database file. However due to formatting issues it is more convenient to save the trade database as a Comma Separated Variable (CSV) file so that all of the fields in the trade database file are separated correctly once it has been loaded into your spreadsheet program. To do this you need to export your trade database file as a CSV file. When exporting a trade database file select the CSV format as shown in the following Export Trade Database dialogue box and save the file.
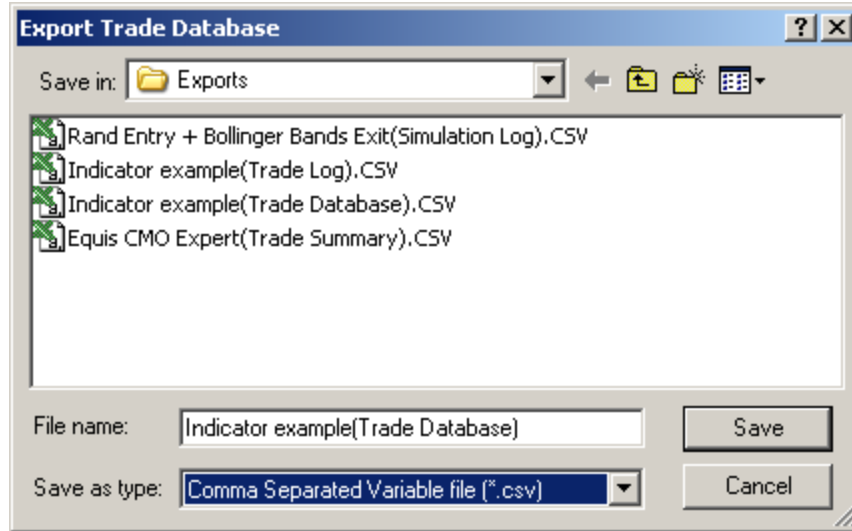
Once the file has been saved in the correct format you now run Excel and import the trade database file. Run Excel and select the Open file dialogue box from the file menu. From the **Open** dialogue box select **Text Files (*.prn; *.txt; *.csv)** in the **Files of type** drop down menu. Navigate to the Tradesim data export directory ie **c:\tradesimdata\exports** then select and open the relevant CSV file.
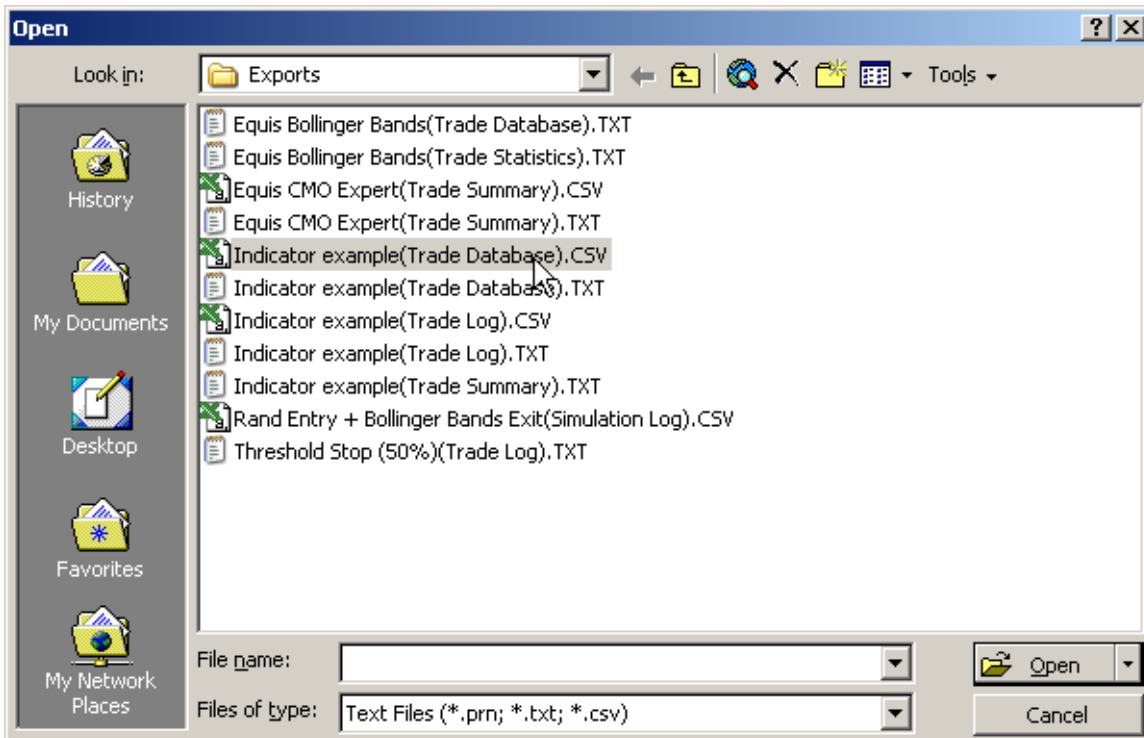
Once the file has been correctly imported into Excel you can then manipulate or massage the data as you would a normal spreadsheet. However when changing any values to make sure that the values are not changed so that the trading records are invalidated due to incorrect values. Once you have edited the spreadsheet you can save it using the [File → Save] command.

