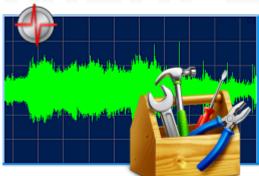


# TasWavEditor 192001001



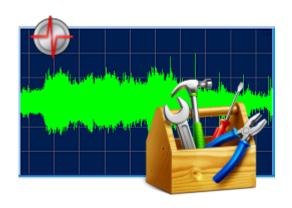
Basic usage guide



#### **Contents**

DIS COM

- 3. Starting TasWavEditor
- 4. Loading Wave Files
- Overview of User Interface
- 6. Using the 'Scope' Window
- 7. Listening to Sensor Signals
- 8. Channel Tricks
- 9. Y Axis Scaling
- 10. Cue Points
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- 12. Addendum: Wave Playback Tricks
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- 14. The "Scouting" Ribbon
- 15. Speed Calculation Options
- 16. Changing Channel Properties and Metadata
- 17. Editing the data
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- 21. Excel Export Result
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- 25. Wave File Chaining





#### **Starting TasWavEditor**

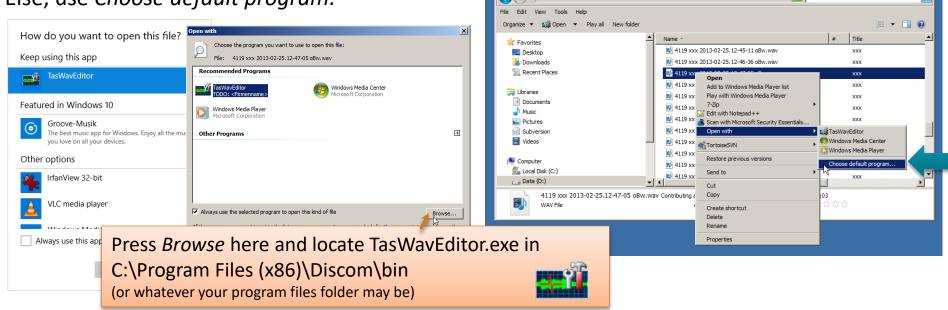
DIS COM

\_ U ×

In Windows Explorer, find a wave file (e.g. in D:\Sound on a measurement PC).

Right-click on the file and choose *Open with...* from context menu.

If TasWavEditor is already in the list, select it. Else, use *Choose default program:* 



TasWavEditor

Keep "Always use..." checked to automatically start TasWavEditor by double-clicking on wave files.

When you start TasWavEditor directly (for example by using a desktop link), you will immediately be prompted for the wave file you want to load.



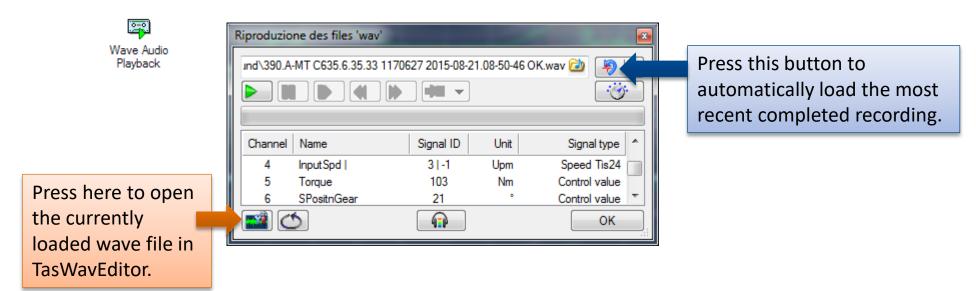
#### **Loading Wave Files**



You can load additional files into TasWavEditor by using the usual "File – Open" command from the menu, or by dragging them into the TasWavEditor window.

When you start TasWavEditor directly (for example by using a desktop link), you will immediately be prompted for the wave file you want to load.

**In the TasAlyser measurement application**, the "Wave Playback" window offers direct access to TasWavEditor:



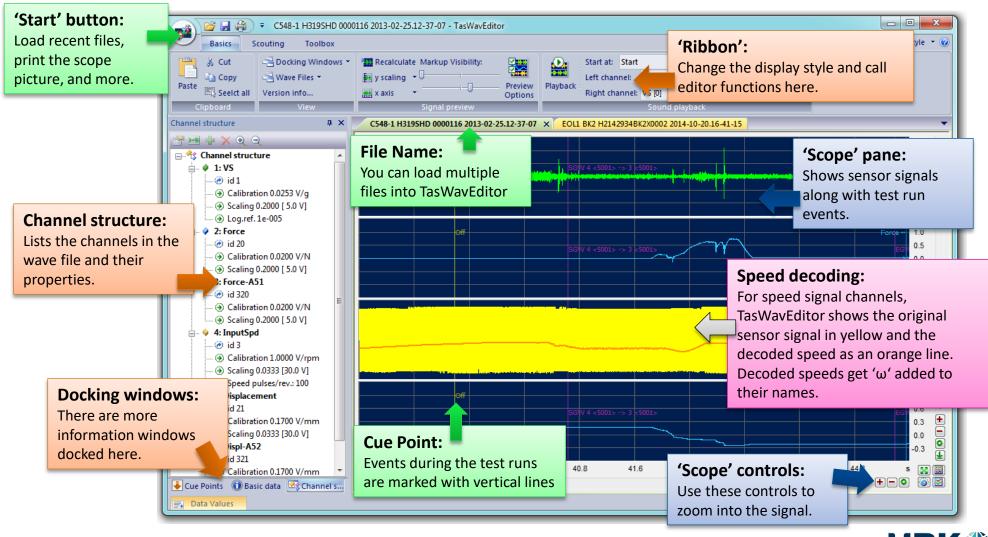
So with two button clicks you can load the latest test run from TasAlyser into TasWavEditor.



