MDA V8.5.1 – What's New

Functional Enhancements & Usability Improvements

MDA V8.5.1 – What's New

Summary for MDA V8.5.1 (June 2020)

- **Functional Enhancements**
  - Import of formula definition for calculated signals (*.xcs) from INCA or MDA V7.x
  - First step: Basic Properties window for all instruments

- **Files, Formats and Data Types**
  - Editing of measure file comment and other meta-information
  - Creation of Label files (*.lab)
  - Performance aspect: Indication of missing file index for MDF files
  - Adapted HEX resp. BIN representation for so-called #MeasureCal signals

- **Usability Improvements**
  - Oscilloscope: Automatic update of signal values at cursors with detailed signal data (part 2)
  - Oscilloscope: Selection Wheel to define signal-to-axis assignment when dropping signals
  - Open Information Window via 'About Variable' from Variable Explorer (Ctrl+I)
  - Adaptation of Font Size and Line Spacing for more compact list views
  - Further smaller improvements and changes

- **General**
  - Overview of installed components and system requirements

- **Outlook for Next Version**

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MDA V8.5.1 – What's New

Functional Enhancements of MDA V8.5.1 (June 2020)

- **Functional Enhancements**
  - Import of formula definitions for calculated signals (*.xcs) from INCA or MDA V7.x
  - First step: Basic Properties window for all instruments
- **Files, Formats and Data Types**
- **Usability Improvements**
- **General**
- **Outlook for Next Version**

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MDA V8.5.1 – What's New

Functional Enhancements: Import of formulas for calc. signals from INCA or MDA V7.x (V8.5.1)

○ Calculated signals can be exported from INCA Experiment Environment,
  or from MDA V7.x in *.xcs file format

○ Reuse of the formula definitions of these calc. signals is possible
  by importing the *.xcs file via the 'Import XDA' icon

○ During import procedure a measure file should be selected, as
  based on this selection the input signals for the calc. signals
  are mapped automatically

○ If no measure file is selected during *.xcs import,
  a placeholder file entry will be created in the File Explorer,
 which can be replaced later
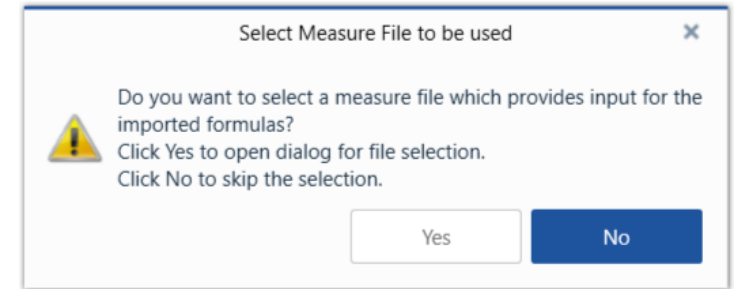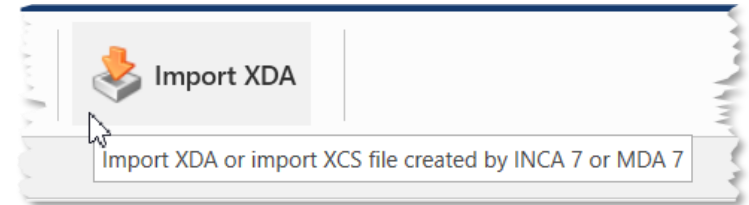
Notes:
- The same limitations apply as for the import of calculated signals from an *.xda file.
  For example, if a calculated signal with the same name exists already, the import fails.
- MDA V8.5.1 supports import of *.xcs file only, but not writing.
- To exchange calculated signals between MDA V8 configuration use Copy & Paste feature.
- Signal mapping follows the same mapping rules as in case of a measure file replacement.

MDA V8.5.1 – What's New

Functional Enhancements: Basic Properties window for all instruments (V8.5.1)

○ A basic properties docking window for generic instrument properties is introduced with MDA V8.5.1

○ As a first step it includes only few instrument properties, namely
  - ○ Instrument Name
  - ○ Visibility of instrument header, and
  - ○ Visibility of time slider bar

