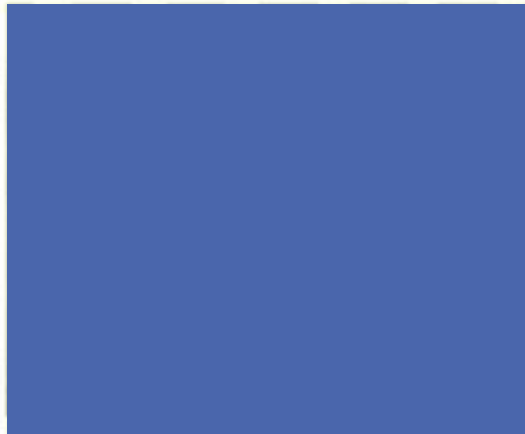
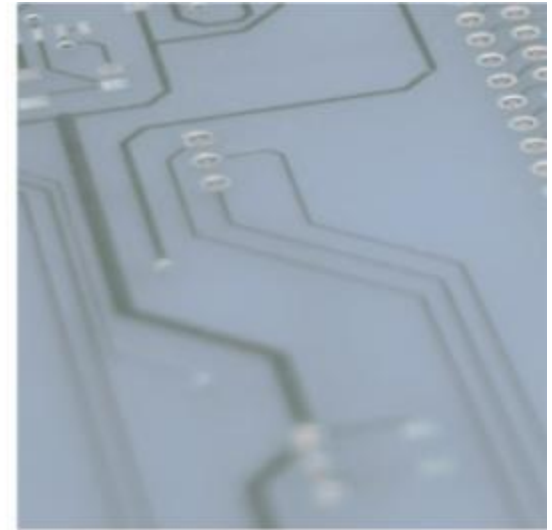
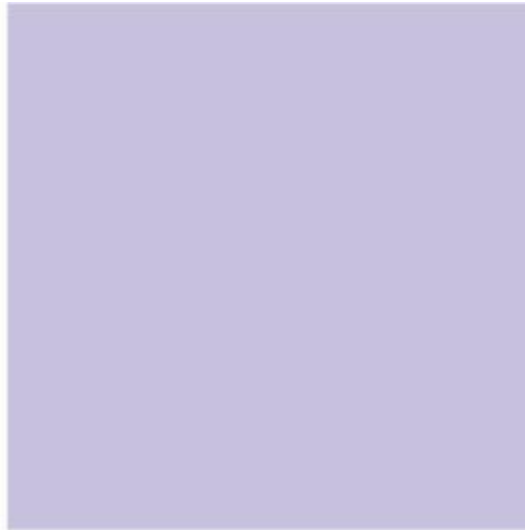
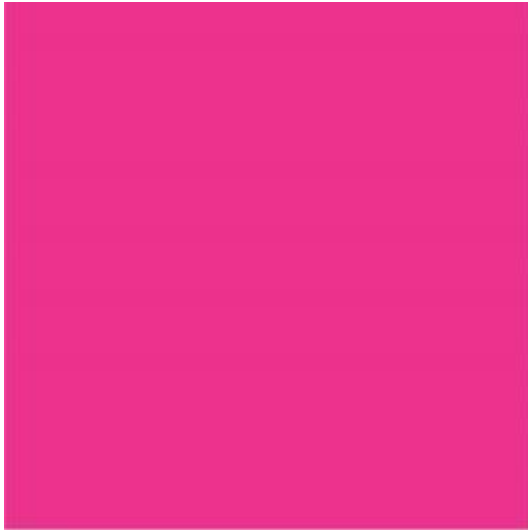
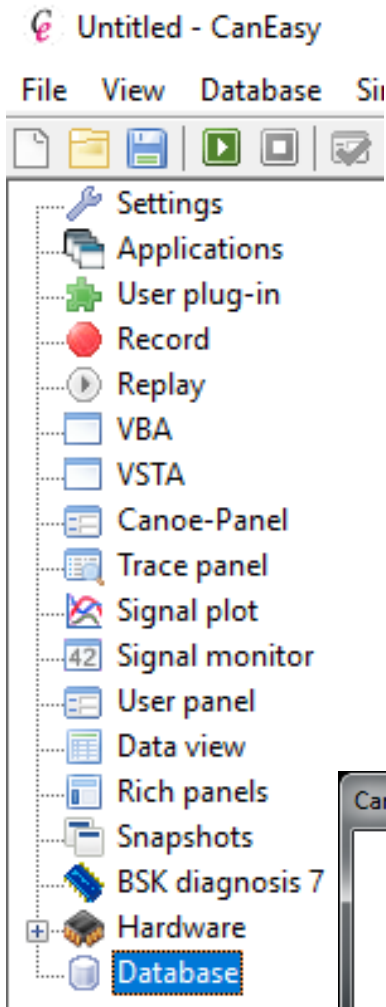


# Recording and Replaying with CanEasy

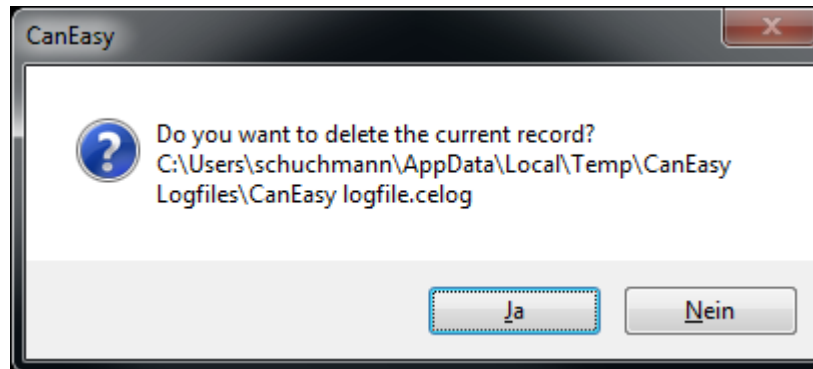


- 1. Record**
  2. Analyze
  3. Replay
-

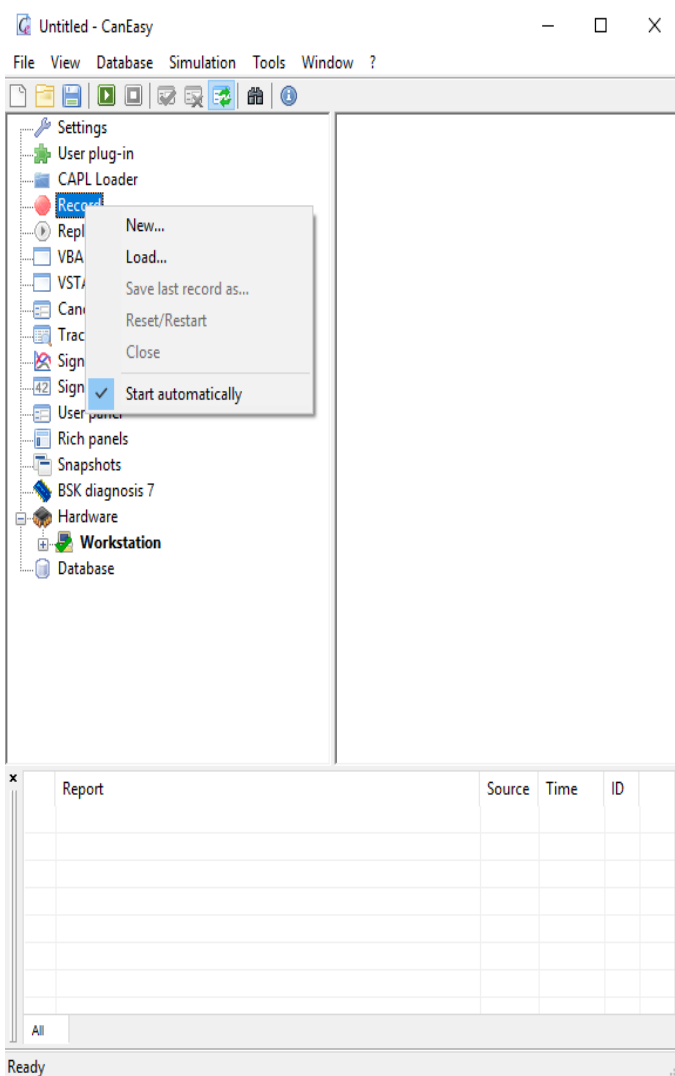
# Record – Logging



- Recording will be started each time you start the simulation
- Everything will be recorded
- Logfiles will be in „%temp%\CanEasy Logfiles“
- “Trace panel” and “Signal Plot” get their data from record

