



Functional Enhancements & Usability Improvements Cumulated Slides for MDA V8.4.x Releases

Summary for MDA V8.4.1 (March 2020)

• Functional Enhancements

- Cursor synchronization in GPS Map instrument
- Option to define the default behavior for signal to axis assignment in oscilloscope
- List of recently used configurations
- Import of calculated signals from *.xda files created by INCA, and of Find Trigger from MDA V7.x

• Files, Formats and Data Types

- Snapshot recording (in combination with INCA V7.3.0 or higher)
- Display of additional measure file meta information (with INCA V7.3.0 or higher)
- Indication of conversion formula for Enumeration signals

• Usability Improvements

- Oscilloscope: Clearer representation of Pause events
- Oscilloscope: Automatic update of signal values at cursors with more detailed signal data
- Improvements for Export Measure Data dialog
- INSERT dialog supports * as wildcard
- General
 - Overview of installed components and system requirements
- Outlook for Next Version

• What's New of former version MDA V8.4.0

Functional Enhancements of MDA V8.4.1 (March 2020)

• Functional Enhancements

- Cursor synchronization for GPS instrument
- Option to define the default behavior for signal to axis assignment in oscilloscope
- List of recently used configurations
- Import of calculated signals from *.xda files created by INCA, and of Find Trigger from MDA V7.x
- Files, Formats and Data Types
- Usability Improvements
- General
- Outlook for Next Version

Functional Enhancements: Cursor synchronization for GPS Map instrument (V8.4.1)

- For an easy analysis of data related to a driven track, MDA V8 supports synchronization of GPS map and other instruments
- While synchronization mode is active the cursors show in an oscilloscope are also shown as markers along the track in the GPS map
- The whole track is still displayed in the map, but in different color shades, and zoom-to-fit considers just the track section of the selected time range



Notes:

- Functionality is also demonstrated in video #17 "GPS Map".
- GPS data based on NMEA coordinates is not supported so far.
- In synchronized mode one 'synchronization cursor' is mandatory to define and indicate the synchronization time.

Functional Enhancements: Default behavior for signal-to-axis assignment in oscilloscope (V8.4.1)

- To reduce configuration effort, oscilloscope allows to define the default behavior for signal-to-axis assignment via the axis options dialog
 - Signals having the same unit share one axis
 - All signals share one common axis
 - Each signal gets its individual axis
- The setting is applied for newly added signals from the Variable Explorer or from other instruments (given the signal can be assigned to a shared axis)
- If signals are dropped from an existing oscilloscope, the axis assignment from the source oscilloscope remains unchanged

Assign si	ignal(s) to	An axis having the same unit	~	1		
-	2	An axis having the same unit	N			
Axes Opt	tions	One common axis	W	-		
Axis Id	Axis Nam	An individual axis		Min Value	Max Value	Set as Favorite
A	[2] Altitud	e [meter]		500	1000	*
В	[1] coolan	t_temperature [°C]		-50	120	*
С	[1] distand	istance_trip [km]		-5	120	*
E	[1] engine	1] engine_speed [rpm]		-100	5000	*
F	[1] exhaus	st_temperature [degC]		-5	250	*
G	[1] lambda [-]			-2	100	*

Notes:

- Signals can share one axis only if their data representations and data types match.
- Enumerations (in physical representation), and signals in no-match state get an individual axes always.
- In case of one axis per unit, and a signal has no unit, the exact string is used for a shared axis. I.e. space, hyphen, underscore are handled as separate axes.

[©] ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Functional Enhancements: List of recently used configurations (V8.4.1)

- To enable a quick access to already used configurations, a 'recently used' list is available as a drop-down list of the Open configuration icon
- Up to 10 entries are listed in chronological order



Note:

6

- In case opening of a recently used configuration fails, its entry is removed from the list.

© ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Functional Enhancements: Import of calculated signals from INCA created *.xda files (V8.4.1)

- Calculated Signals defined in INCA Experiment Environment are imported into MDA V8.4.1 with the *.xda configuration file
 - Import happens when MDA V8 opened from INCA EE
 - To manually trigger the import, use the 'Import XDA' button
- Imported calculated signals are listed in the Calculated Signals docking window of MDA V8
- A message in the status bar informs about the import results
- Additionally so-called 'Find triggers' from MDA V7.x are included during import of an *.xda file
- These can be assigned to an Event List instrument for a quick navigation between the occurrences of the 'Find' criteria





Note:

- If a calculated signal with the same name exists already, the import can not be conducted.
- For an example how to navigate between events see video #15 "Event Navigation".