#### **Overview**



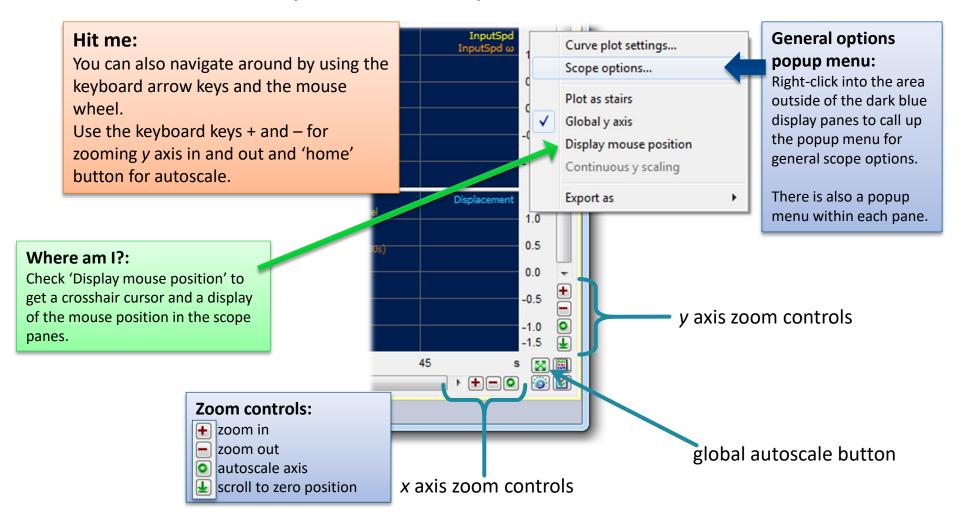
After loading a wave file, TasWavEditor shows an overview of the sensor signals:



#### Using the 'Scope'



There is a lot of functionality hidden in the scope...

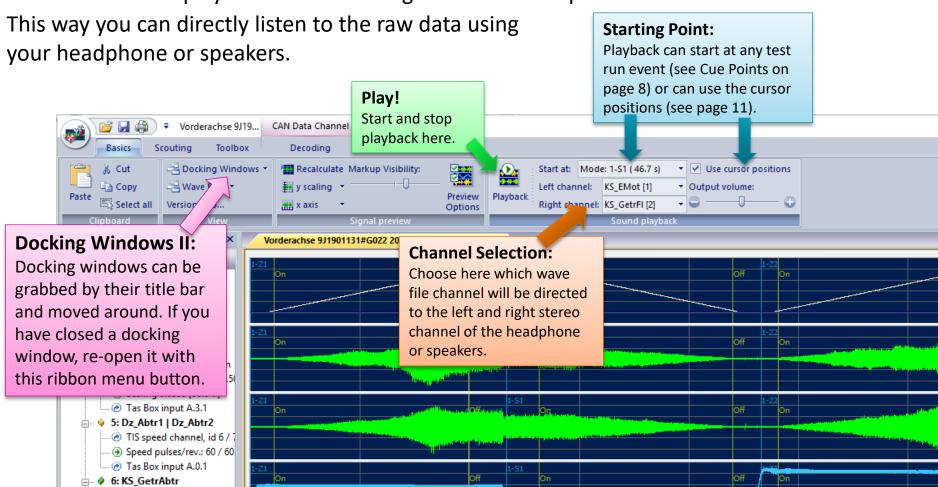




### **Listening to Sensor Signals**



TasWavEditor can play back the sensor signals on the computer's sound card.