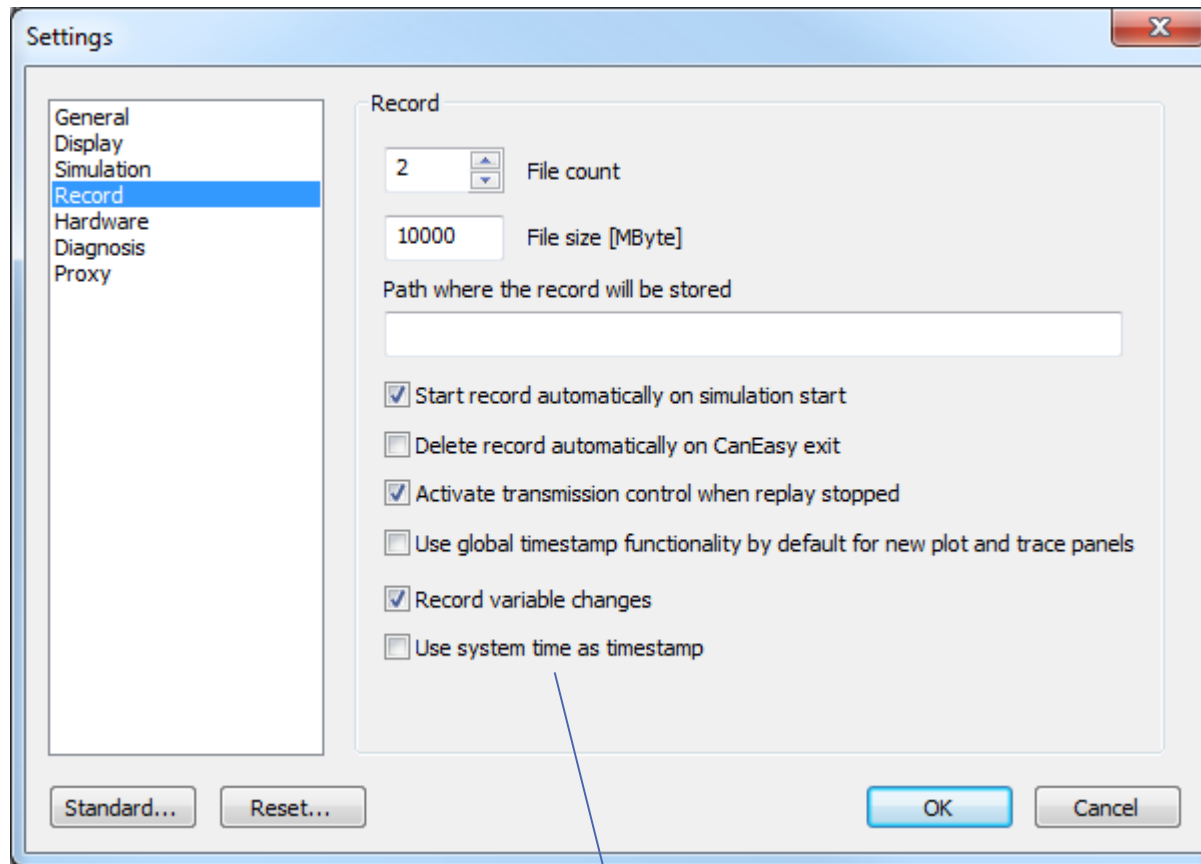


# Record – Context Menu



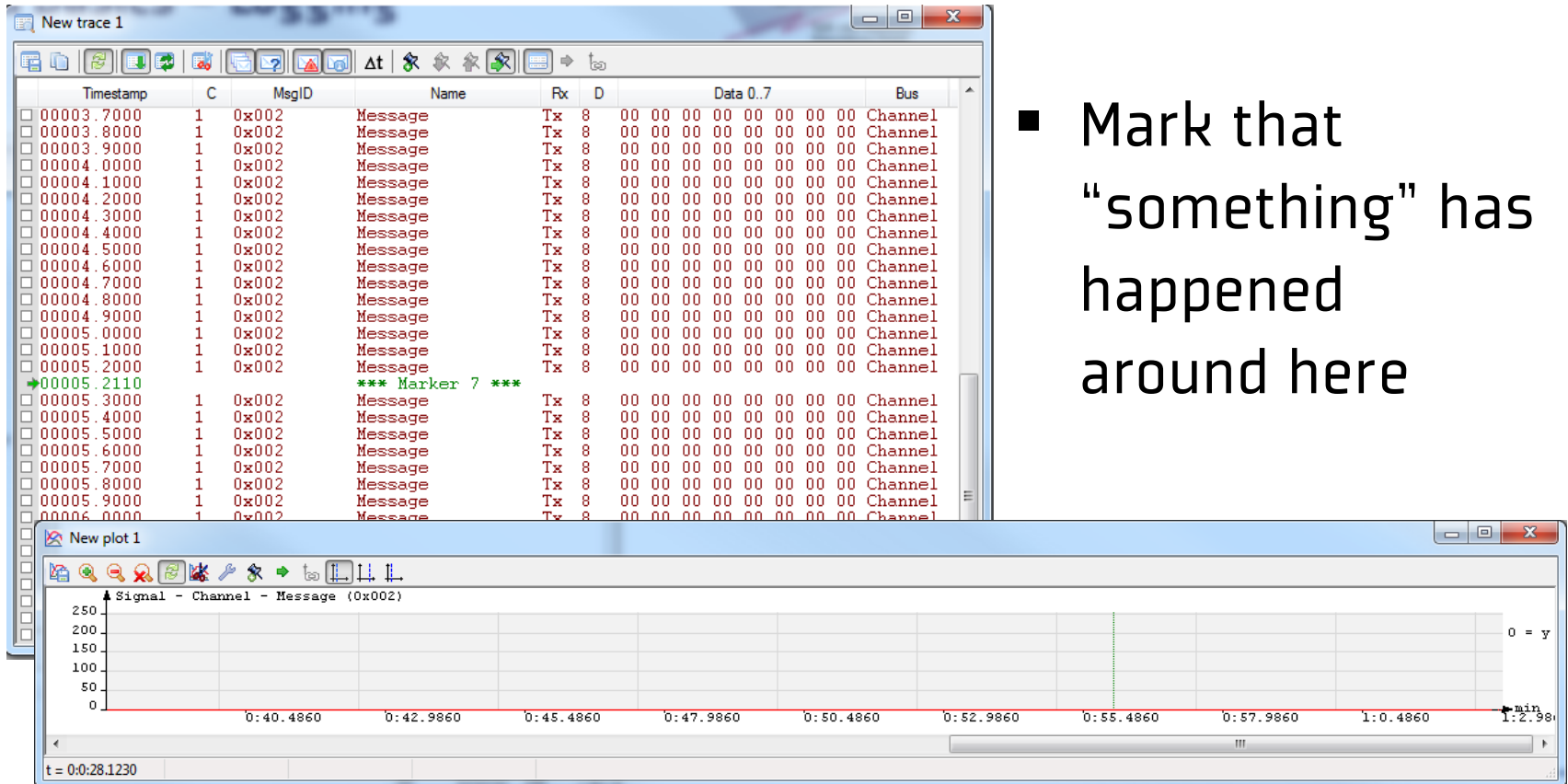
- Save as...  
save for analyzing later
- Load...  
is for analyzing a record

# Record – Settings



- Absolute "11:53:52.790" / Relative "0.101"

# Record – Marker

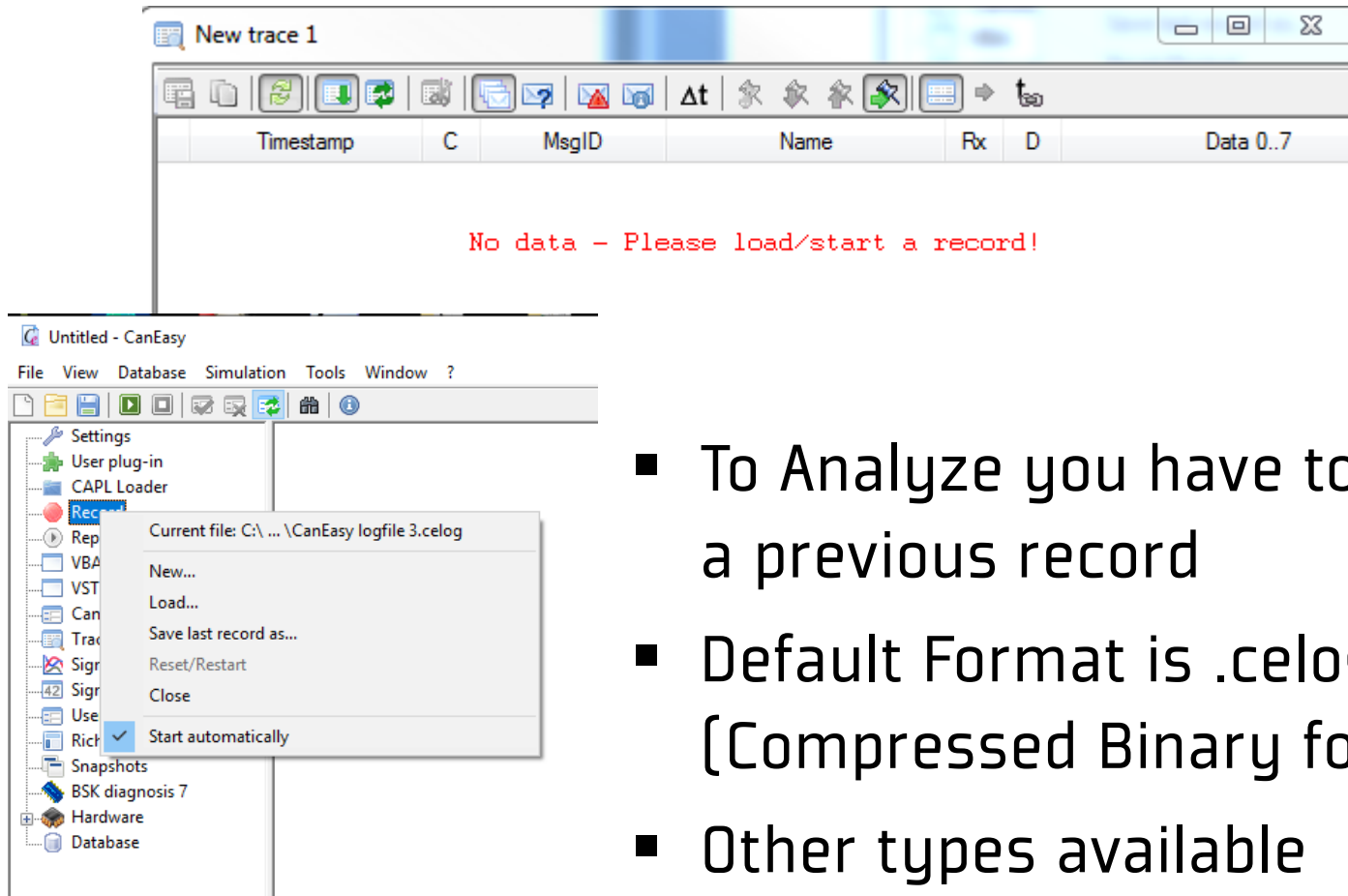


- Mark that “something” has happened around here

- Add a marker by pressing “F11”

1. Record
  - 2. Analyze**
  3. Replay
-

# Analyze – Load a record



The image shows two overlapping windows from the CanEasy software. The top window, titled 'New trace 1', has a toolbar with various icons and a table with columns: Timestamp, C, MsgID, Name, Rx, D, and Data 0..7. The table is empty, and a red message 'No data - Please load/start a record!' is displayed in the center. The bottom window, titled 'Untitled - CanEasy', shows the main menu bar (File, View, Database, Simulation, Tools, Window, ?) and a toolbar. The 'Records' menu is open, showing options: 'Current file: C:\... \CanEasy logfile 3.celog', 'New...', 'Load...', 'Save last record as...', 'Reset/Restart', 'Close', and 'Start automatically' (which is checked). The left sidebar of the CanEasy window lists various components: Settings, User plug-in, CAPL Loader, Records, Rep, VBA, VST, Can, Trac, Sign, 42, Sign, Use, Rich, Snapshots, BSK diagnosis 7, Hardware, and Database.

- To Analyze you have to load a previous record
- Default Format is .celog (Compressed Binary format)
- Other types available

## ASCII Logging Files (.ASC)

- Message-based format for reading and writing
- Standard ASCII representation
- Used for data exchange with third party programs or to include trace data in documents

ASCII:

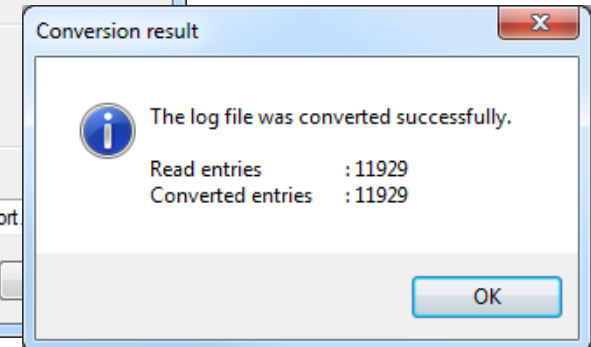
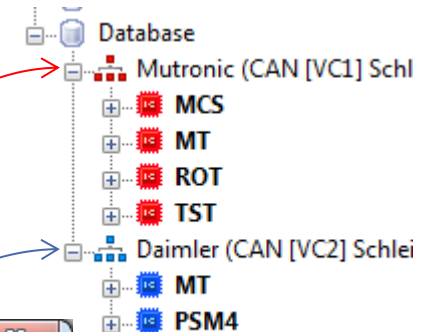
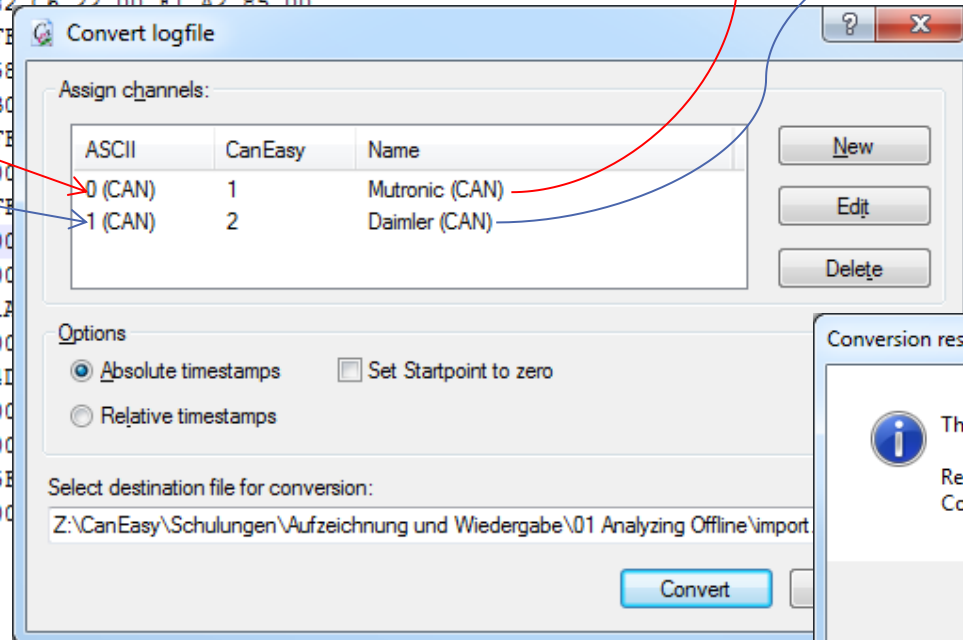
```
// Configuration file: C:\x87366132.ltl
// Car: x2131
// Device: 3421412
date Dez. 3 16:34:20 2014
base hex timestamps absolute
no internal events logged
3.35516 1 B4323x      Rx D 8 72 E4 19 2F 14 00 00 00
3.35522 6 52          Rx D 2 6C 60
3.36716 1 B4323x      Rx D 8 73 E5 e9 24 e2 00 00 00
```

candump:

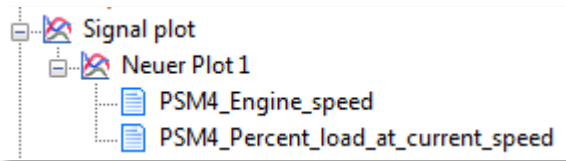
```
37101.646672) can1 410#0000000087720000
37101.652135) can0 0CFE60C9#FFFFFFFFFFFFFFFF
37101.652252) can0 0CFE62C9#FF03CFF700000000
37101.652300) can0 18EF10C9#FD003F0303000000
37101.653164) can1 296#3200000000000000
37101.657714) can1 208#2000000000000000
(1510737101.677197) can1 27F#FF
(1510737101.678158) can0 0CFE5FEB#5F8789771A050000
(1510737101.678537) can1 288#00004F03FFFF8025
(1510737101.711747) can1 201#0000486000002400
```

# Analyze – Convert ASCII Files

```
0.0000 1      288 Rx d 8  00 00 5A 03 FF FF 00 19
0.0050 1      296 Rx d 8  32 00 00 00 00 00 00
0.0250 1      510 Rx d 8  75 5E 00 00 75 5E 00 00
0.0377 0    0CFE60C9x Rx d 8  FF FF FF FF FF FF FF FF
0.0377 0    0CFE62C9x Rx d 8  FF 03 CF F7 00 00 00 00
0.0378 0    18EF10C9x Rx d 8  FD 00 3F 03 03 00 00 00
0.0418 1      200 Rx d 1  01
0.0444 1      184 Rx d 4  A6 05 9C 00
0.0454 1      202 Rx d 8  00 00 00 00 00 00 CE FF
0.0456 0    0CFE5FEBx Rx d 8  5F 86 88 CF 1A 03 00 00
0.0461 1      288 Rx d 8  00 00 5A 03 FF FF 00 19
0.0462 0    14EF80EBx Rx d 8  01 7D 88 87 F2 FF 38 02
0.0468 0    14EF81EBx Rx d 8  82 C6 22 00 F1 A2 85 00
0.0473 0    14EF82EBx Rx d 8  FF
0.0479 0    14EF83EBx Rx d 8  58
0.0484 0    14EF84EBx Rx d 8  B0
0.0489 1      27F Rx d 1  FF
0.0490 0    14EF85EBx Rx d 8  00
0.0496 0    14EF87EBx Rx d 8  FF
0.0501 0    18FE61EBx Rx d 8  00
0.0787 1      402 Rx d 8  00
0.0793 1      204 Rx d 8  1A
0.0803 1      207 Rx d 8  00
0.0807 1      210 Rx d 8  4D
0.0913 1      312 Rx d 8  00
0.0923 1      214 Rx d 8  00
0.0956 0    0CFE5FEBx Rx d 8  58
0.0959 1      288 Rx d 8  00
```

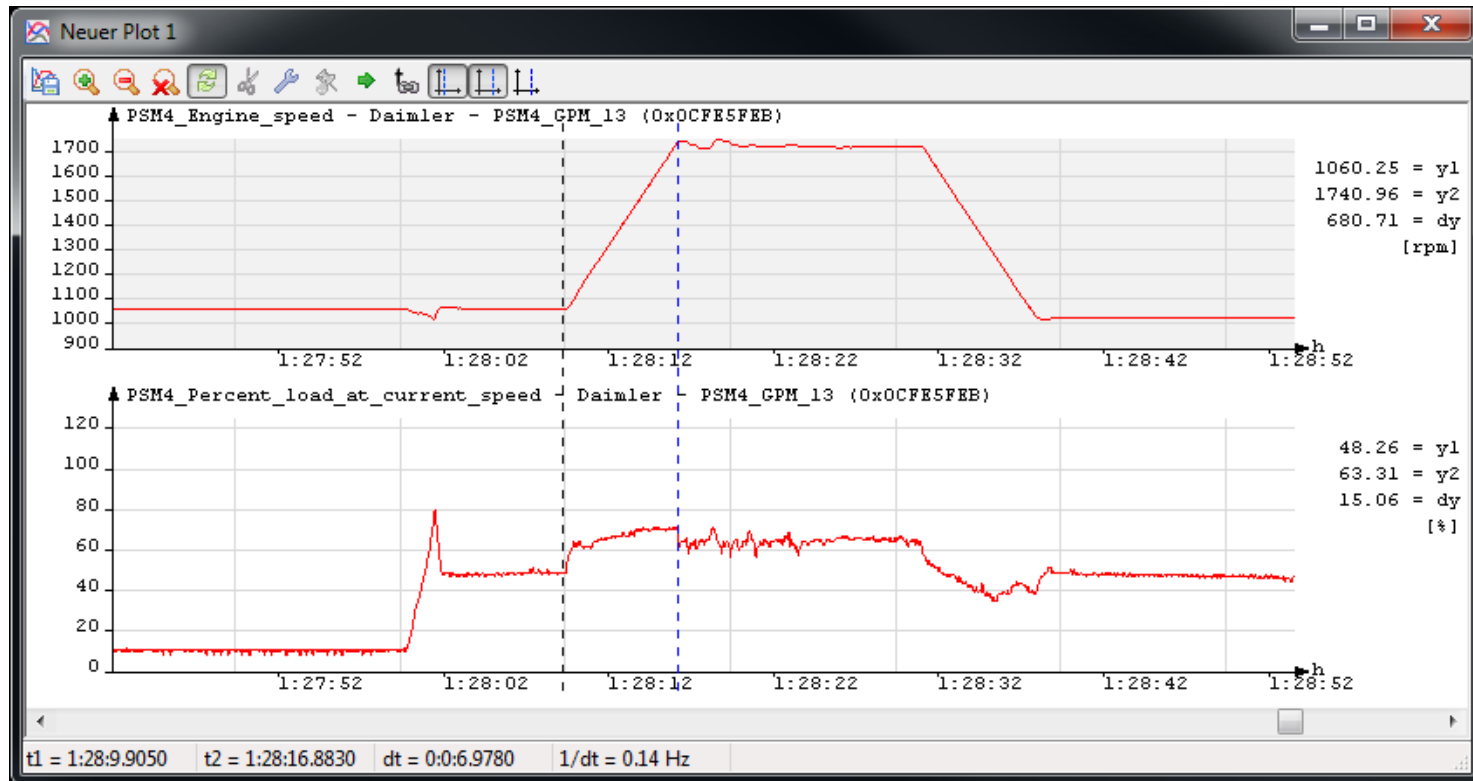


# Analyze – Signal Plot



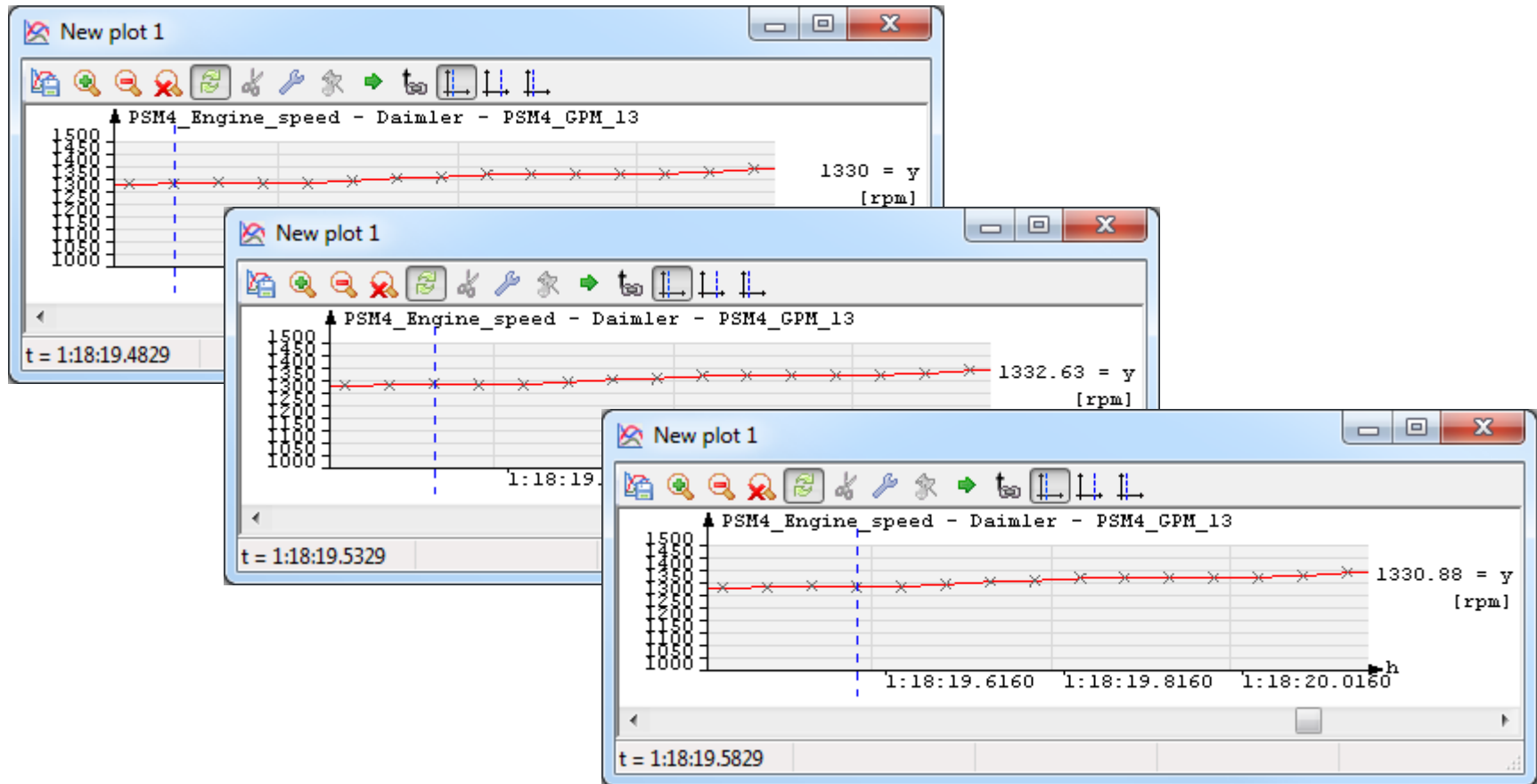
- Signal Plot gets data from record
- Zoom by Mouse-Wheel