○ It replaces the former Options dialog
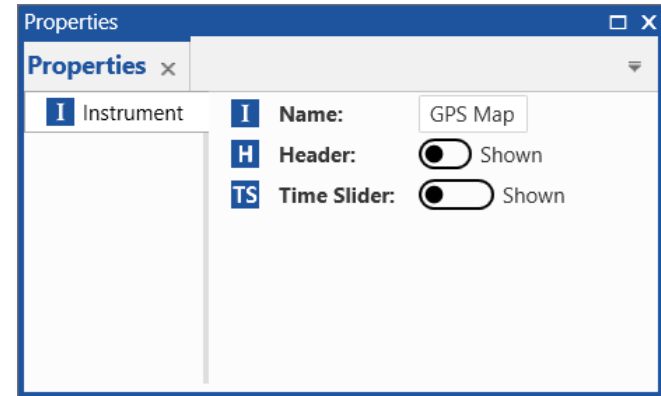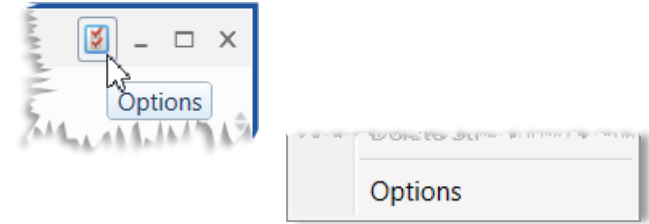
Outlook

○ In future MDA versions instrument-specific properties will be added to the Properties window. First instrument-specific properties, then properties of signals, axes etc.

Note:
- Better understandable icons and Keyboard combination to open Properties window will follow.

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MDA V8.5.1 – What's New

Files, Formats and Data Types – Changes in MDA V8.5.1 (June 2020)

- Functional Enhancements
- **Files, Formats and Data Types**
    - Editing of measure file comment and other meta-information
    - Creation of Label files (*.lab)
    - Performance aspect: Indication of missing file index for MDF files
    - Adapted HEX resp. BIN representation for so-called #MeasureCal signals
    - Further smaller changes in MDA V8.5.1
- Usability Improvements
- General
- Outlook for Next Version

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MDA V8.5.1 – What's New

Files, Formats and Data Types: Editing of measure file comment and other meta-information (V8.5.1)

- MDF Measure files usually include so-called meta-information like the default and user comment, a user name, project (A2L) and data file names used in INCA, and others
- With MDA V8.5.1 the existing meta information can be edited e.g. to correct or adapt it
- After pressing 'Save' the adapted contents are stored in the measure file, and updated in the Information Window
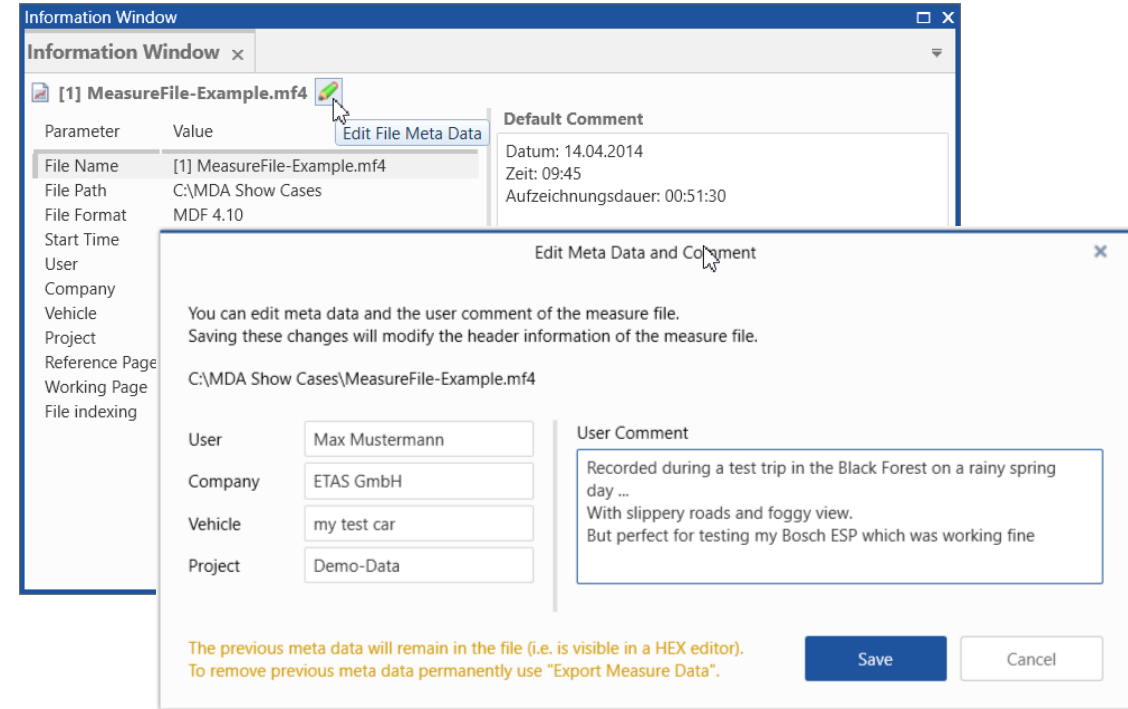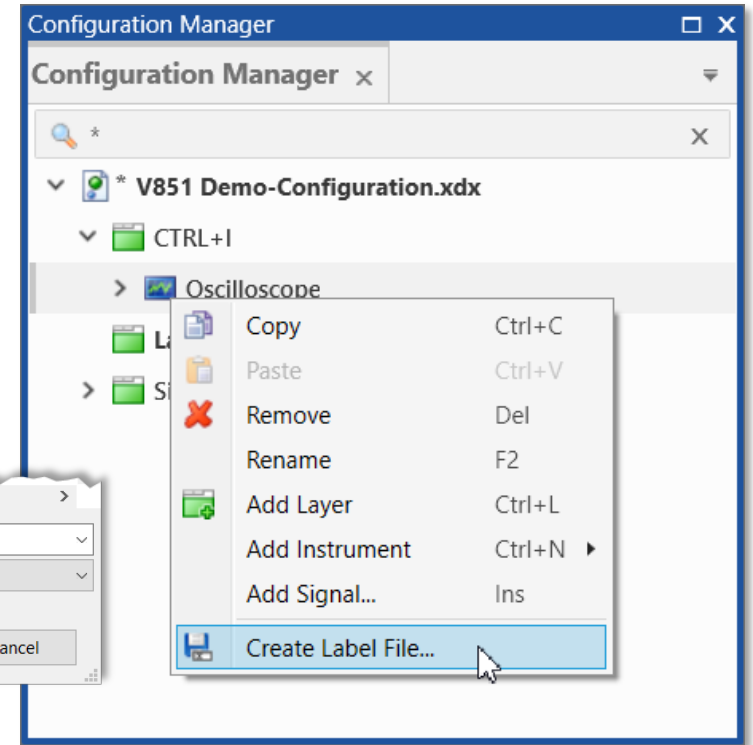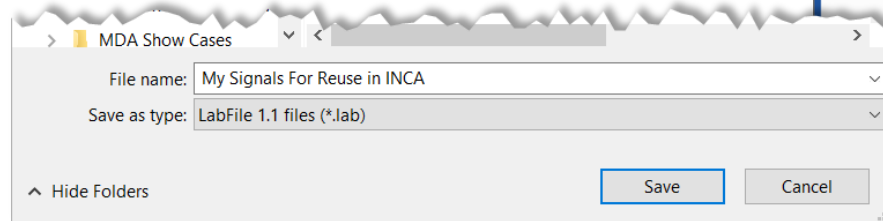