Files, Formats and Data Types – Changes in MDA V8.4.1 (March 2020)

• Functional Enhancements

• Files, Formats and Data Types

- Snapshot Recording in combination with INCA (requires V7.3.0 or higher)
- Display of additional meta information for measure files (requires INCA V7.3.0 or higher)
- Indication of conversion formula for Enumeration signals
- Usability Improvements
- General
- Outlook for Next Version

Files, Formats and Data Types: Snapshot Recording in combination with INCA V7.3 (MDA V8.4.1)

- Snapshot Recording allows to analyze measure data already while the recording is still running in INCA
- In case of snapshot recording an *.xda file is created by INCA and imported automatically into MDA V8
- By default data is displayed as defined in INCA Snapshot recording settings
- In MDA only the measure data is available which was recorded before snapshot recording was triggered



Notes:

9

- Snapshot recording requires a combination of MDA V8.4.1 and INCA V7.3.0 or higher.
- If recording is stopped in INCA, while snapshot file is still open in MDA V8.4.1, the temporary snapshot file will remain on the disc and needs to be deleted manually.

© ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Files, Formats and Data Types: Display of additional meta information for measure files (V8.4.1)

- Measure files recorded with INCA V7.3.0 or higher can include additional meta information such as
 - Used hardware
 - A2L and Hex files
- Within the Information Window the additional information are listed besides the usual meta information

Information Window		
Information Window \times		Ŧ
[1] 4Ecus2Measureme	ntDevices01.mf4	
Parameter	Value	Default Comment
Company Vehicle Project Reference Page Working Page ETAS Target Description targets ETK test device:4 name type description description file	ETAS my PC MDA tets 0400, Demo03, Demo07, Demo08 0400 1. Demo03 1. Demo07 1. Demo08 1 DEMO Software \Attachments\ETK-Testdevice4\Project\Demo08.a21	Database: db Experiment: Experiment Workspace: Workspace Devices: ETK test device:1,ETK test device:4,ETK test device:3,VADI test device:2,VADI test device:1,ETK test device:2 Program Description: 0400, Demo03, Demo07, Demo08 WP: 0400_1, Demo03_1, Demo07_1, Demo08_1 RP: 0400, Demo03_0, Demo07, Demo08 Date: 02/19/2020 Time: 08:51:29 AM Pre-trigger Time: 0[s] Recording Duration: 00:00:06 Post-trigger Time: 0[s]
checksum ecu side	0x8000	User Comment
checksum tool side dataset rp description file checksum ecu side checksum tool side dataset wp description file checksum ecu side checksum tool side ETK test device:3	0x8000 \Attachments\ETK-Testdevice4\RP\Demo08.hex 0x1993 0x1993 \Attachments\ETK-Testdevice4\WP\Demo08.hex 0x1993 0x1993	And some user comment set in the INCA recorder options

Note:

- Scheme for meta information is defined in ASAM standard for MDF V4.x.

U © ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Files, Formats and Data Types: Indication of conversion formula for Enumeration signals (V8.4.1)

- To better understand the type, behavior, or values of a signal, MDF files include meta-information on signal level
- An important information for a signal is the conversion formula used to calculate from the implementation values (as acquired from the ECU) the physical values (as usually used for analysis)
- Also for enumerations MDA V8.4.1 displays the conversion formula in the Information Window (CTRL+I)
- Up to 10 lines are shown at once
- Using CTRL+C copies all lines to the Windows clipboard

Information Window		□ ×
Information Window	<	₹
∼ VTAB_U8_DEFAULT		
Parameter	Value	
Display Name	VTAB_U	8_DEFAULT
Name	VTAB_U	8_DEFAULT
Display Identifier	VTAB_U	8_DEFAULT
Symbol Link Name / Offse	t	
Description	VTAB M	easurement as input for KF and KL
File Name	[1] VTAE	3s01.mf4.2020-02-18-16-49-10.mf4
Туре	Enumer	ation Signal
Implementation Data Type	8-bit un	signed integer
Unit		
Conversion Type	Value to) text
Conversion Formula	Impl	Phys
	-1	minus_one
	0	zero
	1	one
	2	two
	3	three
	4	four
	5	tive .
	0	SIX
	/	seven
	0	aiaht

Usability Improvements of MDA V8.4.1 (March 2020)

- Functional Enhancements
- Files, Formats and Data Types
- Usability Improvements
 - Oscilloscope: Clearer representation of Pause events
 - Oscilloscope: Automatic update of signal values at cursors with more detailed signal data
 - Improvements for Export Measure Data dialog
 - INSERT dialog supports * as wildcard
- General
- Outlook for Next Version

Usability Improvements: Clearer representation of Pause events (V8.4.1)

 To improve the visibility of Pause events, vertical lines and a Pause icon are displayed in the oscilloscope, additionally to markers in the Event strip



Note:

- Signal curves are not interrupted during a pause section so far.
- The color of the vertical pause indicating lines can not be changed.

