

## Detailed Feature List | DriveRecorder3

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**Version:**  
1.3

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## 2 Features Overview

Feature	Full version	Evaluation version
Max. Runtime Duration	unlimited	10 min.
Record CAN Data	✓	✓
Record Video	✓	✗
Replay CAN Data	✓	✗
Replay Video	✓	✗
CAN Data Interpretation	✓	✓
CSD-Generator (for custom CAN Data Interpretation)	✓	✗
SensorTargetList	✓	✓
SensorStatusList	✓	✓
ChannelList	✓	✓
Oscilloscope	✓	✗
TargetDraw	✓	✓
CANSingleValueView	✓	✓
CSV-Export	✓	✗
SMSDownload	✓	✓
SMSCommand	✓	✓
FreeCANMessage	✓	✓

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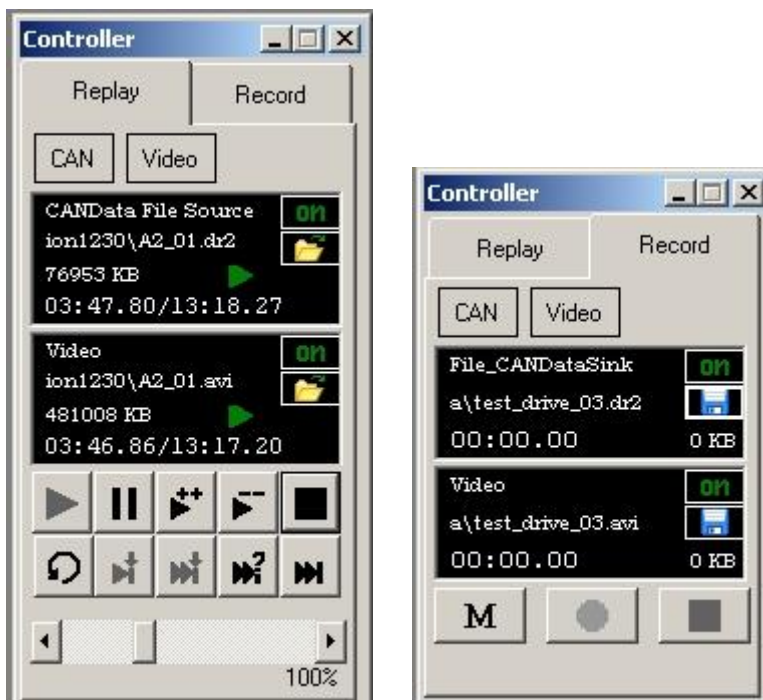
## 3 Detailed Features

### 3.1 DriveRecorder Mainframe

- All settings of all views are stored to and reloaded from a desktop file (.dsk)
- Allows pinned, docked and floating views
- Main menu gives access to all views and settings of all application modules
- All application and user events are stored in a log file and can be displayed in a log monitor
- A lot of views of the DR3 hold grids, that are very flexible regarding their appearance (background color, font, etc)

### 3.2 Replay, Monitoring, Recording

- Live and Replay modes are controlled by the controller window:



- Each file type can be replayed and recorded separately or synchronously at once
- Information like name, size and length of file are displayed for each file in a separate control
- Replay features:
  - Varying replay speed (12.5 to 800%)
  - Stepping (steps determined by sensor frames)
  - Jumping to a specific time
  - Run through file to the end

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- Replay file in a loop
- Recording features:
  - Normal record triggering by pressing buttons of Controller
  - Continuous recording (automatic restart of recording a new file after an entered interval)
  - Scheduled recording (determined by a list of points of time and record length)
- Status of used hardware (CAN or Video) is shown in HW-Monitor:



- HW-Monitor allows quick access to settings and reinitialization of hardware modules

### 3.3 CAN data interpretation

- DR3 records and replays information of CAN data messages
- CAN data is interpreted by a CAN Specification file (.csd)
- CSD is freely programmable for custom purposes
- According to CSD, DR3 creates and fills channel, sensor status and targets lists

### 3.4 Raw CAN data views

#### 3.4.1 CANDataGrid

- Displays raw CAN data in a grid
- Provides a filter that is specified by CAN bus number and identifiers
- Buffer mode for displaying the data in received order
- Identifier mode: all messages are counted for each received identifier. The count value and last data frame is displayed:

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Nr of Message	Identifier	Data L	Data	CAN Nr	CANCard-Time
1606	2FF	8	00.00.13.4A.F0.25.01.D0	1	2393823147
606	3F0	8	19.99.9A.00.19.9D.21.A0	1	2393798250
599	3F1	8	00.00.00.B3.19.9A.21.80	1	2393798490
911	3F5	8	00.00.00.00.16.BE.AB.8E	1	2393836909
911	3F6	8	15.E0.AB.AE.15.CD.AB.AE	1	2393836439
912	3F7	8	1C.90.01.B0.00.45.00.00	1	2393835971
1564	3F9	4	7F.FF.8B.7C	1	2393823315
1638	400	7	31.86.FA.C0.C5.84.89	1	2393822186
7592	401	8	94.04.11.2C.09.95.2F.87	1	2393828749
7592	402	8	00.00.80.78.00.0B.00.07	1	2393829169
1642	410	7	2C.86.FA.C0.BE.84.89	1	2393830062
5983	411	8	93.98.11.08.11.22.D3.41	1	2393831470
5982	412	8	00.00.80.78.00.03.00.01	1	2393831952

### 3.4.2 CANSingleValue

- Allows setup of a single CAN data interpretation (MiniCANSpec)
- The interpretation is specified by an entered bus number, identifier and the bit and byte indices of the data array
- Displays the value (hex is possible), also logs and displays the minimum and maximum values
- Displays horizontal bar whose filling state is determined by the value regarding a entered range or the min and max values
- Allows playing a tone with an entered frequency if the value is in or out of a given range
- Plays a tone whose frequency depends on the value regarding a entered range or the min max value
- Background color, font, bar color are adjustable
- Is also used as a interpreted CAN data view (see 3.5.1)



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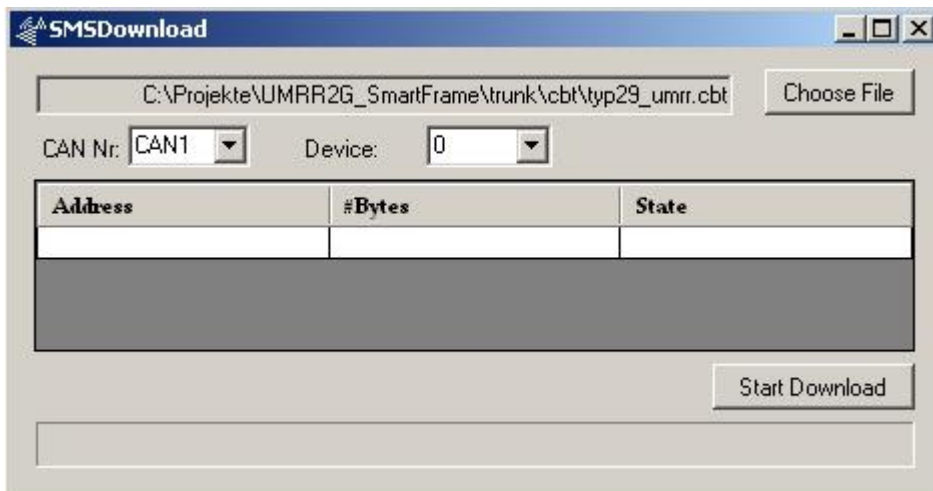
### 3.4.3 SMSCommand

- Selection, manipulation and sending of defined commands to smartmicro sensors
- Commands are saved and can be chosen by a drop-down box
- It is freely configurable how many command controls are displayed



### 3.4.4 SMSDownload

- Sends a firmware file to a smartmicro sensor
- Displays status of each block transmission



### 3.4.5 FreeCANMessage

- Sends freely configurable CAN messages
- Messages can be saved and can be chosen by a drop-down box
- It is freely configurable how many CANMessage controls are displayed