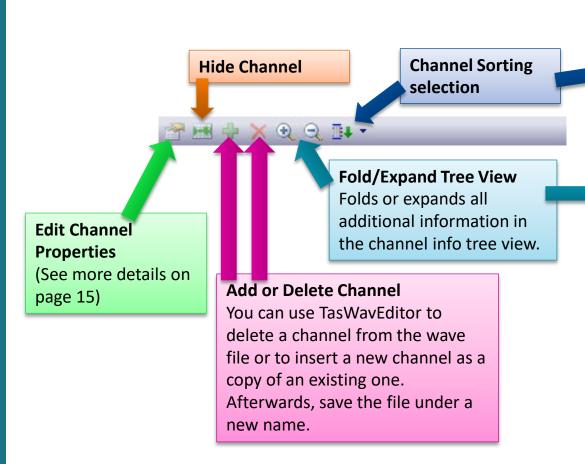


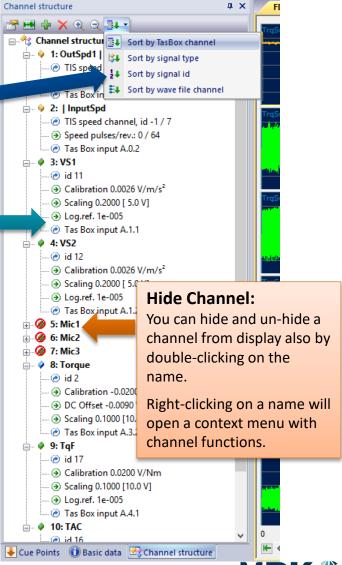
@ id 103

#### **Channel Tricks**



The Channel Info window toolbar offers some useful functions:





#### **Y Axis Scaling**

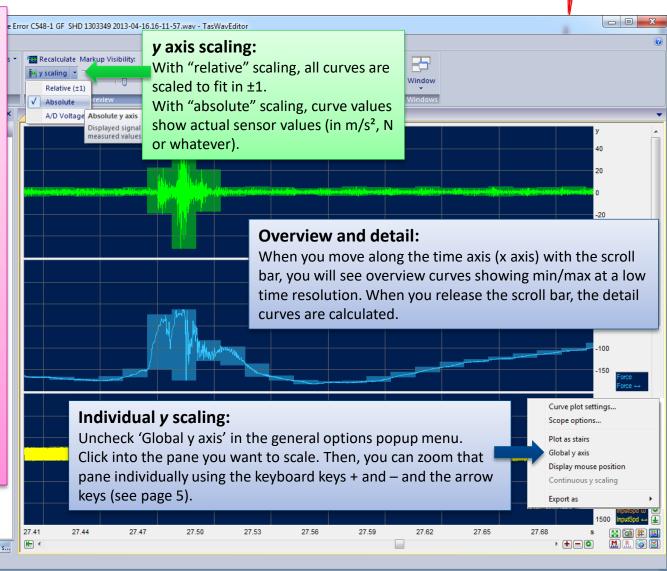


There are three ways of scaling for the y axis:

**Relative** will scale each channel to full gain = ±1. This is useful for a quick overview and for comparing the signal levels of similar sensors.

**Absolute** will use the individual y axis of each channel. This is useful for reading absolute values (like acceleration, speed or torque).

**A/D Voltage** shows the gain as input voltage at the Tas Box. You can detect overload or inappropriate gain settings here.





#### **Cue Points**

DIS COM

"Cue Points" are events during the test run like test step changes.

TasWavEditor shows these cue points in the signal preview and as a list in a docking window:

**Editing Cue Points:** 

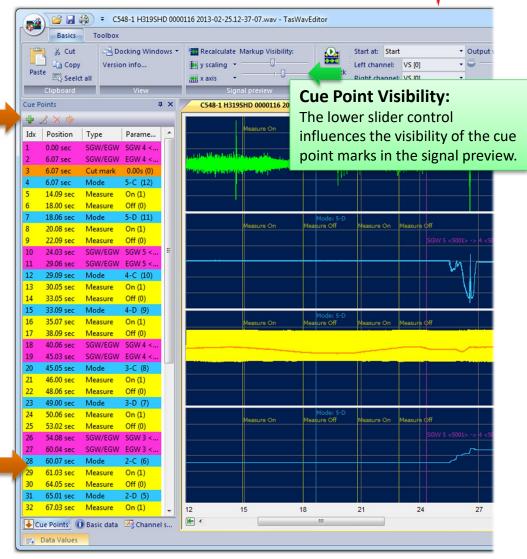
You can change cue point positions, remove and add cue points.
Use the toolbar to edit, add and remove cue points.

#### **Signal Playback:**

Use the playback section in the Ribbon to hear the sensor signals on the PC soundcard. Select the channels you want to hear and the cue point where to start.

#### **Jump to Cue Point:**

When you doubleclicking on a list row, the signal preview is scrolled so that this cue point gets visible.

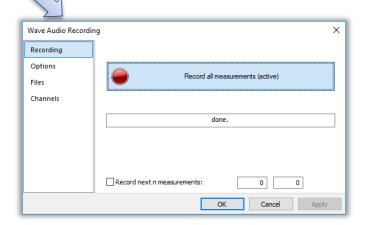


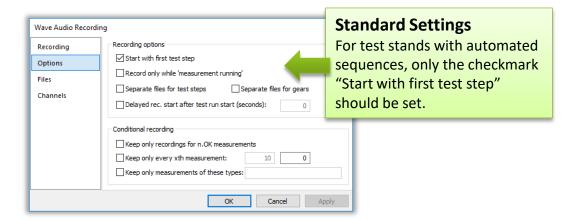


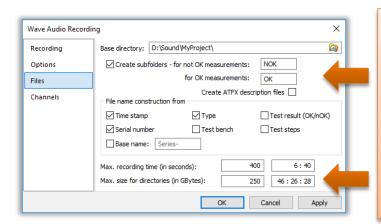
## Addendum: Wave Recording Settings in TasAlyser DIS COM



The Wave Recording settings in the measurement application TasAlyser define, Wave Audio what is recorded into the wave files and how they are named. Recording







#### Sub-folders and maximum directory size

The "max. size for directories" is counted separately for each subfolder.