Notes:
- To edit the meta information write-access for the file must be given.
- Existing meta information remains in the measure file and is visible e.g. in a HEX editor.
  For a permanent removal of previous meta information 'Export Measure Data' can be used.
- When saving changed meta information the 'date modified' of the file is adapted, but the 'file creation date' remains unchanged.
- Especially for MDF V3.x (*.dat) files, the number of characters for User, Company, Vehicle and Project are limited.

MDA V8.5.1 – What's New

Files, Formats and Data Types: Creation of Label files (*.lab) (V8.5.1)

○ To facilitate variable selection in INCA, so-called 'Label files' (*.lab format) can be used for filtering

○ MDA V8.5.1 can write such Label files including signal names, and optionally raster information

○ By using context menu entry "Create Label File …" in the Configuration Manager all signals of the selected node are included into the file

○ Label file is stored via a standard "Save As …" dialog in which format version can be selected

Notes:
- Supported Label files formats are V1.0 (purely signal names), and V1.1 (signal names and raster information).
- Function and Group information is not available for MDA V8 so far, and is therefore not added to V1.1 Label files.
- Signals in 'no-match' state are skipped when writing the Label file.
- Reading Label files into MDA (e.g. as filter in the Variable Explorer) might be part of a future MDA version.

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MDA V8.5.1 – What's New

Files, Formats and Data Types: Indication of missing file index for MDF files (V8.5.1)

- To benefit most from the performance capabilities of MDA V8 measure files with an ASAM Standard Index are recommended
- Signal curves of indexed files are displayed much faster when scrolling or zooming
- ASAM Standard Index is supported by MDF Formats V3.3 (*.dat), and V4.x (*.mf4)
- MDA V8.5.1 indicates by a blue overlay icon when a file format supports the index, but has no suitable index
- Index status is also shown in the measure file tooltip and the Information Window

- Indexing can be activated via INCA user options:
User Options -> Experiment -> Measure -> General -> Write Index to File
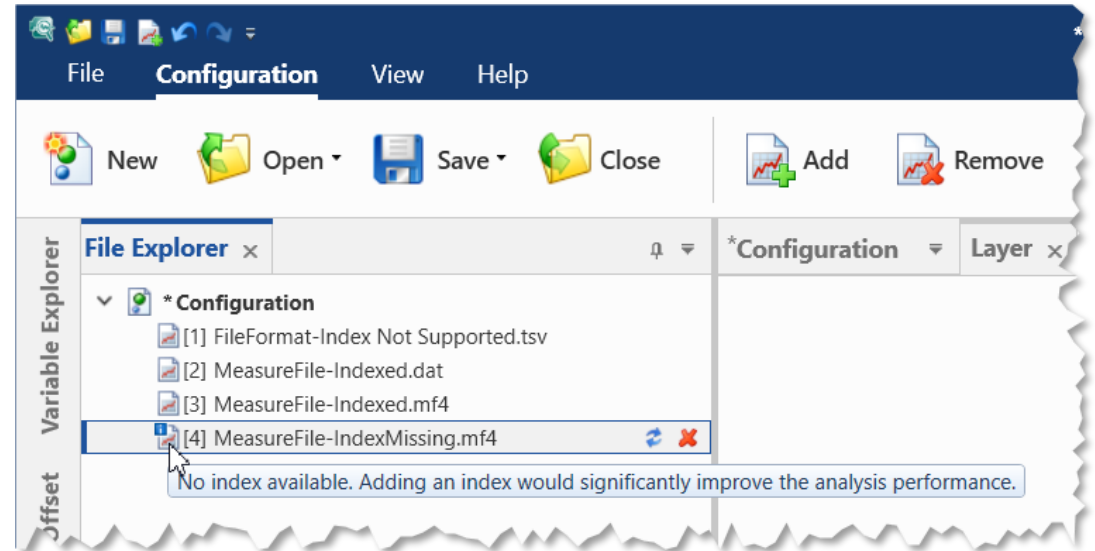
MDA V8.5.1 – What's New

Files, Formats and Data Types: HEX & BIN representation for so-called #MeasureCal signals (V8.5.1)

- For calibration variables recorded in INCA the data type Float is used, which can differ from the actual data type of the calibration variable
- MDA V8.5.1 enables to define manually the number of bits used as basis for the Hexadecimal or Binary representation of a #MeasureCal signal in table and oscilloscope (Hex only)
- If the user selection does not fit to the actual signal values (e.g. values are outside data type range) the number of digits for the hex or bin value is extended on the fly

Notes:
- By default 32 bit are preselected, also in case of multi-selection of signals.
- Last selected bit number is used as default when representation of a signal is changed again.
- When selecting "Do not cast" the FLOAT value according to IEEE-754 is shown in hex or bin representation.

Select Type Cast for Hex / Bin Representation

The signal has a data type of 32-bit or 64-bit floating point.

If the hexadecimal or binary values shall be shown as integers, select the number of bits.

- ○ 8-bit   ○ Do not cast
- ● 16-bit
- ○ 32-bit

OK

Different Representation

Time s	[1] double_with_uint16_values ticks/year	[1] double_with_uint16_values Hex
4.00	3.00	3
5.00	4.00	4
6.00	5.00	5
7.00	6.00	6
8.00	7.00	7
9.00	8.00	8
10.00	9.00	9
11.00	10.00	A
12.00	126.00	7E
13.00	127.00	7F
14.00	128.00	80
15.00	254.00	FE
16.00	255.00	FF
17.00	256.00	100

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MDA V8.5.1 – What's New

Files, Formats and Data Types: Further smaller changes in MDA V8.5.1

- **File handling in case of Snapshot Recording**
  In case a snapshot recording was triggered from INCA, and MDA V8 is still using the temporary measure file, and now the recording in INCA is stopped and the measure file is saved with a different name, then MDA V8 ensures that the temporary measure file is removed eventually

- **Path for customer-specific ASCII plugins**
  The path for *.ini files providing details about interpretation of ASCII based measure files was changed to:
  %ProgramData%\ETAS\MDA\8.x\CorePlugins\Etas.TargetAccess.Targets.MeasureFile.Formats.AsciiConfigurable

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MDA V8.5.1 – What's New

Usability Improvements of MDA V8.5.1 (June 2020)

- **Functional Enhancements**
- **Files, Formats and Data Types**
- **Usability Improvements**
  - Oscilloscope: Update of signal values at cursors with more detailed data (part 2)
  - Oscilloscope: Selection Wheel to define signal-to-axis assignment when dropping signals
  - Open Information Window via 'About Variable' from Variable Explorer (CTRL+I)
  - Adaptation of Font Size and Line Spacing for more compact list views
  - Further smaller improvements and changes
- **General**
- **Outlook for Next Version**

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MDA V8.5.1 – What's New

Usability Improvements: Update of signal values at cursors with more detailed data (V8.5.1)

- For a quick data representation in the oscilloscope, the data displayed is so-called 'reduced data' based on the standard index of the file (if available)
- The index provides minimum and maximum values for time ranges, and ensures that outliers are visible
- For performance reasons signal values shown at cursor positions are using reduced data initially
- With MDA V8.5.1 when the cursor is no longer moved the unreduced i.e. detailed data for the signal values is requested, and as soon as loaded, the indicator (~) for reduced data disappears automatically
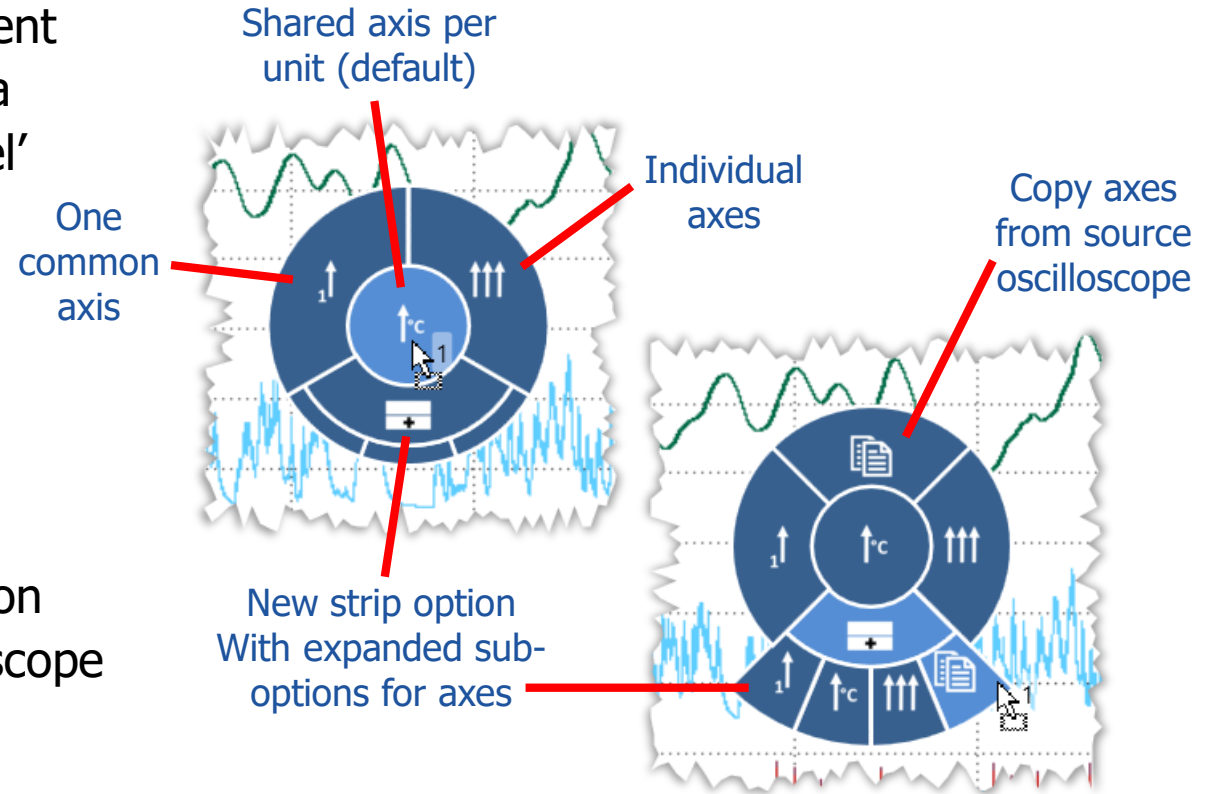
Notes:
- As precise time position of a cursor the center of a pixel is used. The next sample left or right provides the detailed value.
- The time position of the cursor is kept when zooming in or zooming out.
- Option to suppress ~ indication was removed from cursor drop-down menu.
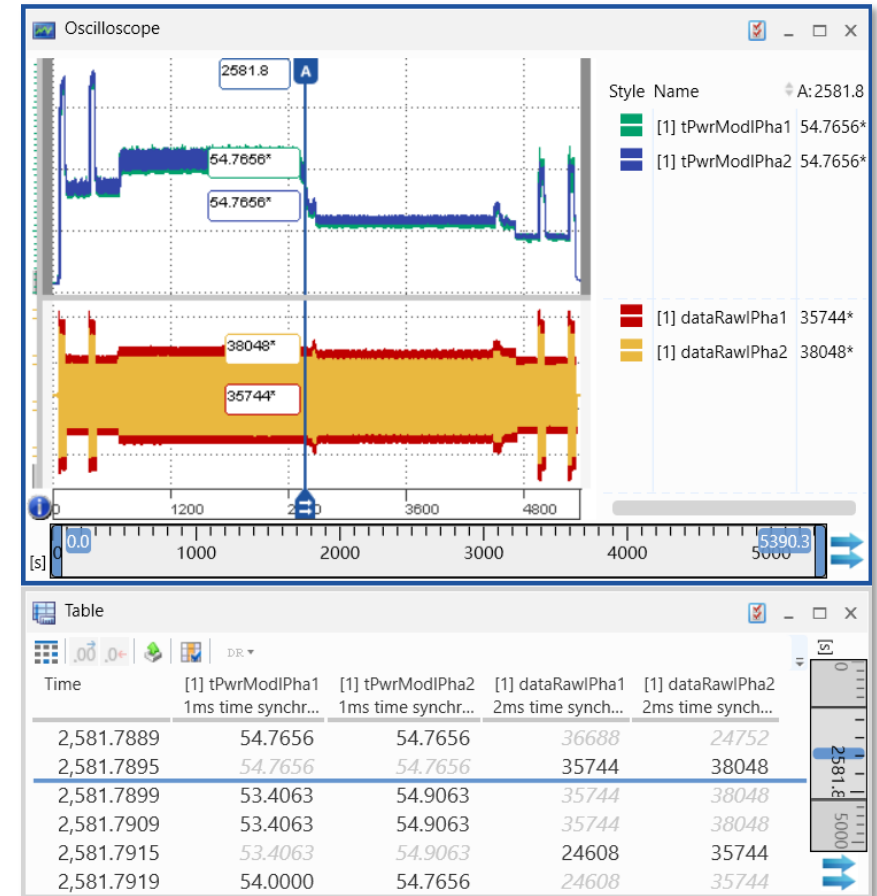
MDA V8.5.1 – What's New

Usability Improvements: Selection Wheel for signal-to-axis assignment (V8.5.1)

○ To define quickly the signal-to-axis assignment when dropping signals into an oscilloscope a new element is offered: the 'Selection Wheel'

○ It appears in the graphical area and in the signal list after a short delay

○ User can choose between different options

- ↑₁ All signals share one common axis
- ↑ᶜ Shared axis per unit
- ⇈⇈ Each signal gets an individual axis
- ⊟ Creation of a new strip & axis as sub-option
- 📋 Copy axis assignment from source oscilloscope

Shared axis per unit (default)

One common axis

Individual axes

Copy axes from source oscilloscope

New strip option With expanded sub-options for axes

Notes:
- Selection wheel does not appear when dropping happens fast.
- When signals are dropped, first assignment to analog strip is checked, i.e. Events and Booleans are handled separately.
- Limitations of sharing an axis remain unchanged.
- Default defined in axis options is applied when INSERT dialog is used, or dropping is done in Configuration Manager.

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MDA V8.5.1 – What's New

Usability Improvements: Open Information Window via 'About Variable' from Variable Explorer (V8.5.1)

- Before selecting a signal it can be helpful to have a look into the meta information for identifying the right signal
- To see quickly the signal meta information a direct access from Variable Explorer to Information Window is enabled in MDA V8.5.1 using
  - context menu entry "About Variable"
  - or short-cut CTRL+I
- Signal meta information is shown for the currently focused signal, and changes when switching to another signal in the list