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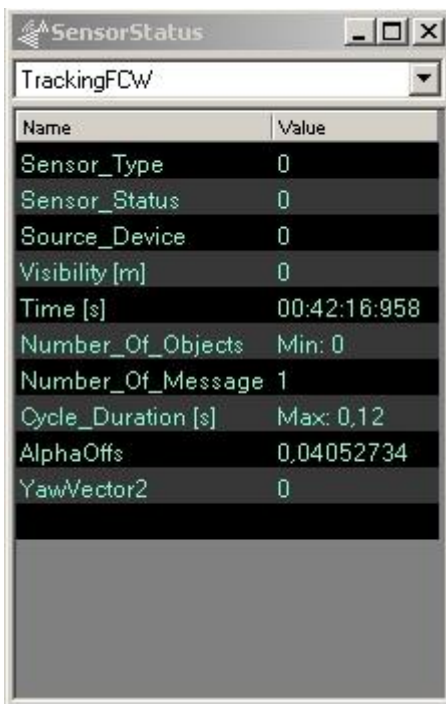
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### 3.5 Interpreted CAN data views

#### 3.5.1 CANChannelList, SensorStatusList, SensorTargetList

- Channel, sensor and target signals are shown in grids
- The value of a single information can be shown in CANSingleValue view (see 3.4.2) or Oscilloscope view (see 3.5.3)
- In CANChannelList and SensorStatusList the minimum or maximum values of a signal can be displayed