In this example TasAlyser will keep up to 250 GB each for OK and not OK test runs.

When the max, dir, size is reached, the oldest recordings are delete automatically.

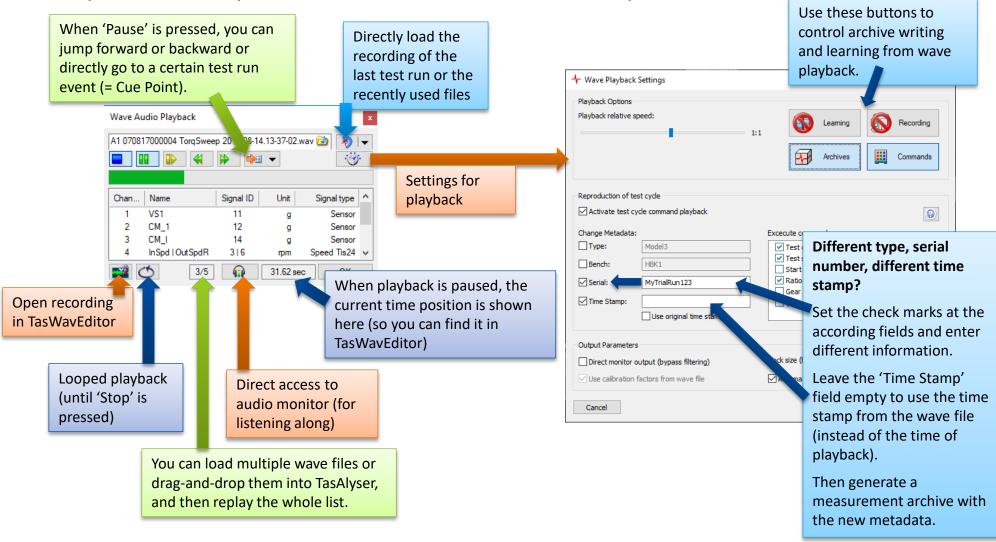
(The maximum size for a single wave file is 2GB according to the wave file format specification. From that limit the maximum recording time is derived.)

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### **Addendum: Wave Playback Tricks**





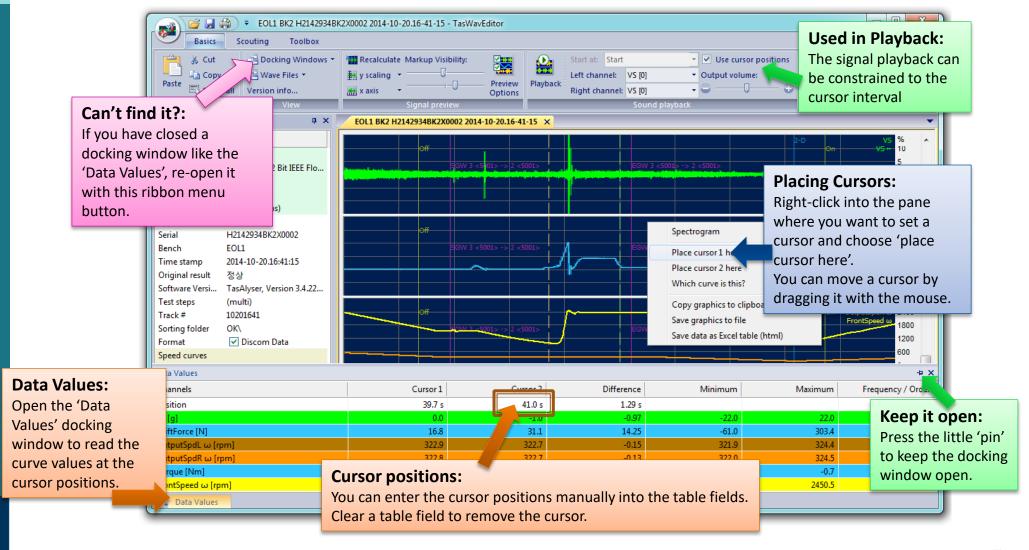


23-08-16

#### **Using Cursors and Data Value Display**



You can place two data cursors in the signal preview to read out the values:

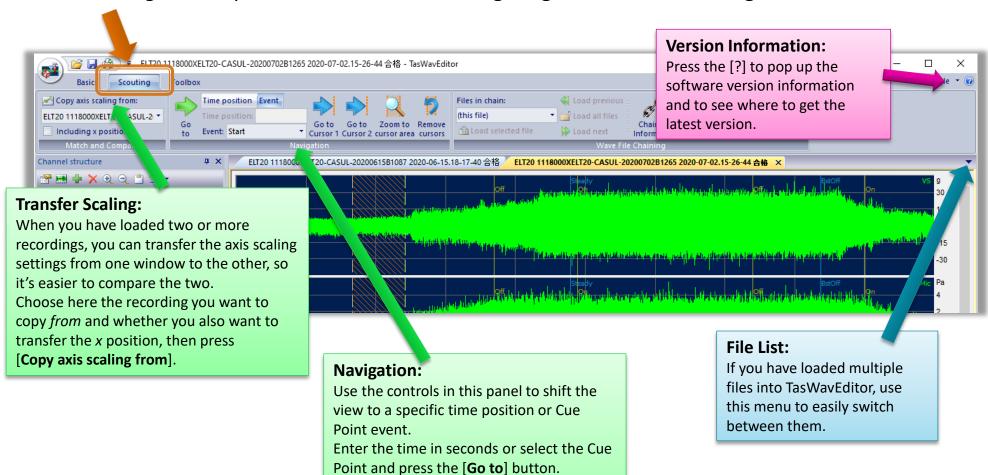




#### **Scouting**



The Scouting ribbon provides functions for navigating within the recording.

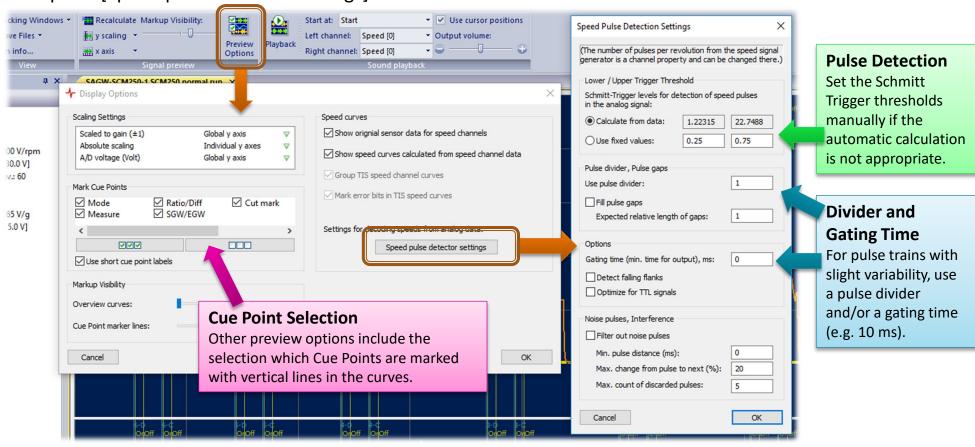


If you have set cursors, you can also move directly to the cursor positions, zoom to the cursor area or remove the cursors.



### **Speed Calculation Options**

The TasAlyser pulse detection offers a set of advanced options for calculating the rotational speed from the raw data. To access these options in TasWavEditor, go to the Preview Options and press [Speed pulse detector settings]:

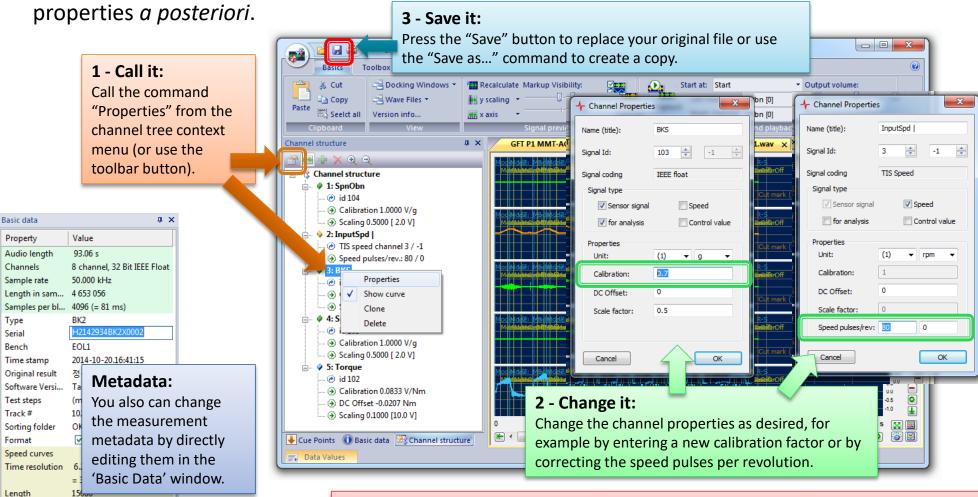


To save your Preview Options and Speed Decoding settings, go to the 'Toolbox' ribbon and create a settings file.



### **Changing Channel Properties and Metadata**

With TasWavEditor you can change calibration factors and other channel



TasWavEditor

When you replay the changed wave file in the TasAlyser measurement application, you will get a new "measurement" with the changed settings.



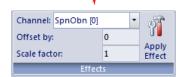
- Cue Points Basic data Channel s...