Saving the Spreadsheet as a Universal Text Trade Database file.

If you have edited or changed the values in the spreadsheet and want to use the data in a simulation then you need to save the database as a Universal Text Trade Database in order for TradeSim to read it. To do this use the [File → Save As] command and from the **Save As** dialogue box select the **Text (Tab delimited) (*.txt)** filter. Select or type in the filename and change the filename extension from txt to trt. If the file is not saved with the correct filename extension then TradeSim will not recognize it.

Prioritizing Trades using the 'Trade Ranking' Column. ~~NEW~~

In certain circumstances it is necessary to prioritize trades according to a certain criteria. For example you may have a group of trades with the same entry date but a certain trade should always have preference over another with the same entry date. When a simulation is run in TradeSim the trade with the lowest trade number in the trade database manager is usually taken in preference to a trade with the same entry date and a higher trade number. The way that TradeSim sorts the trades when the trade database is first loaded into TradeSim determines which trade is assigned the lowest trade number. By default this list is sorted by symbol and a trade with symbol 'ABC' will appear before 'BCD' in the trade database manager.

TradeSim allows you to alter this sorting so that the trade database can be loaded and sorted in such away that the ranking column determines the sorting criteria within a group of trades with the same entry date. For example you might use the security PE ratio to determine the trade ranking so that a trade with a higher PE ratio may appear before a trade with a lower PE ratio. Alternatively TradeSim allows this ranking to be reversed so that the trade with the highest PE ratio would appear after a trade with a lower PE ratio. The trade database sorting options can be accessed from the global preferences dialog box.
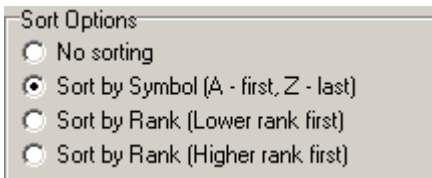
> **Note:** The ranking will not have any significance when the 'Random Walk' is enabled or a Monte Carlo simulation is run in which case trades of a given entry date will be randomly ordered irrespective of ranking.

An example of a single trade with a ranking applied to it is shown in the next line.

```
XPI L 20000530 20000714 2952.802734 3048.899902 3303.000000 3031.500000
3049.199951 3295.199951 3307.899902 0 10.2 30 2700
```

Using the Point Value and Initial Margin Columns. NEW

By default when simulating commodities trading systems the 'Point Value' and 'Initial Margin' values provided in the Trade Parameters tab of TradeSim are applied to each trade in the simulation. However in some situations where you are simulating more than one commodity trading system at the one time you may need to use differing point values and initial margins depending on which commodity is being traded. TradeSim facilitates this by allowing you to assign a point value and initial margin to each trade in the text trade database files.

To enable this facility first populate the relevant columns in the text trade database files. An example of one line of the trade database with the relevant fields populated is shown by the following example.

```
XPI L 20000530 20000714 2952.802734 3048.899902 3303.000000 3031.500000
3049.199951 3295.199951 3307.899902 0 0 30 2700
```

In TradeSim to use the point value and initial margin values from the text trade database you will have to check the boxes as shown below. If you assign a zero value in any of these columns then TradeSim will automatically use the default values specified in the trade parameters tab.

Adding Extra Data to a Binary Trade Database File.

New functions added to the TradeSim plugin allow you to assign additional information to the trade database file at the time the trade database is created using the Metastock Explorer. For more information see the "Extended Data Value Functions" under "The TradeSim Function Library" section in the TradeSim User Manual.

Reference Literature

This list of references is by no means exhaustive but represents material, which is either recommended, or for general reading.

1) Compuvision Australia. TradeSim User Manual.

2) Equis. ***Metastock for Windows 95/98 & NT***. This is the user manual that comes with Metastock Version 7.0 and is a prerequisite for using TradeSim.

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