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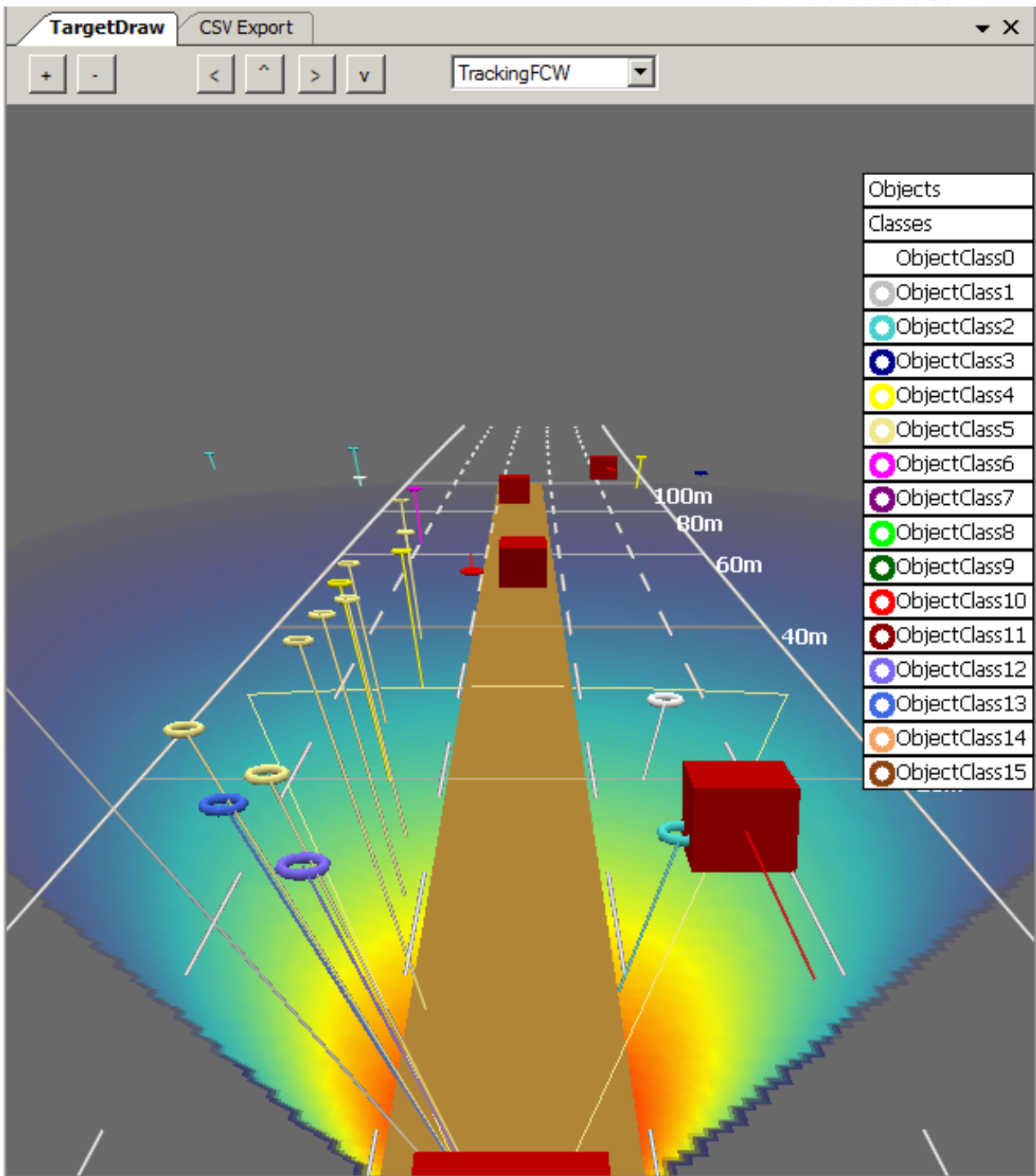
SensorTargetList								
Umr2GID0								
Object_N	Azimuth1 [rad]	AZWinkel [°]	Range1 [m]	Amplitude	Object_Class	Speed_Radial [m]	Elevation1 [rad]	ELWinkel [°]
0	-0,136808	-7,84	5,05	56,64	8	10,94	0	0
1	-0,597488	-34,24	5,72	65,28	4	-3,48	0	0
2	-0,485808	-27,84	5,94	80,32	4	0,22	0	0
3	-0,340624	-19,52	6,42	55,36	0	11,58	0	0
4	0,005584	0,32	6,72	66,88	4	16,84	0	0
5	0,170312	9,76	8,94	48,96	0	19,8	0	0
6	0,374128	21,44	9,45	62,72	4	26,68	0	0