13 © ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Usability Improvements: Update of signal values at cursors with more detailed data (V8.4.1)

- 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 it ensures that outliers remain visible
- Also signal values shown for cursor positions are initially based on the reduced data
- With MDA V8.4.1 the unreduced i.e. detailed data for the signal values is requested when the cursor is no longer moved, and if detailed data is available, the 'reduced data' indicator (~) disappears

- In MDA V8.4.1 functionality is available for sample-based cursor mode and one 'raster' only.
- 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.



14 © ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Notes:

Usability Improvements: Improvements for Export Measure Data dialog (V8.4.1)

- When an export of measure data is triggered MDA checks whether a file with the same name already exists
 - If so, an increment is appended to the export file name automatically
 - If the export file name is changed manually by the user to a file name that already exists, a warning message appears (but without a further confirmation dialog)
- All errors and warnings related to the export path and/or export file name are shown next to the file name text box

				Export	Measure Data			×	
Signal	(s)	6 signa	al(s) sel	ected.					
Time F	Range [s]	Start:	0		End:	5957			
File Fo	ormat	MDF	4.10					-	
File Pa	ith	C:\M	DA Sh	ow Cases\Generate	eWithSignals_1.m	4		Browse	
_					Export Measure [Data			×
Sumi	Signal(s)		6 sign	al(s) selected.					
	Time Ran	ge [s]	Start:	0		End:	5957		
	File Form	at	MDF	4.10					*
	File Path		C:\N	1DA Show Cases\@	GenerateWithSign	als.mf4		Browse	
			The f	ile already exists. I	t will be overwritt	en.		J	
	Summary		•	No issues found de	uring validation. P	lease p	roceed.		
							Export	Cancel	

Usability Improvements: INSERT dialog supports * as wildcard (V8.4.1)

For more flexibility when searching for a variable to be added to an instrument, the INSERT dialog allows to use an * as wildcard for an arbitrary sequence of characters
The wildcard * can be used anywhere in the search string
When a search string starts with * the mode is "contains"
Deleting the * changes the mode to "starts with"
The last selected search mode is re-used when re-opening the INSERT dialog

Add Signal to: Oscilloscope
CIF*DB*Sens
* [1] CIF_TempDBCInvSensU
C [1] CIF_TempDBCInvSensV
C [1] CIF_TempDBCInvSensW
Found matches: 3

Note:

- Search is done in the Display Name field only.

General Notes for MDA V8.4.1 (March 2020)

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

General Notes

Additionally Installed Components	MDA V8.3.x	MDA V8.4.0	MDA V8.4.1
.Net-Runtime-Environment 1)	V4.6.2	V4.6.2	V4.6.2
VCxRedist (V credist_x86 / V credist_x64)	VC10 + VC15 + VC17	VC10 + VC15 + VC17	VC10 + VC15 + VC17
ETAS Certificate	Х	Х	Х
ETAS License Manager (x86 / x64) 2)	V1.7.1	V1.7.3	V1.7.4
Direct X	V9 (or higher)	V9 (or higher)	V9 (or higher)
Others			
ETASShared (IPManager only)	12	12	13
System-Requirements			
Windows [®] 7 (64 bit) ³⁾	Х	Х	_ 3)
Windows [®] 8.1 (64 bit)	Х	Х	Х
Windows [®] 10 (64 bit) ⁴⁾	Х	Х	Х

¹⁾ This component is installed only when no or an older version is installed. This is checked by a Microsoft installation routine.

²⁾ ETAS License Manager is installed only when no or just an older License Manager version is installed.

³⁾ Support of Windows[®] 7 OS ended in early 2020. MDA V8.4.0 was the last MDA V8 version supporting Windows[®] 7 OS.

⁴⁾ Supported are Windows[®] 10 64bit (version 1803 or higher), and Windows[®] 10 64bit Enterprise (LTSC 2016 or higher).

MDA V8.4.1 – 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

Outlook for next MDA V8 version

- The following improvements are **planned for the next release** (June 2020)
 - Possibility to edit meta information of a measure file (e.g. user comment)
 - User-friendly way to decide about signal-to-axis assignment in oscilloscope
 - Oscilloscope: Automatic update of signal values at cursors with more detailed signal data (part 2)
 - Properties Grid for instrument settings of GPS Map, Scatter Plot, and Oscilloscope
 - Improvements for resolving of no-match state for signals
 - User option how to display so-called "#MeasureCal" signals in hexadecimal data representation
 - Indication of availability of ASAM Standard index for MDF measure files
 - Writing of *.lab files from Configuration Manager
 - Import of calculated signals from *.xcs files created in INCA or MDA V7

o ...





Functional Enhancements & Usability Improvements Section for MDA V8.4.0

Summary for MDA V8.4.0 (December 2019)

• Functional Enhancements

- Basic GPS instrument to display a track using longitude and latitude
- Define rules to shrink long signal names to relevant fragment
- Time Offset for individual signals
- Copy & Paste Calculated Signals across configurations
- Further cases of corrupt data get detected and indicated

Files, Formats and Data Types

• Show 'Events' in the oscilloscope

• Usability Improvements

- More meaningful naming of Calculated Signal functions
- Remove all no-match signals in one step via Configuration Manager context menu
- Copy signal name from Variable Explorer and oscilloscope signal list
- Connect MDA V8.4 to a running EHANDBOOK-NAVIGATOR session
- A signal is highlighted after selection in the Configuration Manager
- Reduced data indicator at cursor values can be suppressed

• General

• Reworked handling of `settings.user' to prevent compatibility issues when returning to an older installation

Public | ETAS-PGA | March 2020

Functional Enhancements of MDA V8.4.0 (December 2019)

• Functional Enhancements

- Basic GPS instrument to display a track using longitude and latitude
- Define rules to shrink long signal names to relevant fragment
- Time Offset for individual signals
- Copy & Paste Calculated Signals across configurations
- Further cases of corrupt data get detected and indicated
- Files, Formats and Data Types
- Usability Improvements
- General

Functional Enhancements: Basic GPS instrument to display a track using longitude and latitude (V8.4.0)

- When longitude and latitude information is available in a measure file, a track can be displayed in a map
- GPS instrument identifies automatically longitude and latitude based on the signal names, alternatively a manual reassignment is possible
- Zooming and scrolling the map is possible
- Time range can be defined using the time slider



Notes:

- GPS data based on NMEA coordinates is not supported so far.
- Cursors and cursor synchronization is not implemented.

Functional Enhancements: Define rules to shrink long signal names to relevant fragment (V8.4.0)

- As variable names are getting longer and longer, MDA V8.4 allows to shrink the name to the relevant part
- An arbitrary number of rules can be combined to a rule set
- For definition of rules separators (like _ . /) as well as a string can be entered as 'break points'
- Rules can be reordered via drag & drop
- The target group of variables for which the rule set shall be applied is definable
- An example string helps to check the rule set
- If the result of the shrinking would be an empty string, the original name is shown instead

Note:

- Rule set effects the used display name only, i.e. in Variable Explorer or Information Window for 'Name', 'Display Identifier' or 'Symbol Link' the variable's original name is shown.
- Only 'Name' is used for signal mapping when replacing, and not 'Display Name'.
- With MDA V8.4.0 the window appears in English only. This will change in a future version.

рау мате к	lles		
splay Nam	e Rules 🗙		;
Example to te	st rule with:	This_is.an_example.name_to.be_shortened	
Final result of	rules:	example.name_to.be_shortened	
Dofino rulos			
Denne rules			
Direction:	From left	•	×
Action:	Hide variab	le name until	
Separator:			
Number:	1 🛟		
Trim lea	ding and trai	iling ' .:'	
Result:	an_example.	name_to.be_shortened	
Direction:	From right	*	*
Action:	Hide variab	le name from *	
Separator:	-		
Number:	3 📮		
Trim lea	ding and trai	ling ' .:'	
	overele ner	ne to be shortened	

C ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Functional Enhancements: Time offset for individual signals (V8.4.0)

- For a proper analysis it is sometimes necessary to shift a specific signal by a time value, so that it gets aligned to the other signals in the measure file
- Via Calculated Signals MDA V8.4.0 supports positive or negative 'time offsets' under Output Options
- The time offset is applied to the result of the calculation
- A shifted signal can be used for display, as input for further calculations, in the export of measured data ...
- A file time offset and a time offset for an individual signal are handled cumulatively

l Signals		□ x
ted Signals \times		
ed Signals	Name: Shifted_Signal Formula Definition:	Unit:
	Output Options Rate Combined Raster (Merge Rasters) Fixed 100 Same as Signal Type Automatic) (ms *)
	Time Offset [s] -0.123456 Description: Input signal is shifted to earlier time stam time offset	ips by given
	Save	Cancel

alculate

Calcula

Calculat

Note:

- Time stamps of the input signal remain unchanged.
- The time offset is given in seconds and can have up to 6 decimals (i.e. microseconds).
- Toolbox functionality "Delay_Signal()" supports only positive values.

Functional Enhancements: Copy & Paste of calculated signals between MDA V8 configurations (V8.4.0)

- To facilitate reuse of already defined calculated signals, MDA V8.4.0 allows to copy and paste calculated signals across configurations
- If a Calculated Signal with the same name already exists, the name of the pasted signal gets incremented
- Copy & Paste includes all aspects of the original signal:
 - Name, unit and formula definition incl. the reference to the measure file of the input signal (see Note)

• Any output option as raster, type or time offset

Calculated Signals					□ X
Calculated Signals \times					
Calculated Signals		Name	2:		Unit:
🖶 🖉 💥		Calc	_Signal_To_Be_Co	pied	
Another_Calculated_Signal		Form	ula Definition:		
Calc_Signal_To_Be_Copied	3	Сору		Ctrl+C	
	Ê.	Paste	13	Ctrl+V	
	×	Remove Ca	lculated Signal(s)	Del	
	🥔 Ec	Edit Calcul	Calculated Signal F2		
		Clone Calc	ulated Signal		
			~~~~	<u></u>	

#### Notes:

- · Only selected calculated signals are copied. Dependencies to other calculated signals need to be considered by the user, when copying.
- The reference of the input signals to the original measure file can be resolved usually in two steps:
  - Replace in the target configuration the desired measure file by the original measure file for the calculated signals. It might be needed to remove first from the instruments in the target configuration the signals with the same names as the input signals of the pasted calculated signals.
     Replace the original measure file, but now to the desired measure file.

Functional Enhancements: Further cases of corrupt data gets detected and is indicated (V8.4.0)

- There exists a wide range of potential issues caused by invalid data in measure files, e.g. time stamp overflows, block size exceeds file size, incorrect pointers, etc.
- Not all of these issues are detectable quickly when loading the file, but only when loading the data for the time range with the erroneous information
- When MDA V8.4.0 detects such error, then
  - on-the-fly an error icon is added to all signal names and time column in the active instrument
  - last available data is greyed out
  - the tooltip shown at the error icon provides more details

# Baseline Baseline

[1] ASMod_dv...

📘 Table

Time

♦ →0, 50,

DR -

[1] ASMod rO...

#### Notes:

- For performance reasons MDA V8 checks during file loading only meta data of the file for inconsistencies.
- Also covered are network connection issues happening when MDA V8 needs access (e.g. when exporting a measure file).
- Update to show such an error happens per instrument only, and when there is a scroll or zoom operation conducted.
- Removal of the erroneous signal from the instrument might heal the situation.

📓 _ 🗆 >

Files, Formats and Data Types – Changes in MDA V8.4.0 (December 2019)

- Functional Enhancements
- Files, Formats and Data Types
  - Show 'Events' in the oscilloscope
- Usability Improvements
- General

Files, Formats and Data Types: Show 'Events' in the oscilloscope (V8.4.0)

- Oscilloscope offers a 'Event Strip' to easily visualize and analyze event signals, like pause, comments during recording, or calibration activities
- Each event is reflected by a single marker (color and marker style can be adapted)
- When hovering onto a marker, available event contents are shown in a tooltip



#### Note:

- Improvement for visibility of Pause events is planned for an upcoming release.

Usability Improvements of MDA V8.4.0 (December 2019)

- Functional Enhancements
- Files, Formats and Data Types

## • Usability Improvements

- More meaningful naming of Calculated Signal functions
- Remove all no-match signals in one step via Configuration Manager context menu
- Copy signal name from Variable Explorer and oscilloscope signal list
- Connect MDA V8.4 to a running EHANDBOOK-NAVIGATOR session
- A signal is highlighted after selection in the Configuration Manager
- Reduced data indicator at cursor values can be suppressed
- General

Usability Improvements: More meaningful naming of Calculated Signal functions (V8.4.0)

- To make usage of Calculated Signal functions easier the names of the functions were reworked to have better understandable names
- Functions using the same basic operation appear in the list together (e.g. different functions of 'Average')
- The tooltip and Help window contents show a brief description of the arguments, and in more complex cases also limitations or examples

#### Note:

- With MDA V8.4.0 the function names appear in English independent from the selected user language. This will be solved on one of the next versions.