# Signal Plot – Cursors



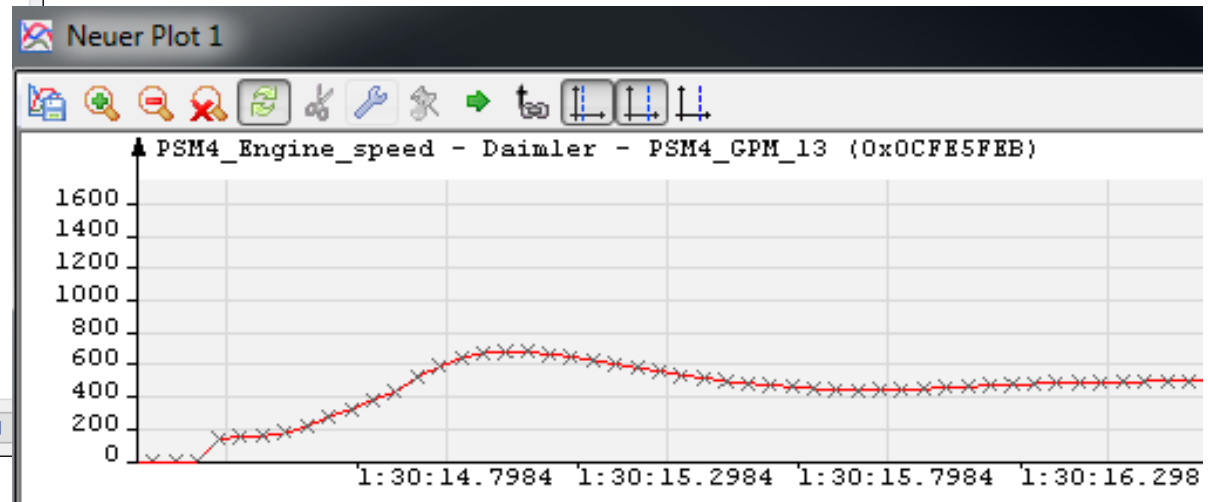
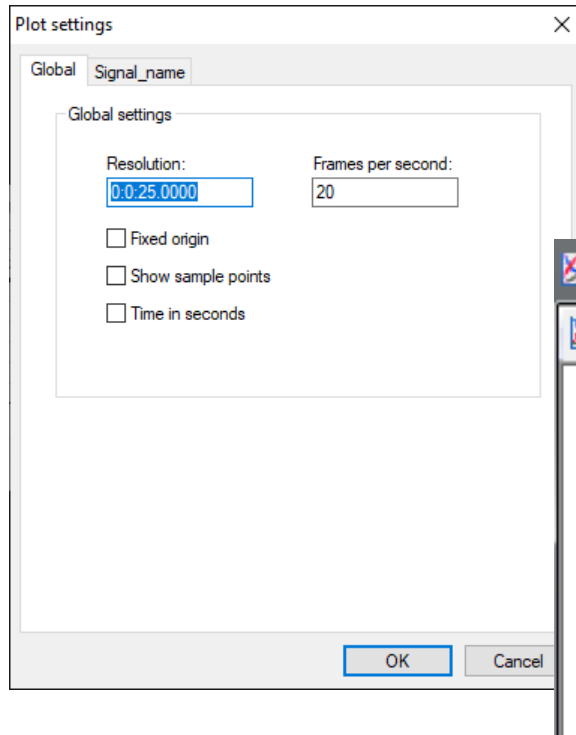
- Place Cursors to measure time and values

# Signal Plot – Jump to Value Changes



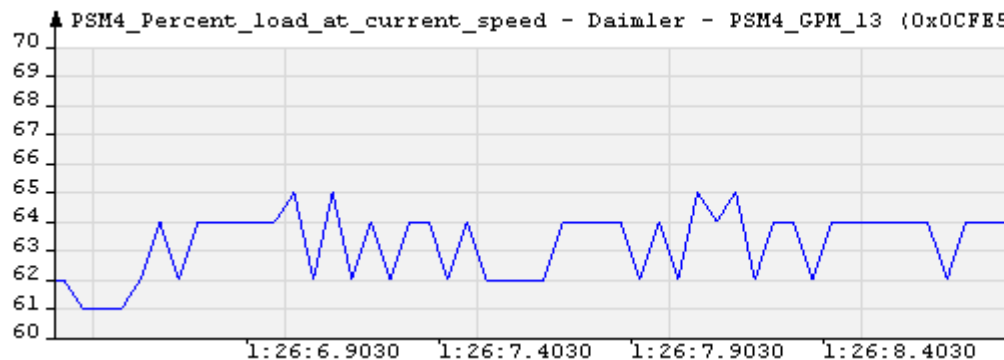
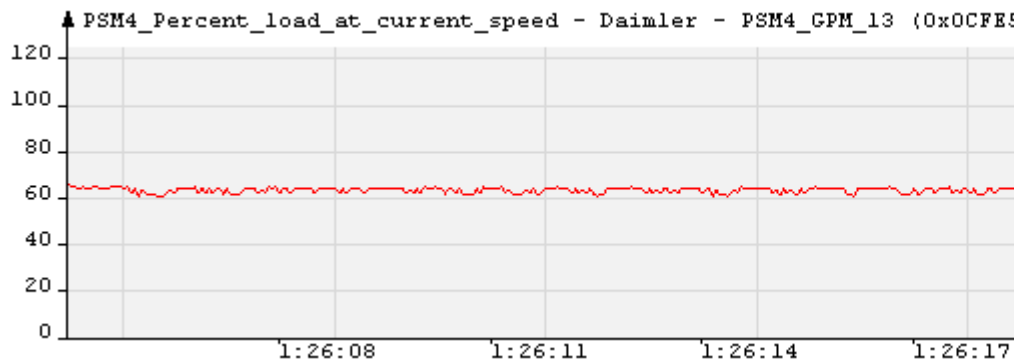
- Press "Alt + Right" to move cursor to next value change

# Signal Plot – Sample Points



- Activate "Show sample points" to see when message has arrived (x)

# Signal Plot – Modify Size



//Plot/New plot

Panel		
FixZero	False	bool
Seconds	False	bool
FPS	20	frames/s
Resolution	25000	ms
UseGlobalTimestamp	False	bool

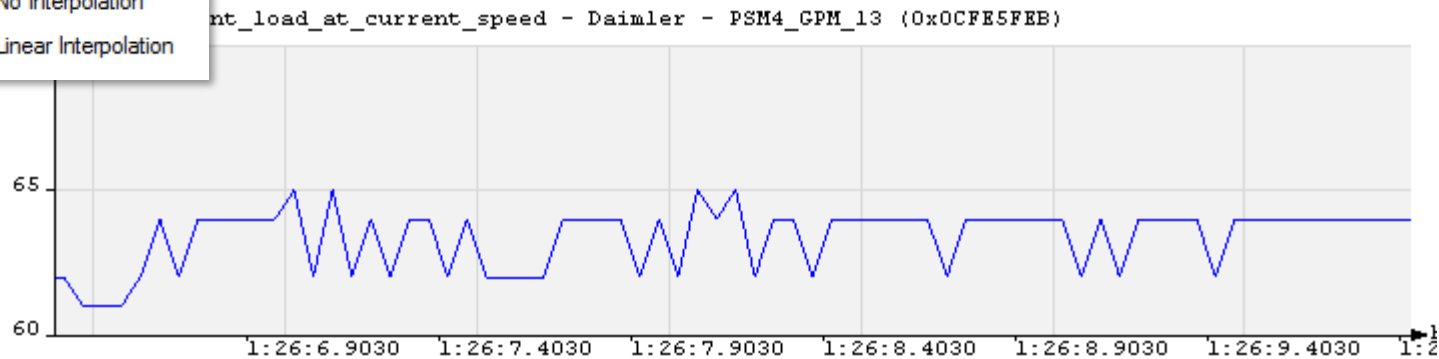
Graph		
Height	120	px
Min	0	
Max	1	
HideScale	False	bool
Interpolation	True	bool
Color	0xff	bgr
SamplePoints	False	bool
Presentation	Size	enum
ComboboxValues	True	bool
DisplayValueType	Decimal	enum
DecimalPlaces	-1	
Thickness	1	px
ThicknessSelected	2	px

Apply OK Cancel

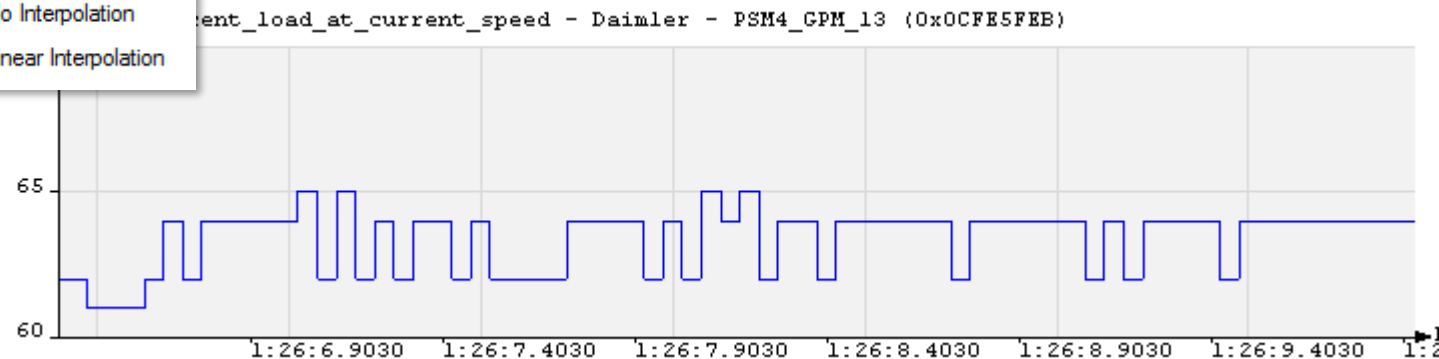
- Open settings for root, plot panel or single graph

# Signal Plot – Interpolation

- ☐ No Interpolation
- ☒ Linear Interpolation



- ☒ No Interpolation
- ☐ Linear Interpolation

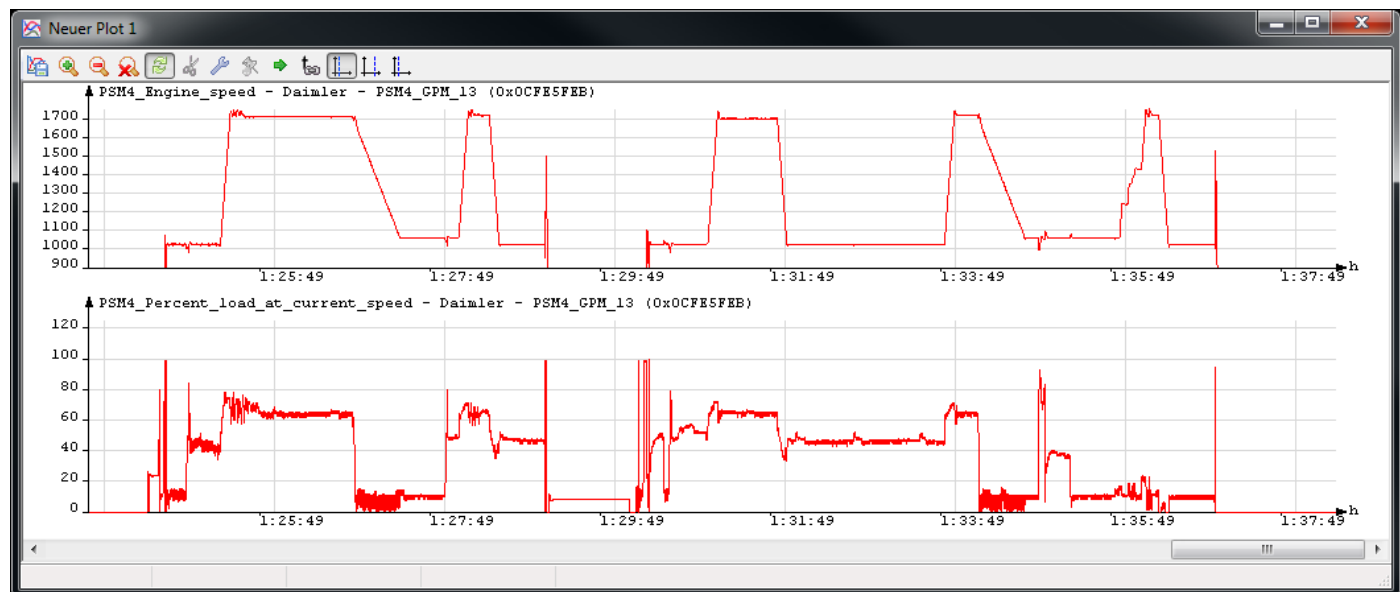


# Signal Plot – Height



# Signal Plot – Export Signal to ASCII

export.txt		
1	Measured value export for PSM4_Percent_load_at_current_speed (ms) %	
2	313455	0
3	313506	0
4	313555	0
5	313605	0
6	313655	0
7	313706	2
8	313755	5
9	313806	7
10	313856	10
11	313906	12
12	313956	15
13	314006	16
14	314055	19
15	314106	20
16	314155	23
17	314206	24
18	314255	26
19	314306	28
20	314355	29
21	314406	29
22	314456	29
23	314506	29
24	314556	29
25	314606	29
26	314656	29
27	314706	28
28	314756	28
29	314806	26