### 3.5.2 TargetDraw

- Flexible 3D view to render targets in a three dimensional view
- Renders guidelines like sensor beams, range lines, lanes and freely definable lines
- Objects can be drawn according to the settings made for each sensor (sensor specific drawing) or to the settings made for the corresponding object class
- Sensor beam drawing depending on antenna type
- Show speed values at objects
- Freely adjust appearance of objects of each sensor:
  - Color, transparency and zoom factor of the objects
  - Selection and style of object number, sensor number and object class number to be rendered next to each object
- If object class specific drawing is enabled, the settings for object rendering is overwritten by object class specified settings:
  - Color, dimension and persistence duration
  - Symbol (box, sphere, ring, diamond, triangle, car)
- Drawing of sensor outputs like relevant lane, alert lane and crash-barrier

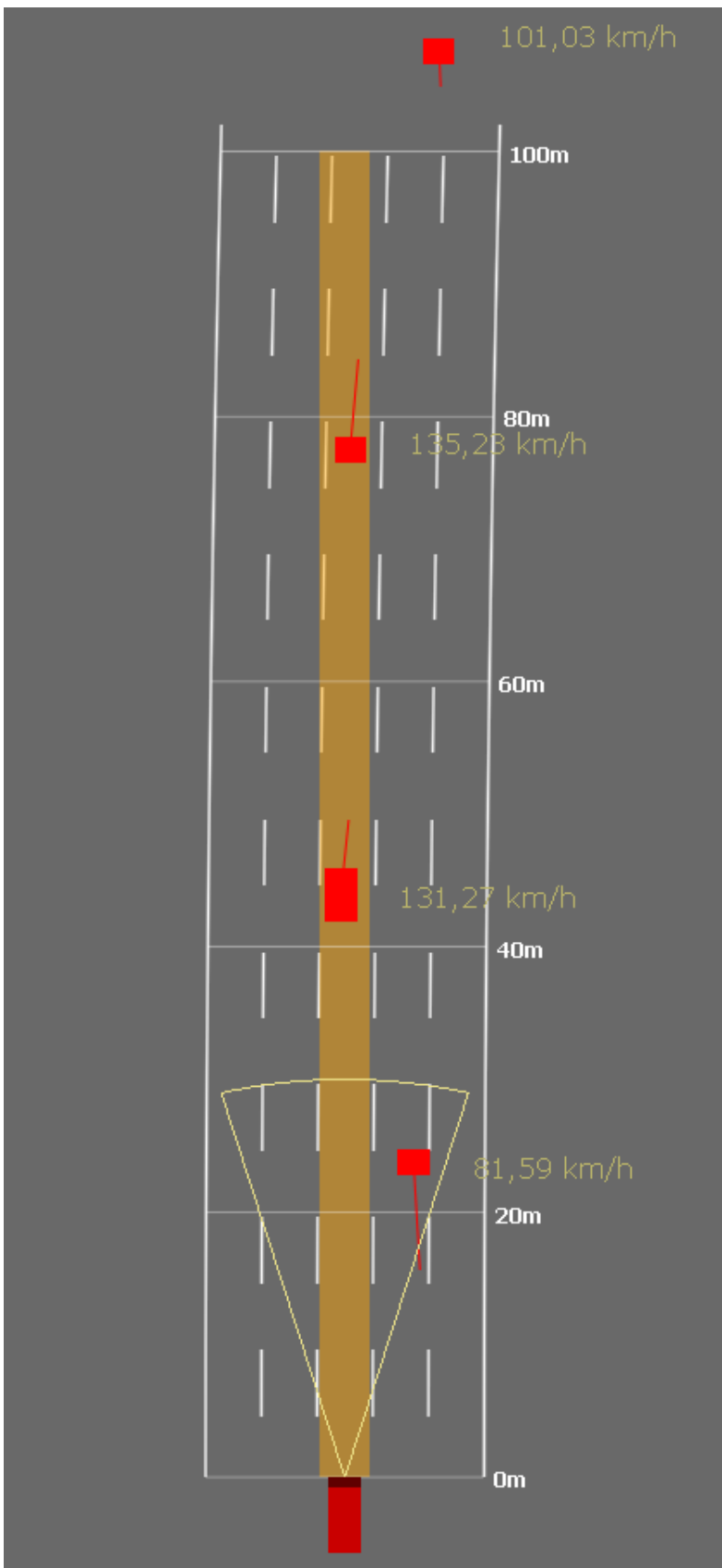
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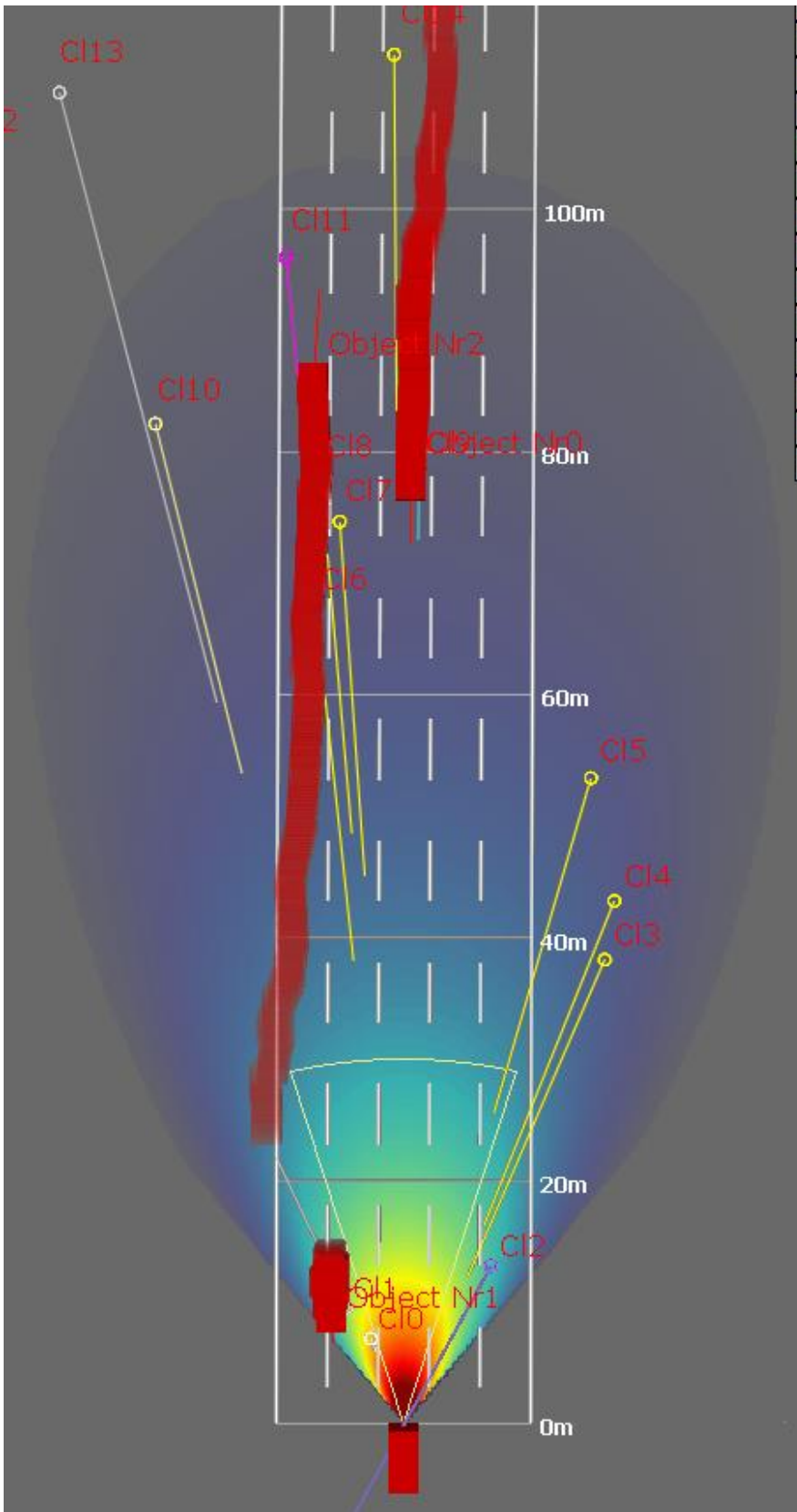
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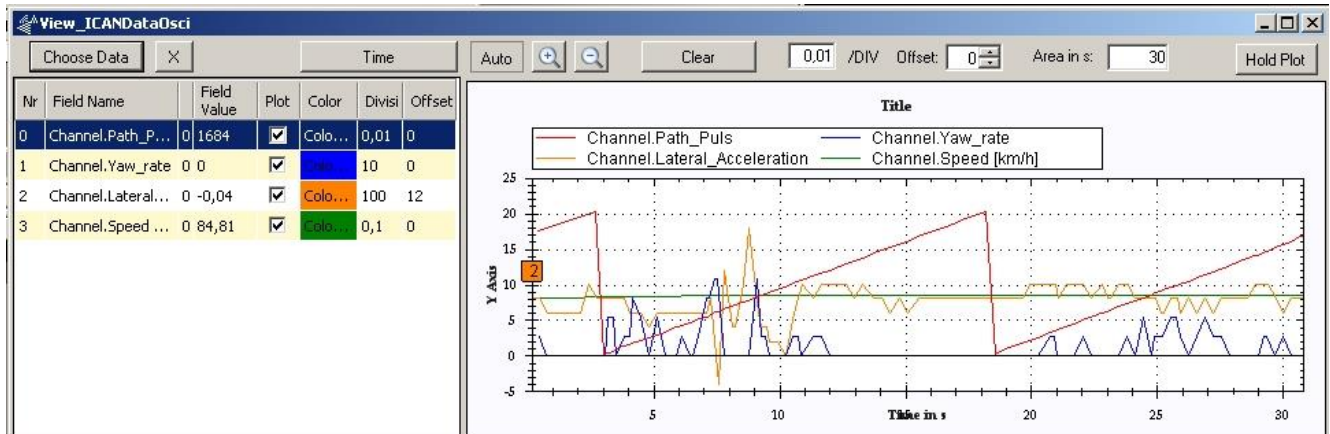


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### 3.5.3 InterpretedCANDataOsci

- Allows tracing values of user selected signals over time
- The signals are selected by context menu of SensorStatusList, SensorTargetList and CANChannelList views (see 3.5.1)



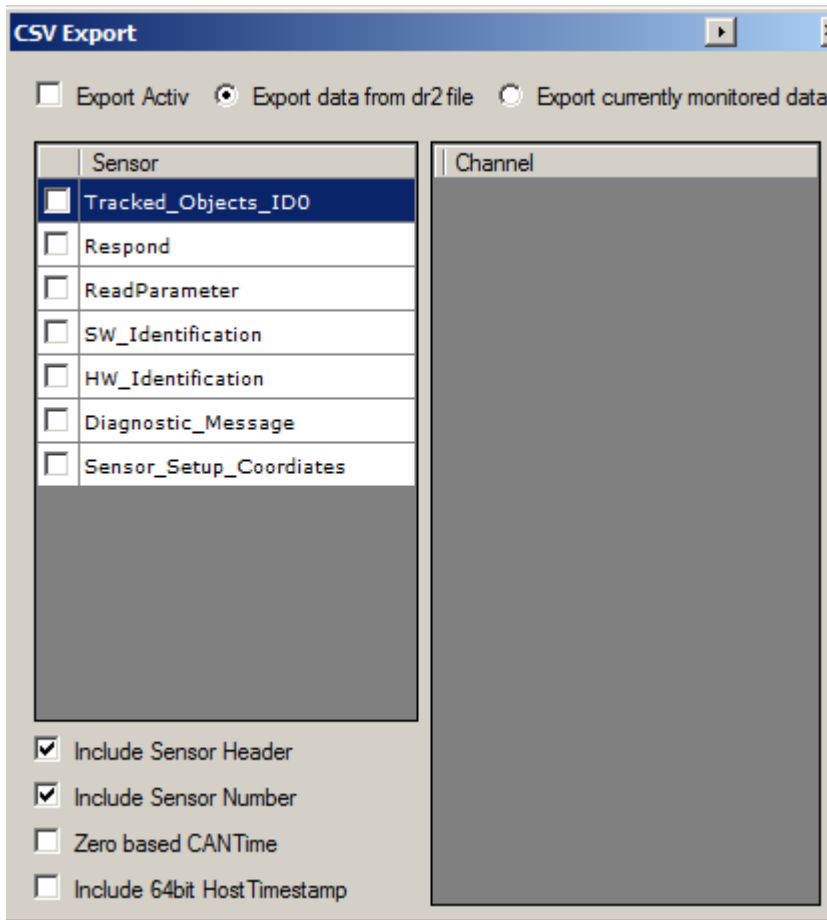
## 3.6 Exporting Data

### 3.6.1 CSV Export

- Exports interpreted CAN data to a csv-file
- Selection of sensors and channels whose data should be exported
- File and live export supported
- Automatic file splitting for live export
- Streaming of export data via UDP

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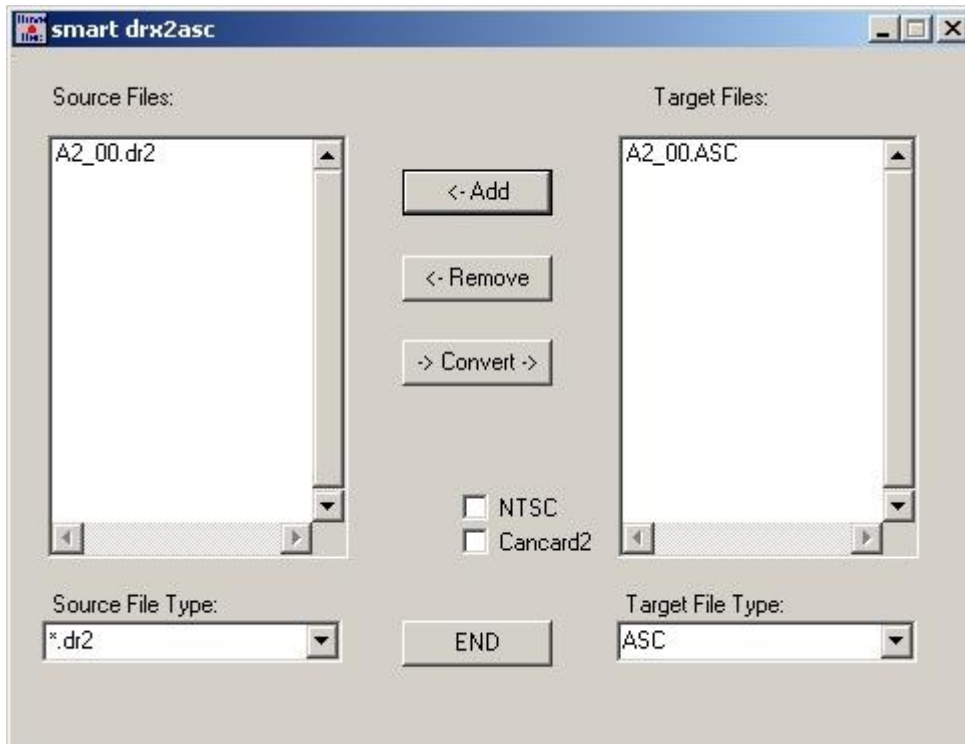


### 3.6.2 CAN data text file export

- DR3 comes with an external tool "dr2ToASCII" which allows conversion of CAN data holding .dr2 files to text based ASCII files (.asc)
- dr2ToASCII is opened via the tools menu of the DR3

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### 3.7 Recording Video

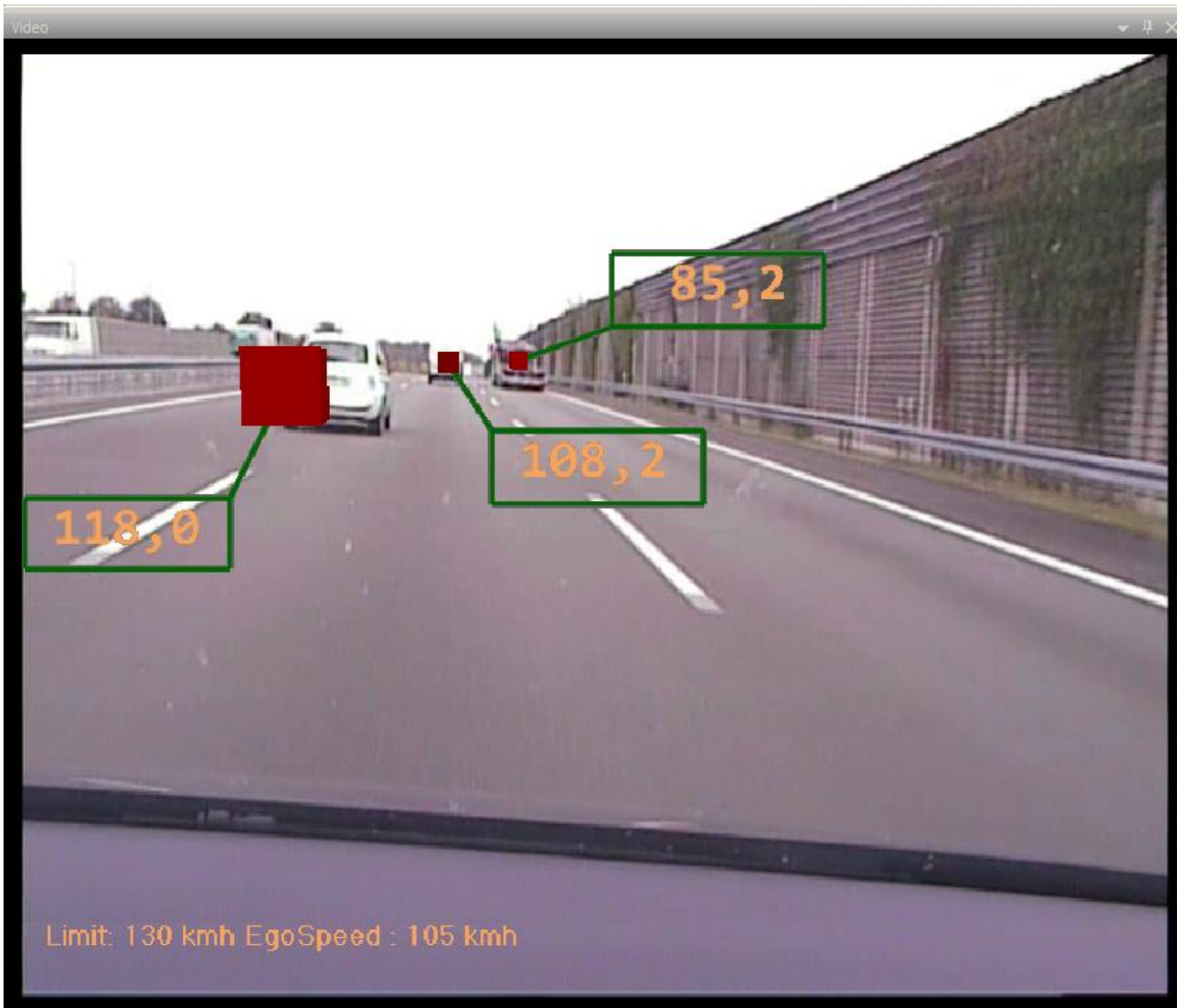
- For capturing video streams all connected video devices that are properly detected by DirectX can be chosen for the input
- For compression of the video stream a compressor can be chosen and configured

### 3.8 Video Overlay

- Video image overlay with objects and speed information

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