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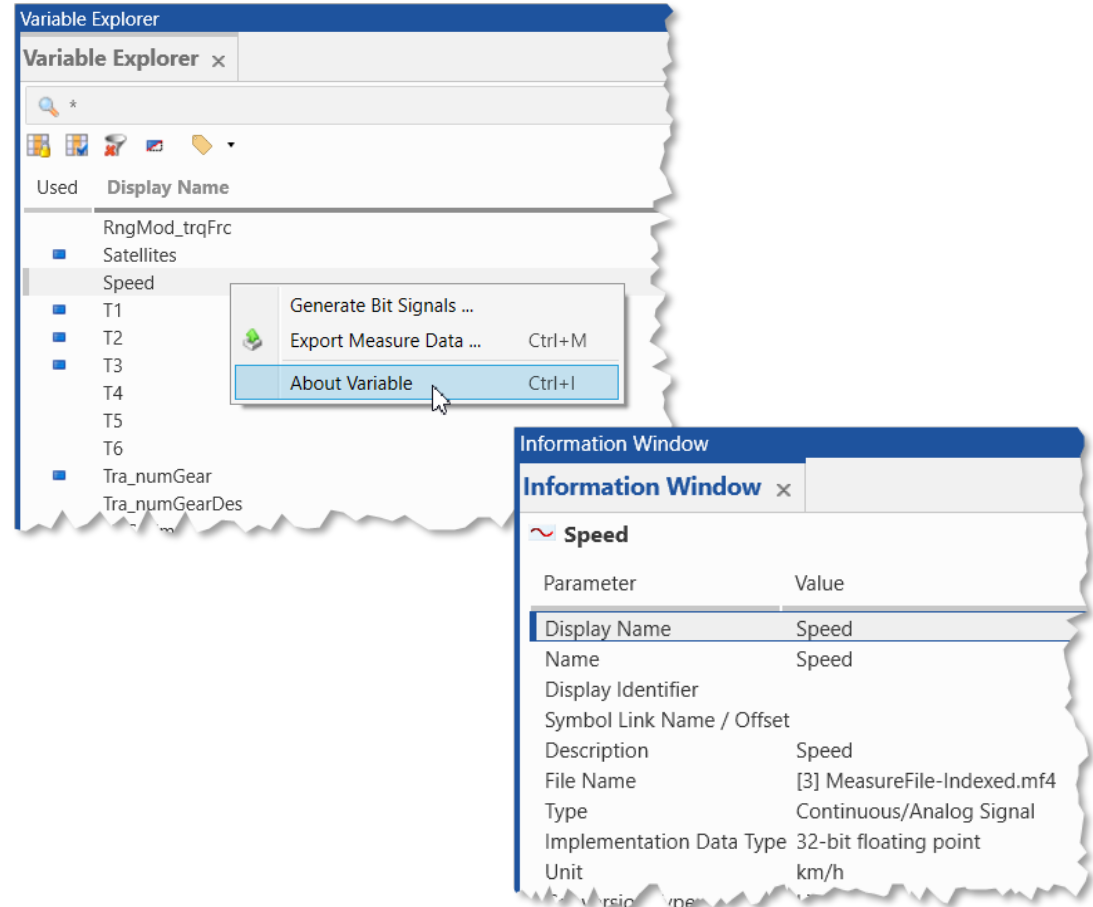
MDA V8.5.1 – What's New

Usability Improvements: Adaptation of Font Size and Line Spacing for more compact list views (V8.5.1)

- To use the available screen space more efficiently, font sizes and line spacing were reworked
- The new settings effect mainly entries in listings, like Variable Explorer, Configuration Manager, Signal List in oscilloscope, Information Window, …
- The selected style is a compromise between readability and small size, and results in a similar number of entries as in comparable MDA V7.x views
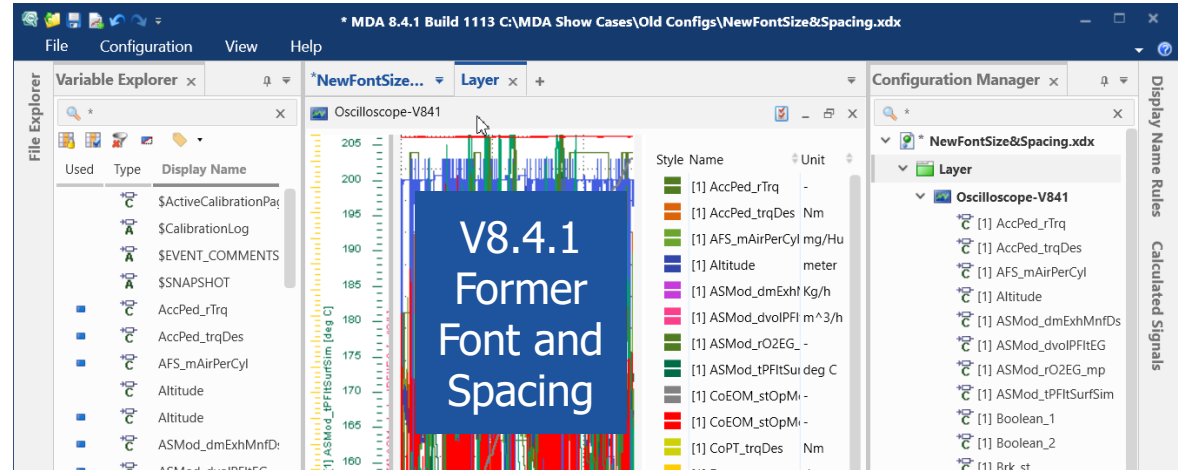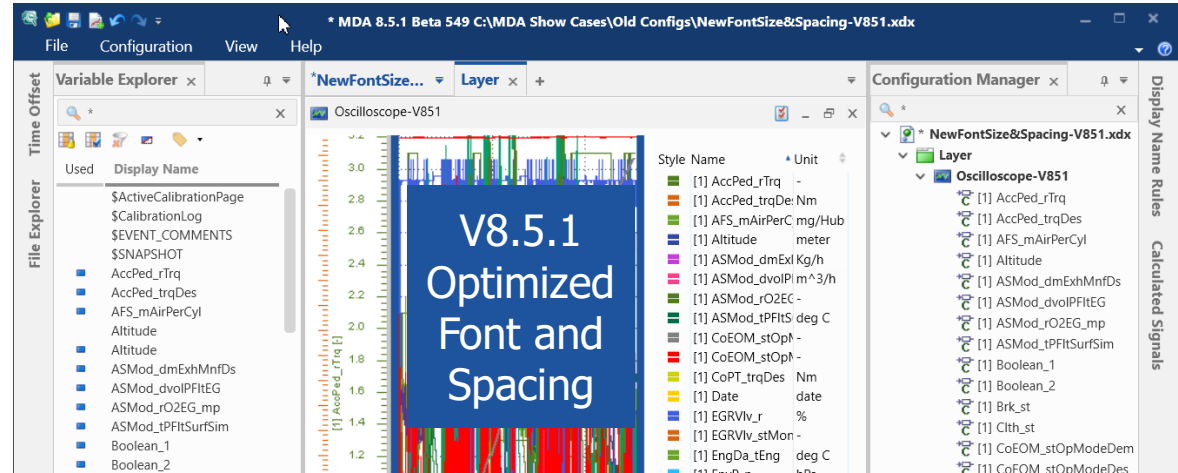
MDA V8.5.1 – What's New