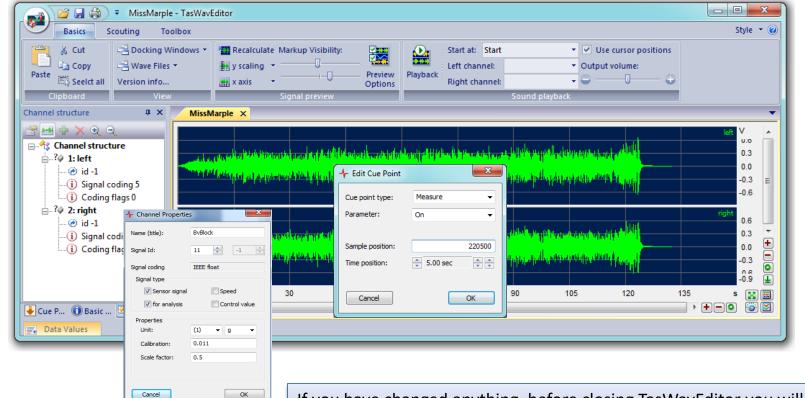
#### **Editing the data**

DIS COM

TasWavEditor has some simple capabilities for editing the sensor data, but can change any aspect of 'Metadata' (like channel descriptions, cue points and more).

You can load a wave file recorded by any other tool and fix the metadata, add channel descriptions and Cue Points and thus make it TasAlyser playable.





TasWavEditor

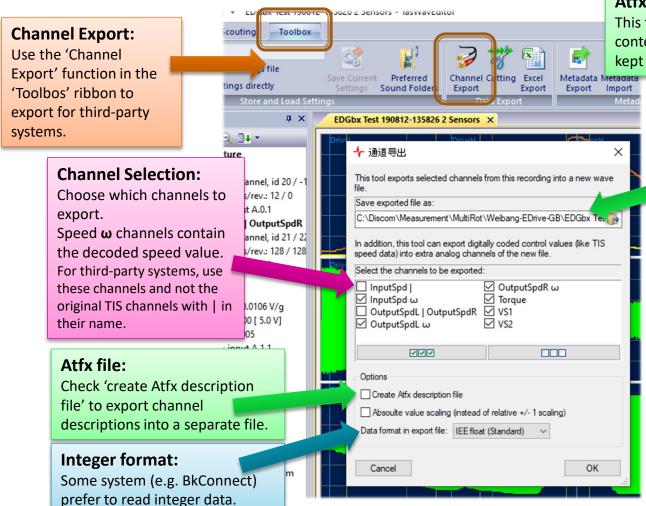
If you have changed anything, before closing TasWavEditor you will be prompted to save the changed wave file, optionally with a new name.



#### **Exporting to Third-Party systems**

Many third-party applications can read WAV raw data and use 'ATFX' files to import the channel descriptions. Because the TIS speed information is digitally coded, the speed channels have to be exported as analog values:

TasWayEditor



#### Atfx description file:

This file (XML format) is a *description* of the contents of the wave file. Both files have to be kept together and should not be renamed.

#### **Export file names:**

If switched on, an Atfx file will be generated in the same location as the exported wave file and have the same file name with the extension '.atfx' instead of '.wav'.

### Digital (TIS) Speed and CAN Data Export:

Speed signals originally recorded by a TIS card and also CAN bus data are stored in digitally coded format in the original wave file. For import in third-party systems, these channels and have to be converted to analog values. Select the according "analog" channels when exporting, not the original raw data.



#### **Data Export and Cutting**



There are two ways to export data: into a new wave file ('Channel Export', 'Cutting') or into an Excel table.

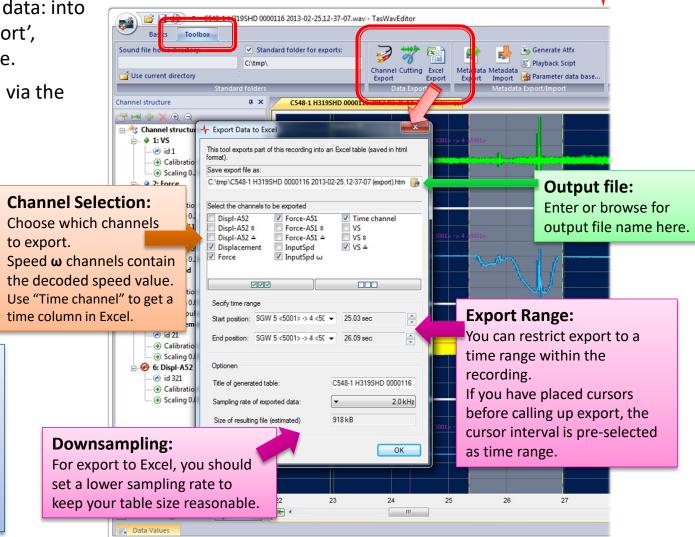
Export functions are accessed via the ribbon 'Toolbox'.

## Channel Export and Cutting:

Both generate a new wave file. With 'Cutting' you have the additional options of exporting only part of the file and reducing the sample rate.

#### **Hints for Excel export:**

The data are stored in an html file which can be read in directly by Excel (but can also be viewed in any internet browser) — see next page. You should choose a reasonable sampling rate for the exported data in order to restrict the table to a manageable size.