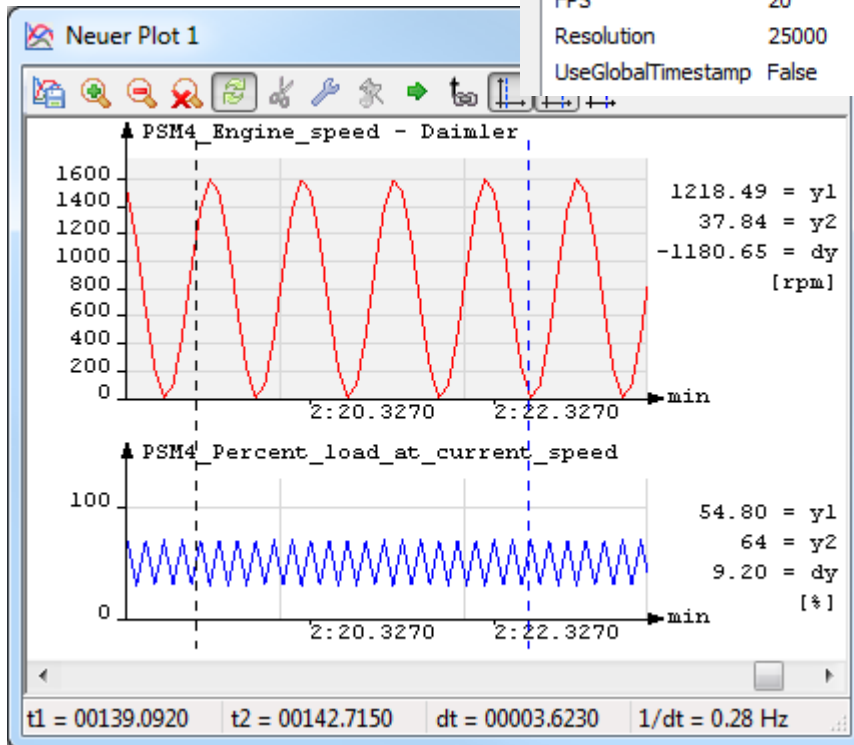


# Signal Plot – Time in Seconds

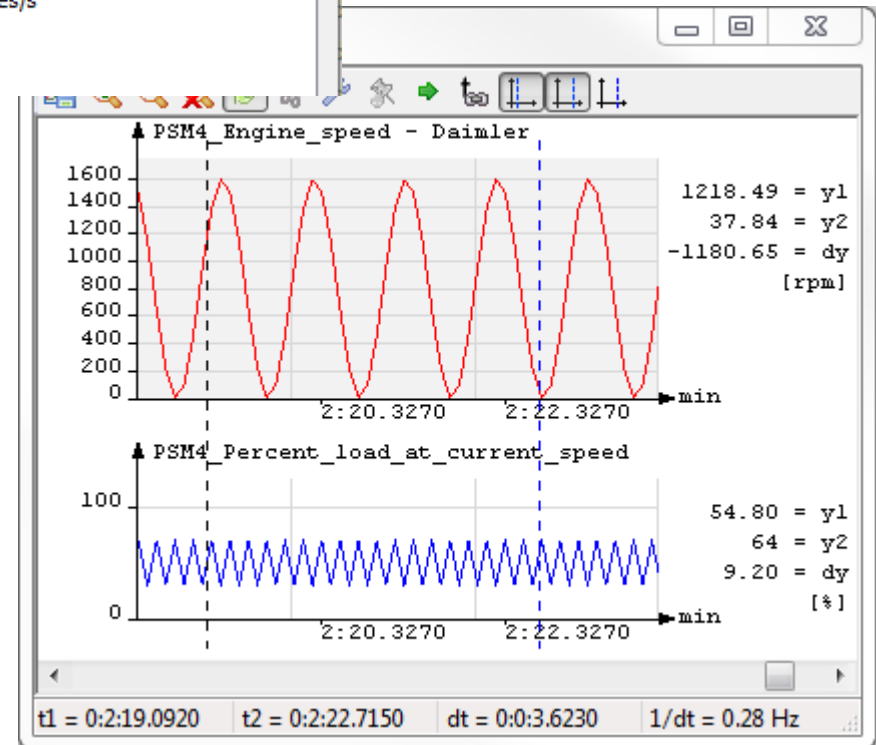
//Plot/New plot

Panel

FixZero	False	bool
Seconds	False	bool
FPS	20	frames/s
Resolution	25000	ms
UseGlobalTimestamp	False	bool

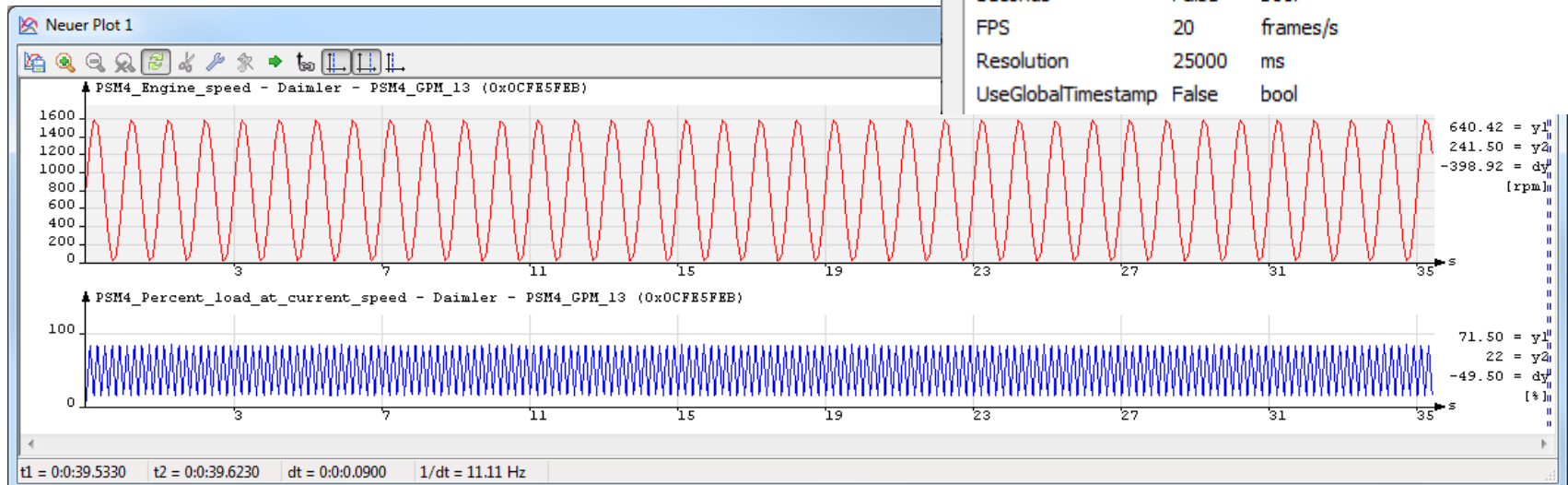
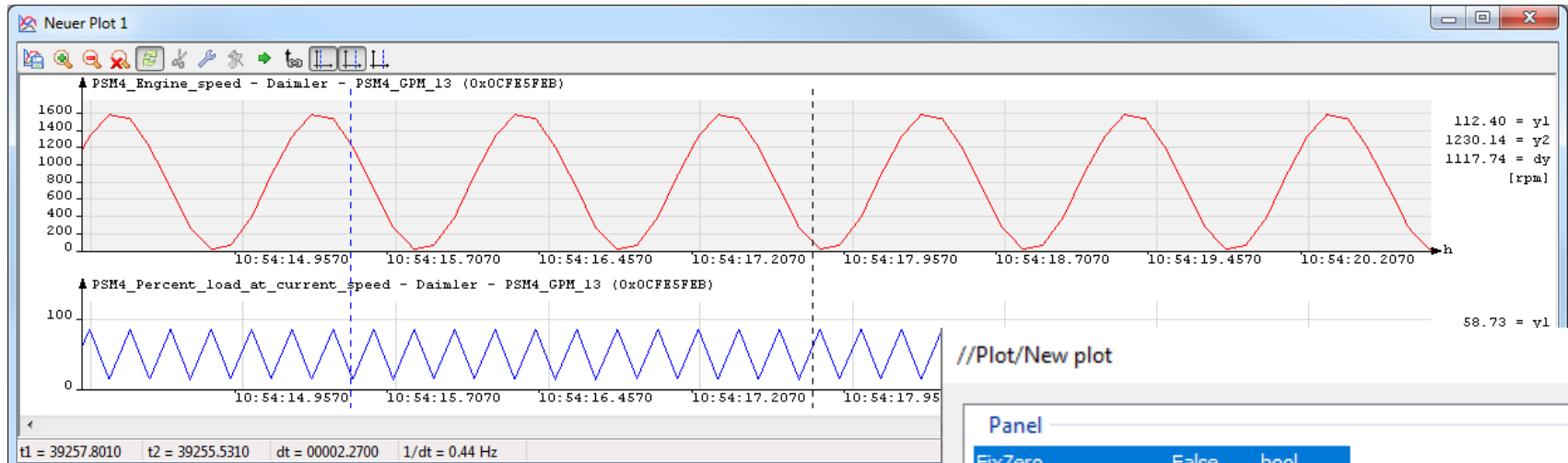


■ [s].SSSS



■ hh:mm:ss.SSSS

# Signal Plot – Fixed Origin



## Panel

FixZero	False	bool
Seconds	False	bool
FPS	20	frames/s
Resolution	25000	ms
UseGlobalTimestamp	False	bool

# Analyze – Trace panel

- Trace Panel gets data from record

Trace panel

- New trace 1
  - PSM4\_Percent\_load\_at\_current\_speed
  - PSM4\_Engine\_speed

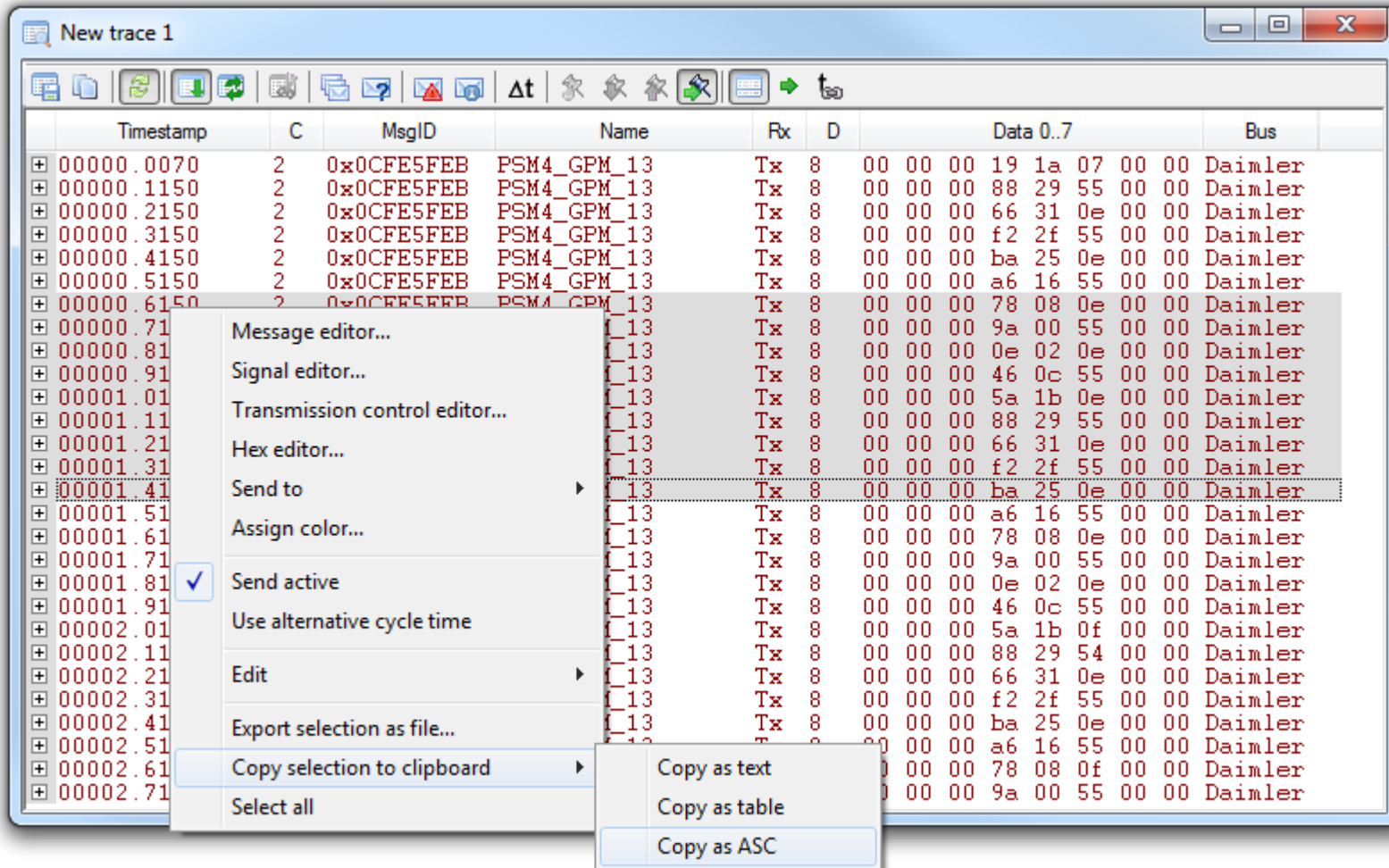
Timestamp	C	MsgID	Name	Rx	D	Data 0.7	Bus
00022.5074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.5580	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.6074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.6574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.7074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.7574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.8074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.8574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.9074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00022.9574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.0074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.0580	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.1074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.1574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.2074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.2574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.3074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.3574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.4074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.4574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.5074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.5580	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.6074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.6574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.7074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
00023.7574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler

New trace 1

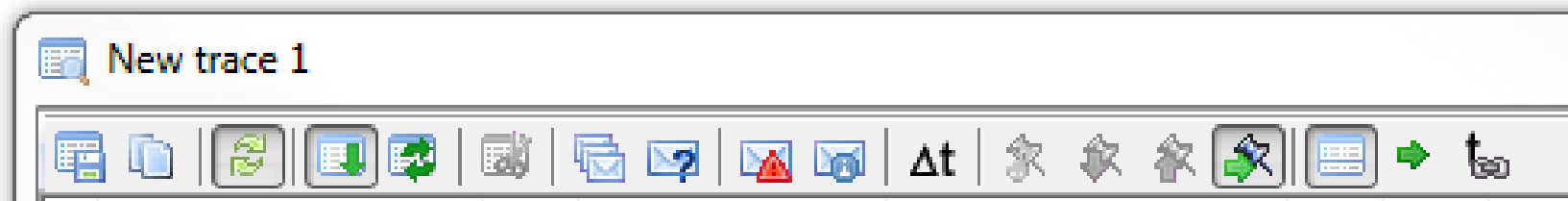
Timestamp	C	MsgID	Name	Rx	D	Data 0.7	Bus
00000.0499	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 89 a6 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000fa6 500.75	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0501	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 89 a5 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000fa5 500.625	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0499	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 89 a2 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000fa2 500.25	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0501	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 89 a5 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000fa5 500.625	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0499	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 89 a5 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000fa5 500.625	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0501	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 89 9e 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000f9e 499.75	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0499	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 8a 98 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000f98 499	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0507	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 8a 98 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000f98 499	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0493	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 8a 9c 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000f9c 499.5	
			PSM4_Percent_load_at_current_speed			0x00000017 23	
00000.0501	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 81 89 9e 0f 17 00 00	Daimler
			PSM4_Engine_speed			0x00000f9e 499.75	
			PSM4_Percent_load_at_current_speed			0x00000017 23	



# Trace panel – Context menu



# Trace panel – How do display



- Show last received message only

	Timestamp	C	MsgID	Name	Rx	D	Data 0..7	Bus
+	00023.5074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler

- Display messages in chronological sequence

	Timestamp	C	MsgID	Name	Rx	D	Data 0..7	Bus
+	00022.2574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.3074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.3574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.4074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.4574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.5074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.5580	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.6074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.6574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.7074	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler
+	00022.7574	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	1f 7d 7d 00 00 00 00 00	Daimler

- Auto Scroll or Update View

# Trace panel – More Information



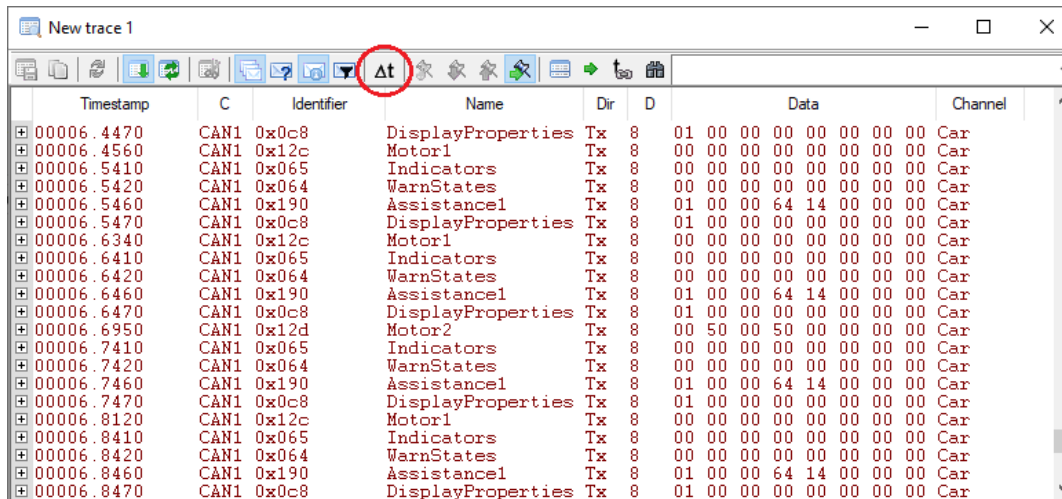
- Filter special record entries like error frames  
LIN bus: No answer, Sync error, error message
- Show additional information like CAN: Chip State  
LIN: Sleep, Wake up

	Timestamp	C	MsgID	Name	Rx	D	Data 0..7	Bus
⊗	00089.6620	2		Error-Frame	Tx			CAN2
i	00089.6707	2		Chip state	ACTIVE[0x08]	TxErr=95	RxErr=0	CAN2

# Trace panel – Timestamps

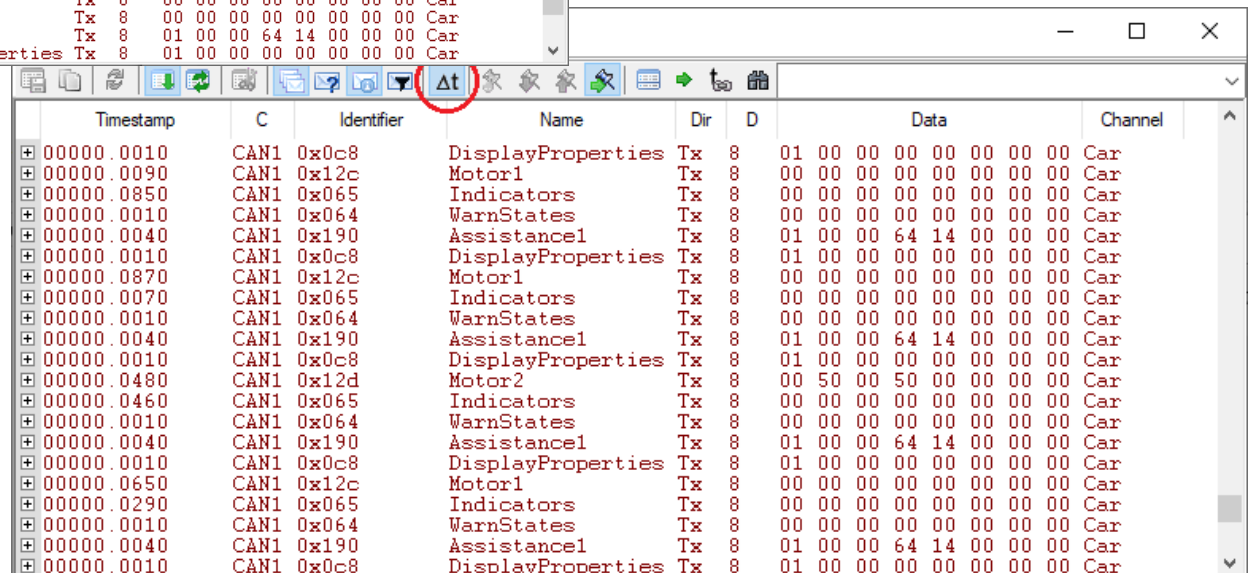
## ■ Absolute

New trace 1



Timestamp	C	Identifier	Name	Dir	D	Data	Channel
+ 00006.4470	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00006.4560	CAN1	0x12c	Motor1	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.5410	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.5420	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.5460	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00006.5470	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00006.6340	CAN1	0x12c	Motor1	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.6410	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.6420	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.6460	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00006.6470	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00006.6950	CAN1	0x12d	Motor2	Tx	8	00 50 00 50 00 00 00 00	Car
+ 00006.7410	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.7420	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.7460	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00006.7470	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00006.8120	CAN1	0x12c	Motor1	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.8410	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.8420	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00006.8460	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00006.8470	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car

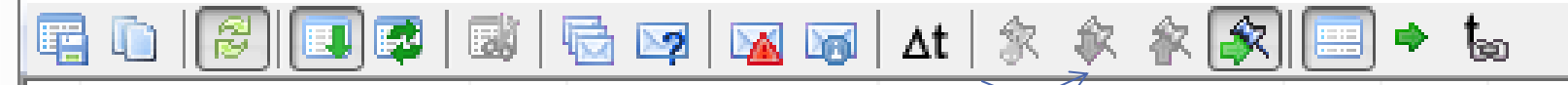
## ■ Relative (to last message)



Timestamp	C	Identifier	Name	Dir	D	Data	Channel
+ 00000.0010	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00000.0090	CAN1	0x12c	Motor1	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0850	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0010	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0040	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00000.0010	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00000.0870	CAN1	0x12c	Motor1	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0070	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0010	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0040	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00000.0010	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00000.0480	CAN1	0x12d	Motor2	Tx	8	00 50 00 50 00 00 00 00	Car
+ 00000.0460	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0010	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0040	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00000.0010	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car
+ 00000.0650	CAN1	0x12c	Motor1	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0290	CAN1	0x065	Indicators	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0010	CAN1	0x064	WarnStates	Tx	8	00 00 00 00 00 00 00 00	Car
+ 00000.0040	CAN1	0x190	Assistance1	Tx	8	01 00 00 64 14 00 00 00	Car
+ 00000.0010	CAN1	0x0c8	DisplayProperties	Tx	8	01 00 00 00 00 00 00 00	Car