Usability Improvements: Further smaller improvements and changes in MDA V8.5.1

○ **Variable Explorer**
Hotkey (CTRL+M) to open the Export Measure Data dialog is supported
Using multi-selection in combination with Copy (CTRL+C) copies the names of all selected list entries

○ **Calculated Signals toolbox contents**
For non-English languages the naming and explanation of functions was reworked completely *

* Note:
- Especially for newly introduced functions the names and descriptions might appear in English. These will be translated in the next MDA V8 version.

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MDA V8.5.1 – What's New

General Notes for MDA V8.5.1 (June 2020)

- **Functional Enhancements**
- **Files, Formats and Data Types**
- **Usability Improvements**
- **General Notes**
  - Overview of installed components and system requirements
- **Outlook for Next Version**

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MDA V8.5.1 – What's New

General Notes

Additionally Installed Components	MDA V8.3.x	MDA V8.4.1	MDA V8.5.1
.Net-Runtime-Environment [1]	V4.6.2	V4.6.2	V4.8
VCxRedist (V credist_x86 / V credist_x64)	VC10 + VC15 + VC17	VC10 + VC15 + VC17	VC15 + VC17 + VC19 [2]
ETAS Certificate	X	X	X
ETAS License Manager (x86 / x64) [3]	V1.7.1	V1.7.4	V1.7.5
Direct X	V9 (or higher)	V9 (or higher)	V9 (or higher)
Others			
ETASShared (IPManager only)	12	13	13
System-Requirements			
Windows® 7 (64 bit) [4]	X	- [4]	- [4]
Windows® 8.1 (64 bit)	X	X	X
Windows® 10 (64 bit) [5]	X	X	X

[1] This component is installed only when no or an older version is installed. This is checked by a Microsoft installation routine.
[2] For Visual C++ 2019 Redistributable x64 only.
[3] ETAS License Manager is installed only when no or just an older License Manager version is installed.
[4] Support of Windows® 7 OS ended in early 2020. MDA V8.4.0 was the last MDA V8 version supporting Windows® 7 OS.
[5] Supported are Windows® 10 64bit (version 1803 or higher), and Windows® 10 64bit Enterprise (LTSC 2016 or higher).

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MDA V8.5.1 – What's New

Outlook for Next MDA V8 Version (June 2020)

- Functional Enhancements
- Files, Formats and Data Types
- Usability Improvements
- General Notes
- **Outlook for Next Version**

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MDA V8.5.1 – What's New

Outlook for next MDA V8 version

- The following improvements are **candidates** for the next version (September 2020)
  - Improvements for resolving no-match state for signals in case of copy & paste
  - Properties window for instrument settings of Scatter Plot, and Oscilloscope
  - Support of LookUp tables for Calculated Signals
  - Support of signals having a non-monotonous conversion formula in the oscilloscope
  - Video instrument for video files recorded using INCA video add-on
  - By double-clicking measure files (*.dat, *.mdf, *.mf4) are loaded into MDA V8
  - …

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Thank you for using MDA V8.5