#### **Export Curve Formats**

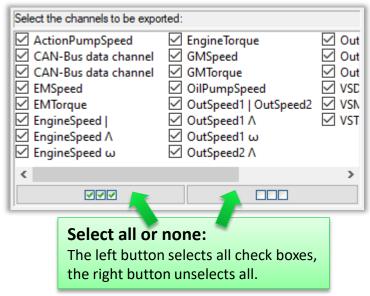


In the first place, all channel exports will write out the original wave raw data.

For some types of channels or types of export formats, derived values can be more useful.

Derived values are marked by specific symbols after the channel name in the selection list:

Symbol	Meaning
I	TIS speed channels can contain two independent speed signals. The   separates the two names and even appears when only one speed signal is used.
ω	Speed as analog value (like 1200.0 rpm). Especially when exporting for a third-party system, TIS speed channels must be converted to analog values. Can also be useful for direct pulse-type speed signals
٨	Speed pulses from TIS speed. Instead of exporting the speed as value, this option generates a signal with pulses that correspond to the original TIS speed pulses.
<b>≙</b>	Envelope. Useful for sensor channels which are exported to Excel with reduction to a very low sampling rate.
<b></b>	Min/Max curve. Also useful for exporting to very low sampling rates.

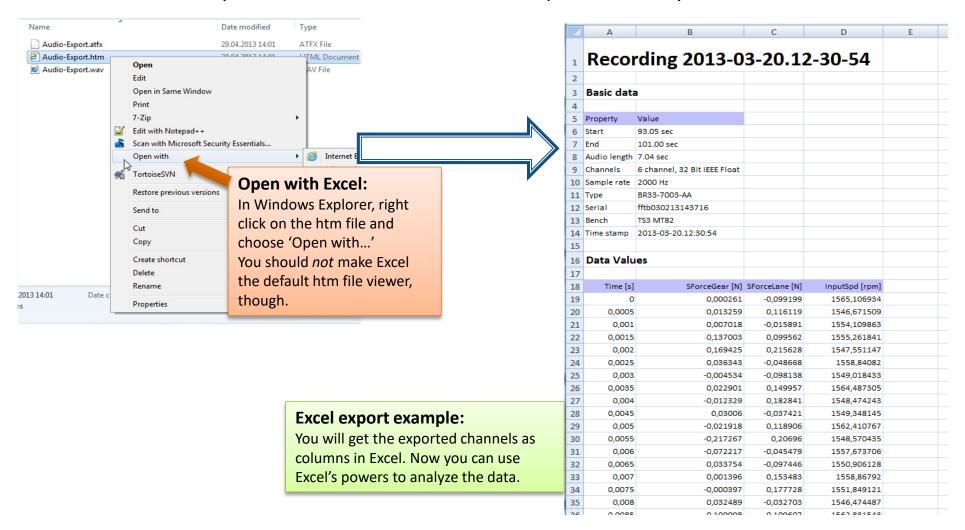




#### **Excel Export Result**



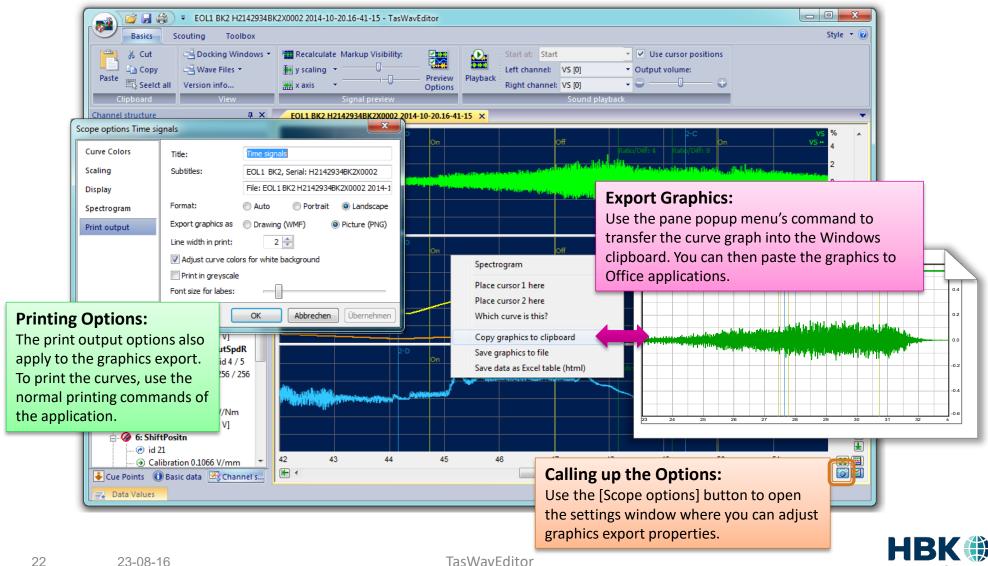
The result of Excel export is an htm file which can be opened directly with Excel.



#### **Exporting the Graphics**



You can export the curve graphics of single panes or of all curves.