Usability Improvements: Remove no-match signals from all instruments (V8.4.0)

- No-match signals happen, if a signal in the configuration can not be displayed because
  - after a file replacement no signal with the same name is available in a measure file
  - after a file replacement a clear identification of the signal to be displayed is not possible
  - the measure file was removed from the configuration
- To clean up the configuration from all no-matches in instruments, there is a new context menu entry in the Configuration Manager
- The clean-up result is shown in the status bar of MDA

#### Configuration Manager $\times$ 0 X * Config with No-Matches.xdx 🗸 🚞 Layer Add Laver Ctrl+L GPS Remove No-Match Signals Ctrl+N ▶ 🚡 [?] GPS Latitude Add Instrument 🔓 I?I GPS Lonaitude About Configuration Ctrl+l Oscilloscope 1 [1] B KST C [1] IMLATM 🚡 [1] LAMBDA 2 [1] TMOT *C [1] Z ZYL Layer(1) ✓ I Oscilloscope(1) 🛱 [?] Enaine Load 🔓 I?I Enaine Powe 10 no-match signals have been successfully removed from instruments. 11/15/2019 3:05:13 PM Clear Message 10 no-match signals have been successfully removed from instruments.

Configuration Manager

#### Note:

- A no-match situation caused by a missing measure file is indicated by the file ID entry [?].
- Removing a specific no-match signal only is done directly in the instrument or Configuration Manager.
- If the input signal of a Calculated Signal is in no-match state, the clean-up needs to be done manually.

33 © ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Usability Improvements: Copy signal name from Variable Explorer and oscilloscope signal list (V8.4.0)

- Depending on the context, 'Copy' (CTRL+C) functionality can be used for different use cases
- Usually the pure signal name shall be copied, as it is done in Variable Explorer, Configuration Manager, and all instruments except Statistics
- In Statistics view and Information Window the contents of the selected rows (e.g. statistical data) plus the row or column name are copied
- The new context menu entry 'Copy Contents' in the oscilloscope enables to copy complete rows incl. header row



#### Note:

- The possibility to copy (CTRL+C) is not shown in all context menus.
- To copy a signal name from the Scatter Plot the respective axis must be selected.

Usability Improvements (V8.4.0)

## Connect MDA V8.4 to a running EHANDBOOK-NAVIGATOR session

- When an EHANDBOOK-NAVIGATOR application is already open MDA V8.4.0 can connect to the running application *
- The loaded EHANDBOOK container is indicated automatically in the connection dialog

## A signal is highlighted after selection in the Configuration Manager

 A signal can be selected in the Configuration Manager using double-click or ENTER, and then its respective occurrence in the instrument gets visible and active

## Reduced data indicator can be suppressed

- The indicator at cursor values for reduced data ( $\approx$ ) can be hidden
- * Note:
- Connection to an already running session requires EHANDBOOK-NAVIGATOR V8.0.



Connect to EHANDBOOK-NAVIGATOR				
EHANDBOOK-NAVIGATOR File				
C:\MDA Show Cases\EHB - MDA\FLE	EXECU107.ehb	Browse		
Measurement File			_	
[1] Messdatei.dat				
	Connect	Cancel		



© ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

General Notes for MDA V8.4.0 (December 2019)

- Functional Enhancements
- Files, Formats and Data Types
- Usability Improvements
- General Notes
  - Reworked handling of 'settings.user'

General: Reworked handling of 'settings.user' files (V8.4.0)

- MDA V8 persists automatically many configuration settings selected by the user
  - For example language, paths, docking views, instruments and signal settings
- These settings are loaded, when the application is started
- Newer MDA installations for which no 'settings.user' file exists, migrate an available file to be re-used with the new installation
- With MDA V8.4.0 the 'settings.user' file name is extended by the version number
- This helps when the user needs to return to an older installation, as then the old `settings.user' file is still available and can be re-used



#### Notes:

- For more details about persisted settings, see MDA Manual chapter 1.3.
- Existing settings.user files must not be edited externally. Edited files are rejected by MDA V8.
- For more details, e.g. where files are store, or how to define default settings see the MDA V8 documentation

© ETAS GmbH 2020. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.





# Thank you for using MDA V8.4