# Trace panel – Marker

New trace 1



- Add Marker

- Jump to Next

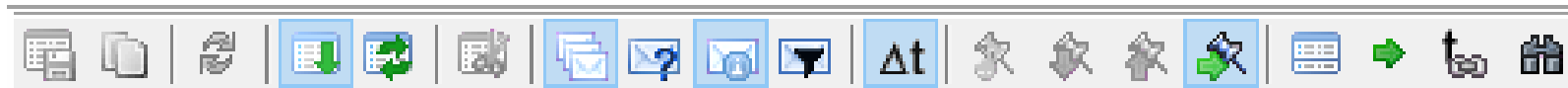
- Jump to previous

- Display Markers

Timestamp	C	MegID	Name	Rx	D	Data 0..7	Bus
00009.1210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 3a 2a 4e 00 00	Daimler
00009.2210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 96 31 14 00 00	Daimler
00009.3210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 8e 2f 4f 00 00	Daimler
00009.4210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 e8 24 14 00 00	Daimler
00009.5210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 b6 15 4e 00 00	Daimler
00009.6210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 c6 07 14 00 00	Daimler
00009.7210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 6a 00 4f 00 00	Daimler
00009.8110	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 72 02 14 00 00	Daimler
00009.9210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 18 0d 4f 00 00	Daimler
00010.0210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 4a 1c 15 00 00	Daimler
00010.1210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 3a 2a 4e 00 00	Daimler
00010.2210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 96 31 14 00 00	Daimler
00010.3210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 8e 2f 4f 00 00	Daimler
00010.4210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 e8 24 14 00 00	Daimler
00010.5210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 b6 15 4e 00 00	Daimler
00010.6210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 c6 07 14 00 00	Daimler
00010.7210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 6a 00 4f 00 00	Daimler
00010.8210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 72 02 14 00 00	Daimler
00010.9210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 18 0d 4f 00 00	Daimler
00011.0210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 4a 1c 15 00 00	Daimler
00011.1210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 3a 2a 4e 00 00	Daimler
00011.2210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 96 31 14 00 00	Daimler
00011.3210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 8e 2f 4f 00 00	Daimler
00011.4000	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 e8 24 14 00 00	Daimler
00011.4210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 b6 15 4e 00 00	Daimler
00011.5210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 c6 07 14 00 00	Daimler
00011.6210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 6a 00 4f 00 00	Daimler
00011.7210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 72 02 14 00 00	Daimler
00011.8210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 18 0d 4f 00 00	Daimler
00011.9210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 4a 1c 15 00 00	Daimler
00012.0210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 3a 2a 4e 00 00	Daimler
00012.1210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8	00 00 00 96 31 14 00 00	Daimler

# Trace panel – Go to timestamp

New trace 1



Go to

Timestamp:

0:0:9.4210

OK Cancel

New trace 1

Timestamp	C	MsgID	Name	Rx	D
+ 00009.1210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00009.2210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00009.3210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00009.4210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00009.5210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00009.6210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00009.7210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
→ 00009.8110			*** Marker 1 ***		
+ 00009.8210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00009.9210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00010.0210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00010.1210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00010.2210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
→ 00010.2620			*** Marker 2 ***		
+ 00010.3210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00010.4210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00010.5210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00010.6210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8
+ 00010.7210	2	0x0CFE5FEB	PSM4_GPM_13	Tx	8

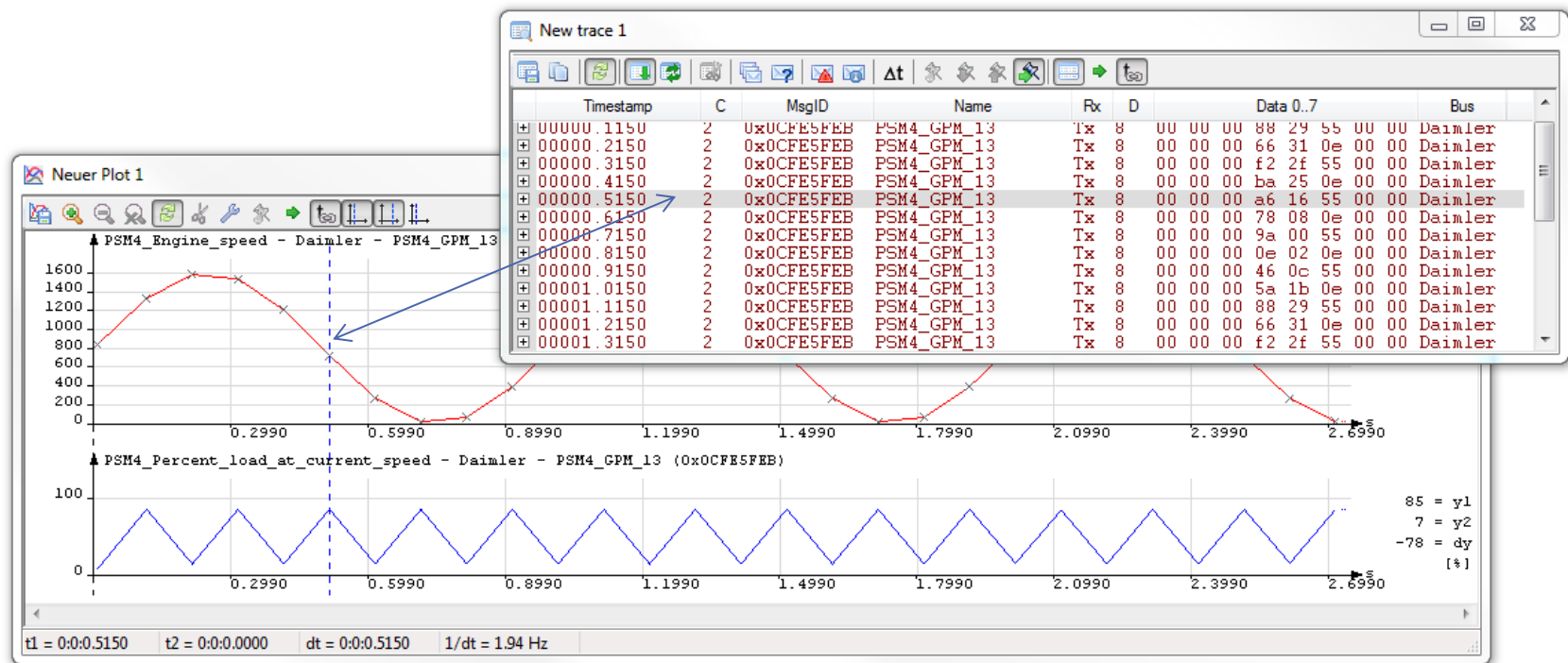
# Trace panel – Message Color


The image shows a software interface for a trace panel. The main window, titled "New trace 1", displays a list of messages with columns for Timestamp, C, MsgID, Name, Rx, D, and Data 0..7. A context menu is open over the list, showing options like "Message editor...", "Signal editor...", "Transmission control editor...", "Hex editor...", "Send to", "Assign color...", "Allow simulation", "Edit", "Export selection as file...", "Copy selection to clipboard", and "Select all". The "Assign color..." option is selected, opening a "Color" dialog box. This dialog box has a "Basic colors" section with a grid of color swatches, a "Custom colors" section with a grid of color swatches, and a "Define Custom Colors >>" button. The "Color" dialog box also displays the "ColorSolid" value and the "Hue", "Sat", and "Lum" values. The "Hue" is set to 160, "Sat" is 0, and "Lum" is 0. The "Color" dialog box is also showing the "Red", "Green", and "Blue" values, all set to 0. The "Color" dialog box is also showing the "Add to Custom Colors" button.

The trace panel shows the following data:

Timestamp	C	MsgID	Name	Rx	D	Data 0..7	Bus
01617.7491	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 82 86 ac 14 0b 00 00	Daimler
01617.7492	1	0x410	MCS_WA_410	Rx	8	53 29 00 00 00 8b 12 01	Mutronic
01617.7497	1	0x211	MCS_FA_211	Rx	8	00 00 00 00 00 8b 12 01	Mutronic
01617.7502	1	0x214	MCS_SC_214	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.7935	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.7992	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 82 86 ac 14 0b 00 00	Daimler
01617.7997	2	0x14EF80EB	PSM4_GPM_1F	Rx	8	21 7d 82 82 78 ff 36 02	Daimler
01617.8003	2	0x14EF81EB	PSM4_GPM_1G	Rx	8	67 c0 8c 00 16 04 2e 02	Daimler
01617.8009	2	0x14EF82EB	PSM4_GPM_1H	Rx	8	ff ff ff ff ff ff ff ff	Daimler
01617.8014	2	0x14EF83EB	PSM4_GPM_1I	Rx	8	52 00 87 39 00 94 00 00	Daimler
01617.8020	2	0x14EF84EB	PSM4_GPM_1J	Rx	8	ac 1d 0a 0b 3c 20 7d 7d	Daimler
01617.8026	2	0x14EF85EB	PSM4_GPM_1K	Rx	8	ff cf ff ff ff ff ff ff	Daimler
01617.8037	2	0x18FE61EB	PSM4_GPM_14	Rx	8	f8 7d 00 f0 ff ff f4 00	Daimler
01617.8051	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.8165	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.8282	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.8491	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 82 86 c7 14 0b 00 00	Daimler
01617.8507	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.8734	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.8982	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.8992	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 82 86 c8 14 0a 00 00	Daimler
01617.8998	2	0x14EF80EB	PSM4_GPM_1F	Rx	8	21 7d 82 82 78 ff 36 02	Daimler
01617.9003	2	0x14EF81EB	PSM4_GPM_1G	Rx	8	67 c0 8c 00 16 04 2e 02	Daimler
01617.9009	2	0x14EF82EB	PSM4_GPM_1H	Rx	8	ff ff ff ff ff ff ff ff	Daimler
01617.9015	2	0x14EF83EB	PSM4_GPM_1I	Rx	8	52 00 87 39 00 94 00 00	Daimler
01617.9020	2	0x14EF84EB	PSM4_GPM_1J	Rx	8	ac 1d 0a 0b 3c 20 7d 7d	Daimler
01617.9026	2	0x14EF85EB	PSM4_GPM_1K	Rx	8	ff cf ff ff ff ff ff ff	Daimler
01617.9037	2	0x18FE61EB	PSM4_GPM_14	Rx	8	f8 7d 00 f0 ff ff f4 00	Daimler
01617.9324	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9438	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9491	2	0x0CFE5FEB	PSM4_GPM_13	Rx	8	50 82 86 af 14 0b 00 00	Daimler
01617.9556	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9666	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9773	1	0x402	MCS_SDA_402	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9778	1	0x502	MCS_SDA_502	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9783	1	0x203	MCS_HDA_203	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9788	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9793	1	0x504	MCS_AB_504	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9798	1	0x205	MCS_AB_205	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9803	1	0x300	MCS_KFS_300	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9808	1	0x305	MCS_SC_305	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9813	1	0x510	MCS_AB_510	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9886	1	0x201	MCS_SDA_201	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9891	1	0x301	MCS_SDA_301	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9896	1	0x202	MCS_SDA_202	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9901	1	0x302	MCS_SDA_302	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9906	1	0x303	MCS_HDA_303	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9911	1	0x403	MCS_HDA_403	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9916	1	0x503	MCS_HDA_503	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9921	1	0x204	MCS_SDA_204	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9926	1	0x304	MCS_HDA_304	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9931	1	0x404	MCS_WA_404	Rx	8	00 00 00 00 00 00 00 00	Mutronic
01617.9936	1	0x212	MCS_SC_212	Rx	8	00 00 00 00 00 00 00 00	Mutronic

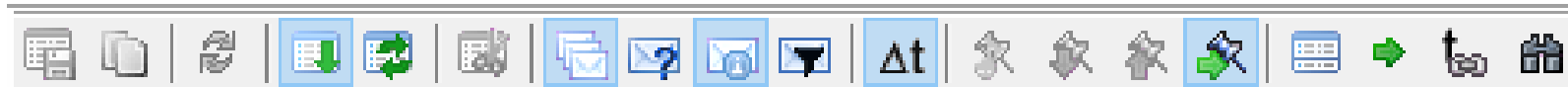
# Trace panel – Global timestamp



-  Active to synchronize view of trace and plot
- Works also for multiple windows

# Trace panel – Search content

 New trace 1



**Trace Find** [X]

Find what

☐ Match case    ☐ Match whole word only

Look in:  ...