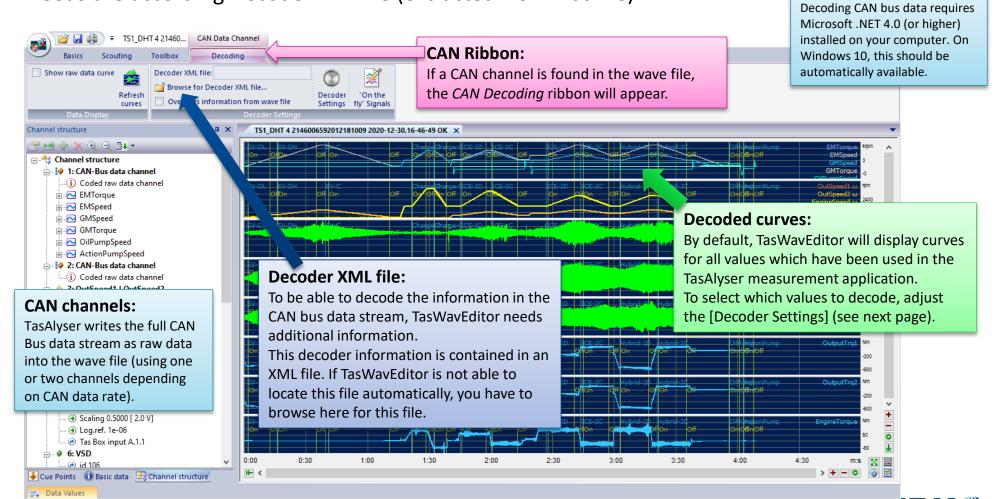


#### **CAN Data Curves**



.NET required:

If your wave file contains a channel with CAN bus data, TasWavEditor will try to decode these data and show the according curves. For this, TasWavEditor needs the according Decoder Xml file (extracted from Dbc file).



### More on CAN Decoding

#### Raw data curve:

TasWavEditor can generate a curve which shows a peak for each CAN message block in the data stream. Use this checkbox to show this curve and get an idea of the message rate.

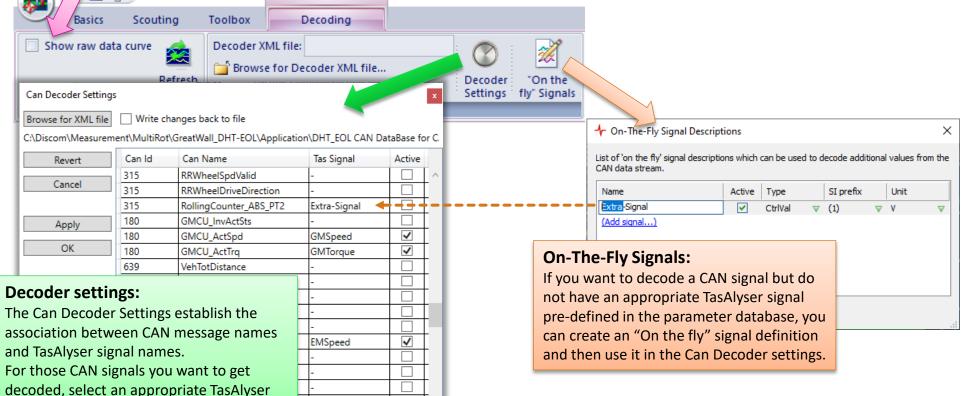
CAN Data Channel

▼ TS1\_DHT 4 21460...

A typical CAN bus data stream contains many signals. TasWavEditor can decode any of these but needs a TasAlyser signal description to map onto.

TasAlyser copies information about the known signal descriptions from the parameter database into the

wave file metadata.





signal and set the Active check.

### **Wave File Chaining**



Due to the wave file format specification, a single wave file cannot be larger than 2 GB.

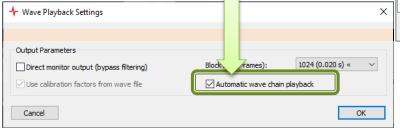
This can be a limitation for long test runs and applications with many sensors and high sampling rates. And even 2 GB files can be inconvenient to handle.

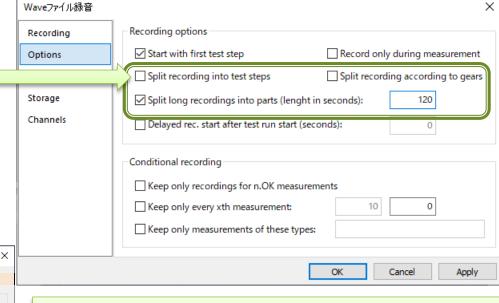
Therefore, TasAlyser has the option to split a test run recording into a number of single files. Using specific metadata, these files are *chained*, so TasAlyser can play them back

as if it was a single, long recording.

In TasAlyser, open the Wave Recorder settings and use one of the three splitting options.

In the Wave Playback options (see also page 11), set the checkmark for wave chain playback to automatically play the whole chain:





All chain files are created in the standard output directory (OK/NOK subfolders cannot be used).

For chain playback, all files must be located in the same folder.

### **Edit Wave File Chaining**



You can examine and edit the chaining information for a wave file in the "Scouting" section:

