CONFIGURATION OF CAN DATA IN D-LAB

Version 1.0

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Content

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1. Hardware Setup

After Installing the CAN card (PEAK) and necessary drivers, D-Lab automatically recognizes and displays "CAN" as a recording device in the Recording Devices window within the Plan and Measure modes.
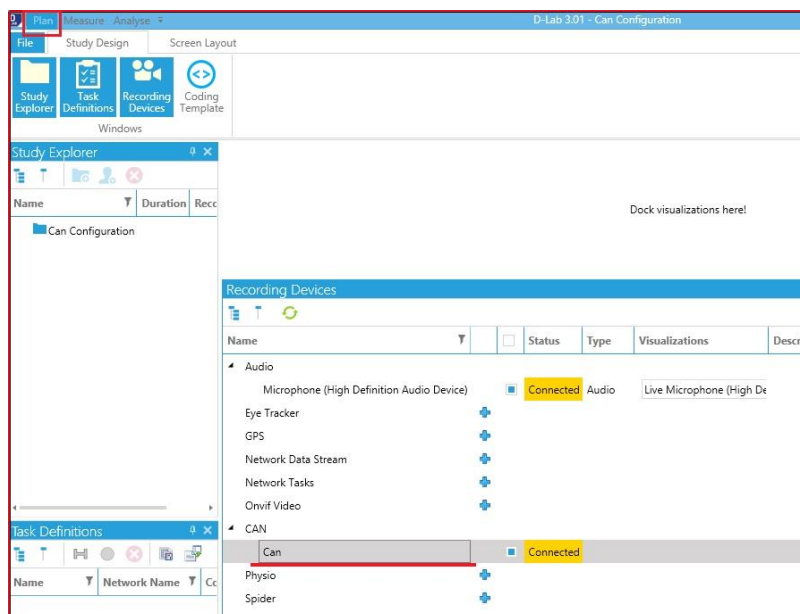

Figure 1: Recording Devices window with CAN card as a sensor

Please make sure that the D-Lab computer is connected to the Vehicle CAN prior to recording data. The adjustments described in the next steps can be made without an actual CAN connection. However, data will only be displayed when there is an existing connection.

2. Configure D-Lab

Step 1: Double click on the entry "Can".
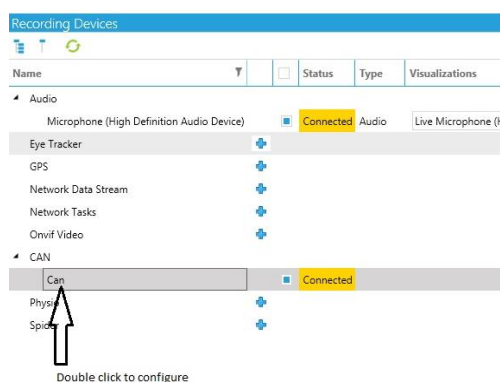
A configuration dialogue appears. Here you can load the predefined CAN configuration for the Mobileye sensor (if available) or include specific CAN data from a CAN dbc file (file containing information to "decrypt" the CAN data).

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Please note that Ergoneers cannot provide any data to decrypt CAN messages from any car manufacturer. This information can only be provided by the manufacturer of the car you are using. The following parameters are required:

- Format (Intel or Motorola)
- ID of the Message (Hex or Decimal)
- Length of the Message in Byte
- Position of the Value in the Message (Startbit)
- Length of the Value (Bit)
- Type (Signed / Unsigned)
- Factor
- Offset

2.1 Configure Mobileye (if Mobileye sensor is available)

In order to load the predefined Mobileye configuration, left-click on the 5th symbol from left (as shown in the image below). The necessary information will be loaded automatically.
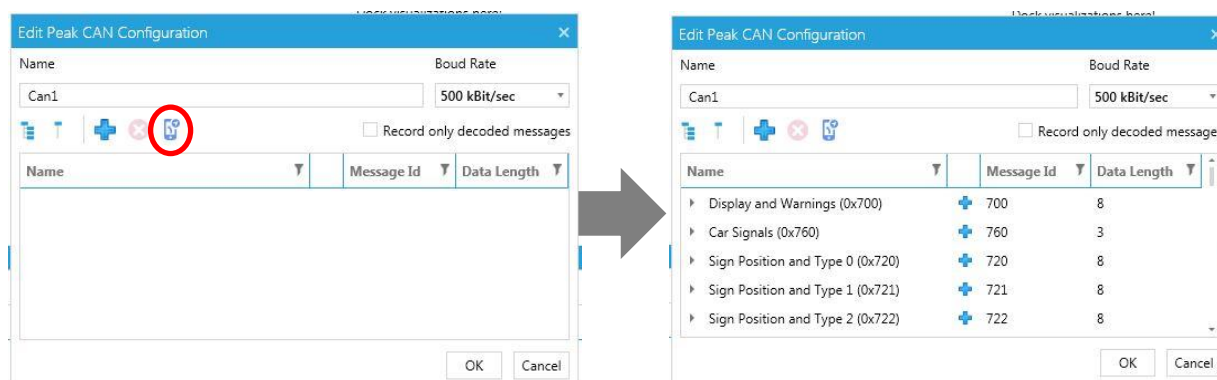