☒ Search all  
☐ Search in selection  
☐ Search in range    ☐ In seconds

From  To

Find previous    Find next    Cancel

# Access via COM-API

```
// Load a workspace.
pApp->LoadWorkspace(sCurrentPath + "\\FLASH.csm");
// Load a record
pApp->Record->Load(sCurrentPath + "\\Download.celog");

// Go through the record and print some message data.
CComPtr<CanEasy::IRecordIterator> pIt = pApp->Record->CreateIterator(pApp);
while (pIt->Next())
{
    // Only if the record entry is a CAN message.
    if (pIt->RecordEntry->type == CanEasy::RecordEntryType::MsgRecordEntry)
    {
        CComPtr<CanEasy::IMsgRecordEntry> pEntry;
        pIt->RecordEntry->QueryInterface(CanEasy::IMsgRecordEntryPtr::GetIID,
        BYTE HUGE *pdData;
        SafeArrayAccessData(pEntry->data.parray, (void HUGE * FAR*)&pdData);
        unsigned short u16Id = *(unsigned short *) (pdData + 1);
        // Print only messages with the value 0x1025 at the second two byte
        if (u16Id == 0x1025)
        {
            LONG i32ArrayUBound = 0, i32ArrayLBound = 0;

my $CanEasyProcess = Win32::OLE->new('CanEasyATL.CanEasyProcess');
$CanEasyProcess->KeepAlive();

print ": GetApplication\n";
my $CanEasyAppl = $CanEasyProcess->GetApplication() or die ("Error");

print ": LoadWorkspace\n";
$CanEasyAppl->LoadWorkspace($longpath . "\\FLASH.csm");

print ": Record Load\n";
$CanEasyAppl->Record->Load($longpath . "\\Download.celog");

}

print ": Set Iterator\n";
my $pIt = $CanEasyAppl->Record->CreateIterator($CanEasyAppl->Record->CreateItemFilter($CanEasyAppl->Database->GetObjectByStringRef("Msg:IFM_SDO_Resp")));

while ( $pIt->next() )
{
    if ($pIt->RecordEntry->type eq CanMsgRecordEntry)
    {
        print "IFM_SDO_Resp: " . (unpack "H*", $pIt->RecordEntry->Data()) . "\n";
    }
}

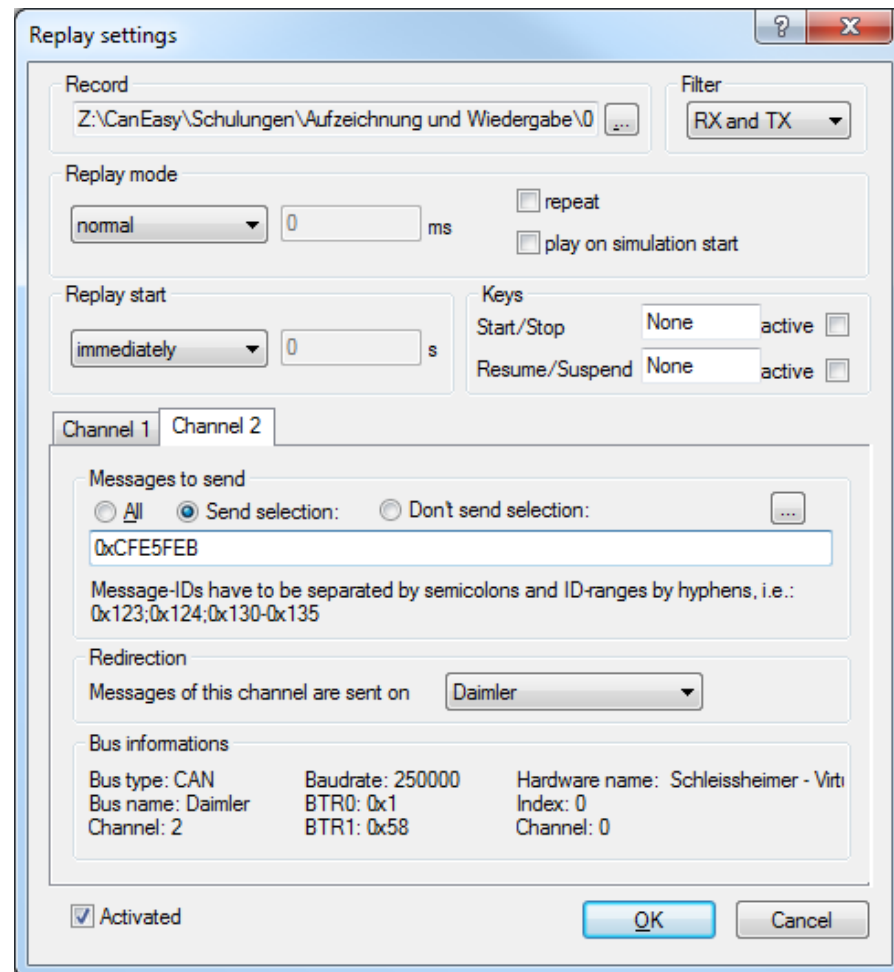
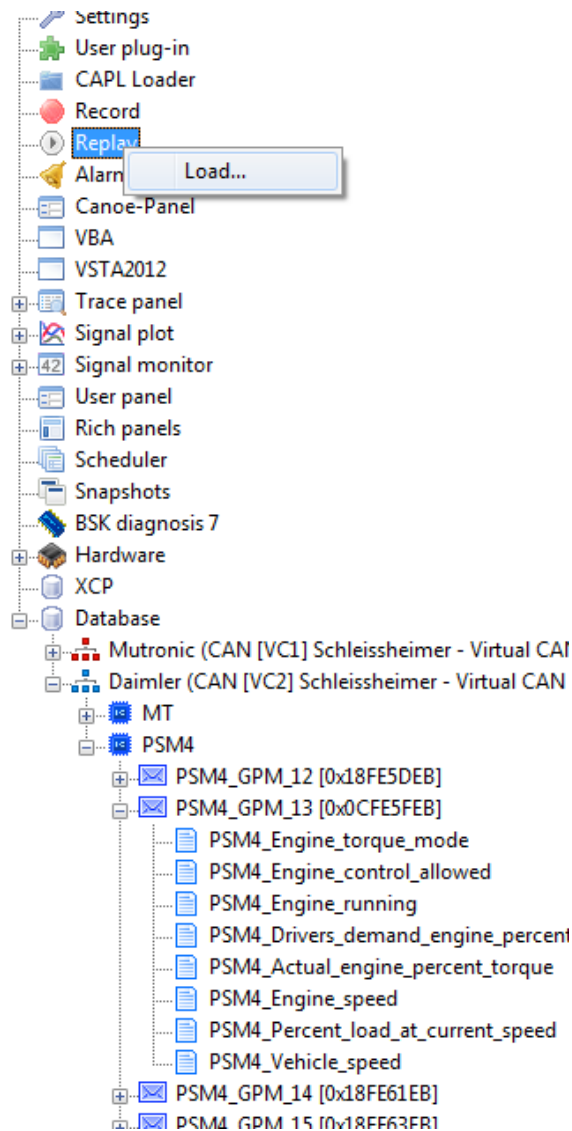
print ": Finished\n";

while (it.Next())
{
    // Only if the record entry is a CAN message.
    if (it.RecordEntry.type == RecordEntryType.MsgRecordEntry)
    {
        MsgRecordEntry entry = (MsgRecordEntry)it.RecordEntry;
        dynamic id = entry.data[1] | entry.data[2] << 8;
        // Print only messages with the value 0x1025 at the second two b
        if (id == 0x1025)
        {
            StringBuilder s = new StringBuilder();
            foreach (byte b in entry.data)
            {
                s.Append(b.ToString("X2"));
            }
            app.MakeReport(s.ToString(), ReportType.ReportTypeInformation);
            Marshal.ReleaseComObject(entry);
        }
    }
    Marshal.ReleaseComObject(it);
}
```

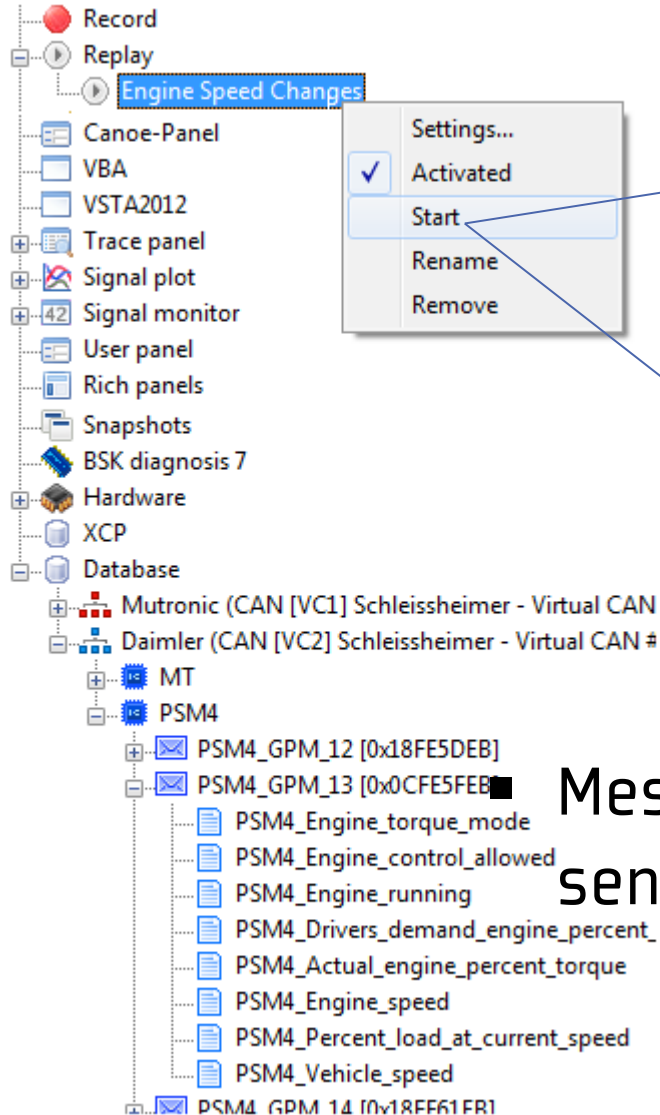
1. Record
  2. Analyze
  - 3. Replay**
-

# Replay – Load and Configure

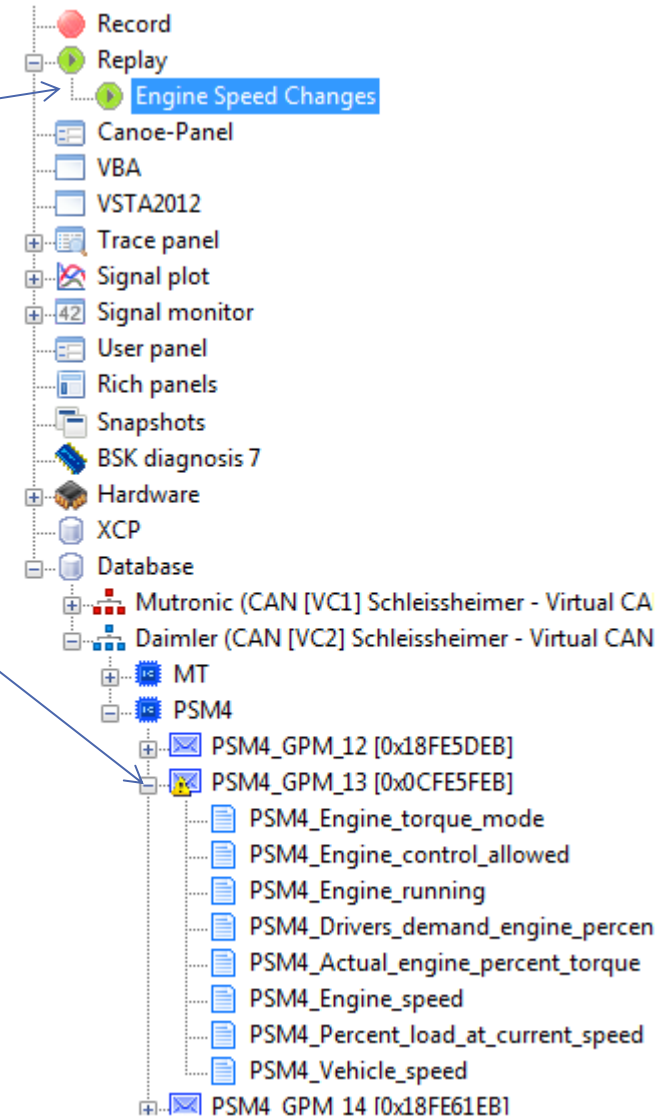
- We want to replay PSM4\_GPM\_13



# Replay - Start



Message is now  
sent from replay.



Thank you for your attention!

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