2.2 Configure CAN Messages (if dbc-file is available)

Step1:

In order to manually configure the content of CAN-Messages, left-click on the 3rd symbol from left ("+"). In order to use this option you need the information described above.
In the dialogue that appears, enter the information to identify a certain CAN message

- Name (can be freely assigned, independent from the dbc file)
- Length of the message in bytes
- Format (Intel or Motorola; depends on the car manufacturer)
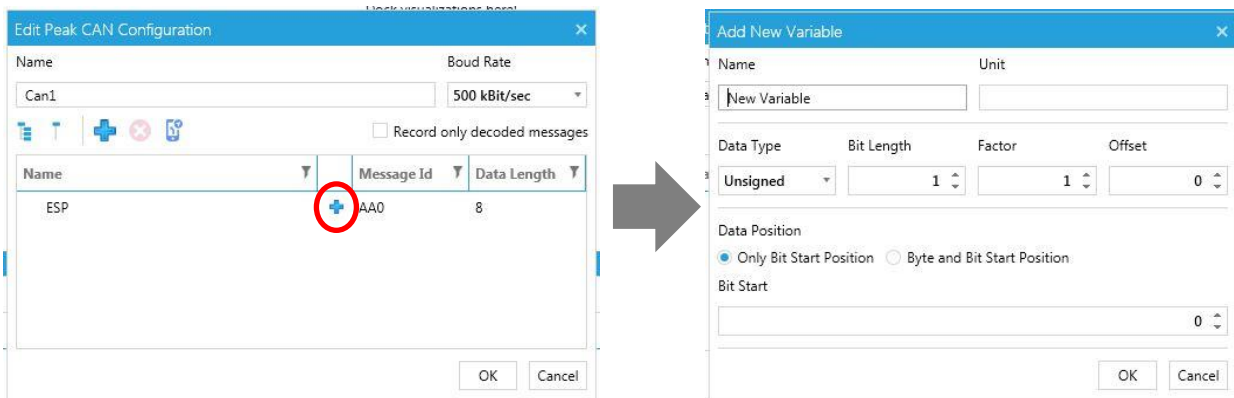- ID of the message (Hex or Decimal)

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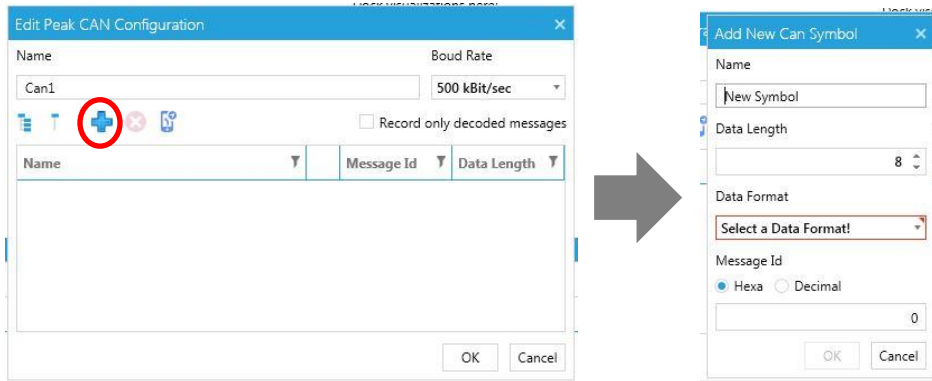
Hit the "OK" button when all information is entered correctly.

Step 2:

Once a CAN message is defined, it appears in the main dialogue (e.g. ESP, see below). In the next step, it is necessary to localize certain variables / values (e.g. speed) wihtin the CAN message. Left-click on the small "+" symbol of the CAN message.

In the dialogue that appears, enter the information to identify a certain CAN message

- Name (can be freely assigned, independent from the dbc file)
- Unit (can be freely assigned, independent from the dbc file)
- Type (Signed / Unsigned)
- Length of the Value (Bit)
- Factor
- Offset
- Format of the Data Position (depends on the data format)
    - Only Bit Start Position for Intel
    - Byte and Bit Start Position for Motorola
- Position of the Variable / Value within the Message (Startbit)

Hit the "OK" button when all information is entered correctly. The CAN is now configured and you can drag and drop variables / values (e.g. speed) to visualization windows in D-Lab (e.g. line chart, point chart, etc.) and record the data.

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