

iCANView

An Application to View CAN Bus Data in Real-Time

- Manual -

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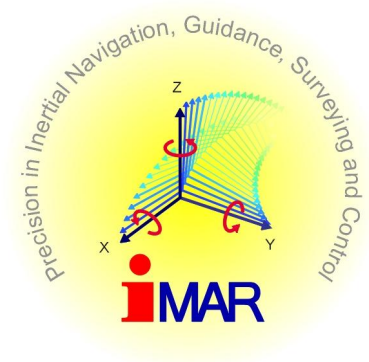


Table of Contents

1	Introduction	3
2	Installation	4
3	The user interface.....	5
3.1	The main window.....	5
3.2	Parameter selection dialog	5
3.3	The view window	7
3.4	The Artificial Horizon window	8
3.5	The Real Time Plot dialog	9
3.6	The value window	10
3.7	A sample session	11
4	Special menu points	12
5	Special keys	13
6	A sample DBC file.....	14
7	Hotline	15

1 Introduction

iCANView is a Windows™ based software to visualize CAN data in real-time. It is especially designed to visualize the data from iMAR inertial measuring systems like iDIS-FMS, iNAV-FMS, iNAV-RQH/FJI or iVRU on the user's notebook. iCANView reads in a DBC file and allows to display the selected CAN data in real-time. The display can be in text form, as a data plot over time or as an artificial horizon.

The DBC file defines the CAN messages and CAN signals on a CAN bus. iCANView is adapted to a CAN bus over a CAN dongle from Peak Systems. The dongle is called PCAN-USB and connects the CAN bus with one USB port of the PC. The application iCANView displays the received data from the CAN bus as the DBC file defines it. There are 3 different possible display modes that the user can select. The user can also create a log file; then the application writes the received CAN messages into a log file.

Special features as “stop data visualisation after xx seconds” are available to assist the test engineer using this software in special tasks (e.g. to show data of an elk test in automotive testing). User definable scaling and zoom functions allow simple operation and user defined design of the data output screen on the laptop / PC.

2 Installation

First, you must install the CAN-USB dongle from Peak Systems. Please follow the hardware installation manual.

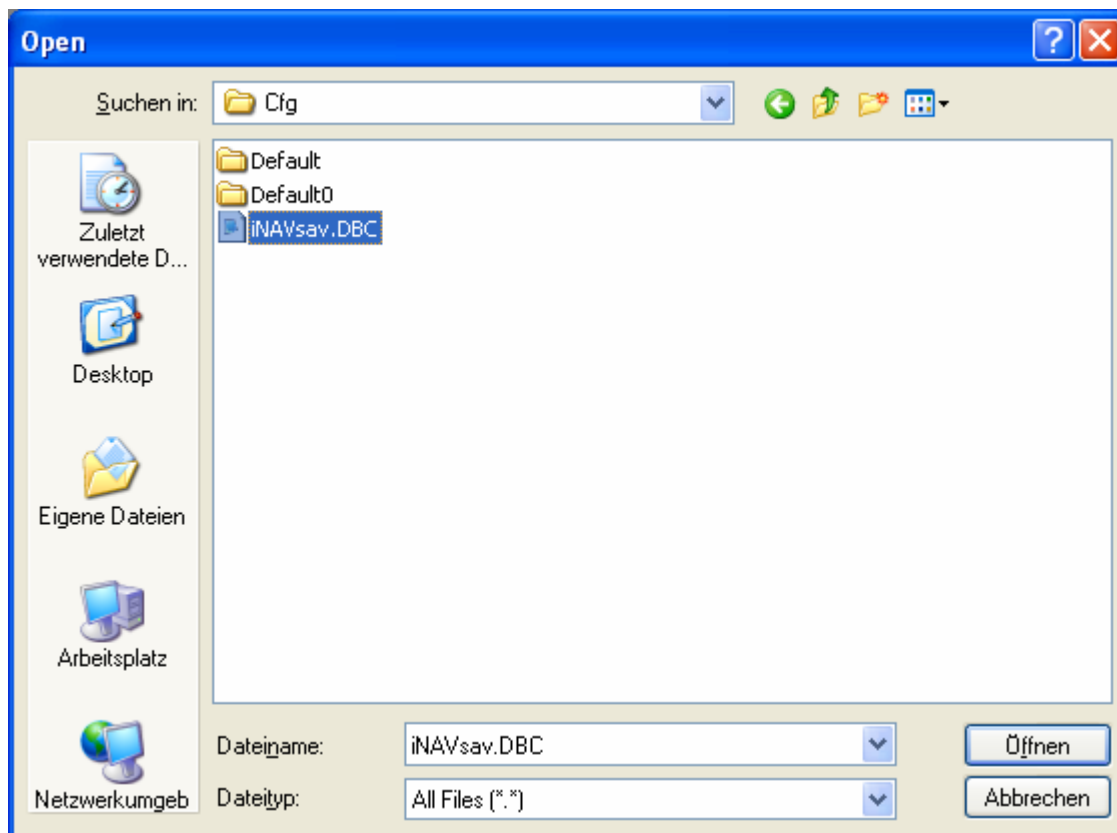
After that you must run the delivered setup.exe to install the iCANView application, libraries and documentation. They will be put in a subfolder named IMAR in the windows program folder. The setup program will also generate a link (shortcut) on your desktop. You need administrator privilege to install this software.

3 The user interface

3.1 The main window

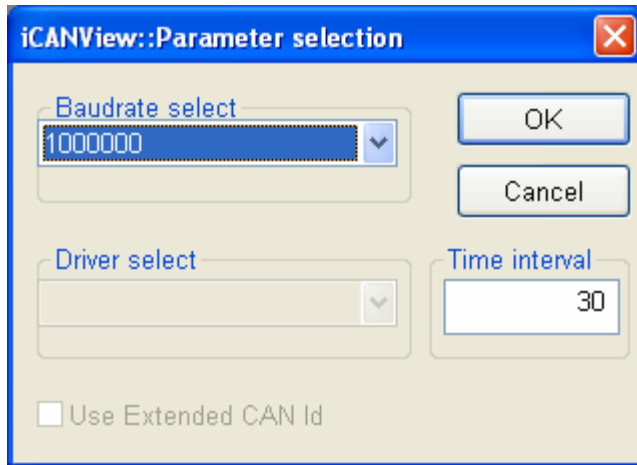
First the application displays the welcome dialog.

Then you can open an existing DBC file in the main window which describes the CAN data configuration. This DBC file is e.g. generated by the configuration software of the Navigation System (e.g. Nav_Command of iNAV-FMS) or you can generate the DBC file yourself (text file). Therefore you simply select the menu point File and the submenu point open. Then you will get a windows file selection dialog box to choose an existing DBC file.



3.2 Parameter selection dialog

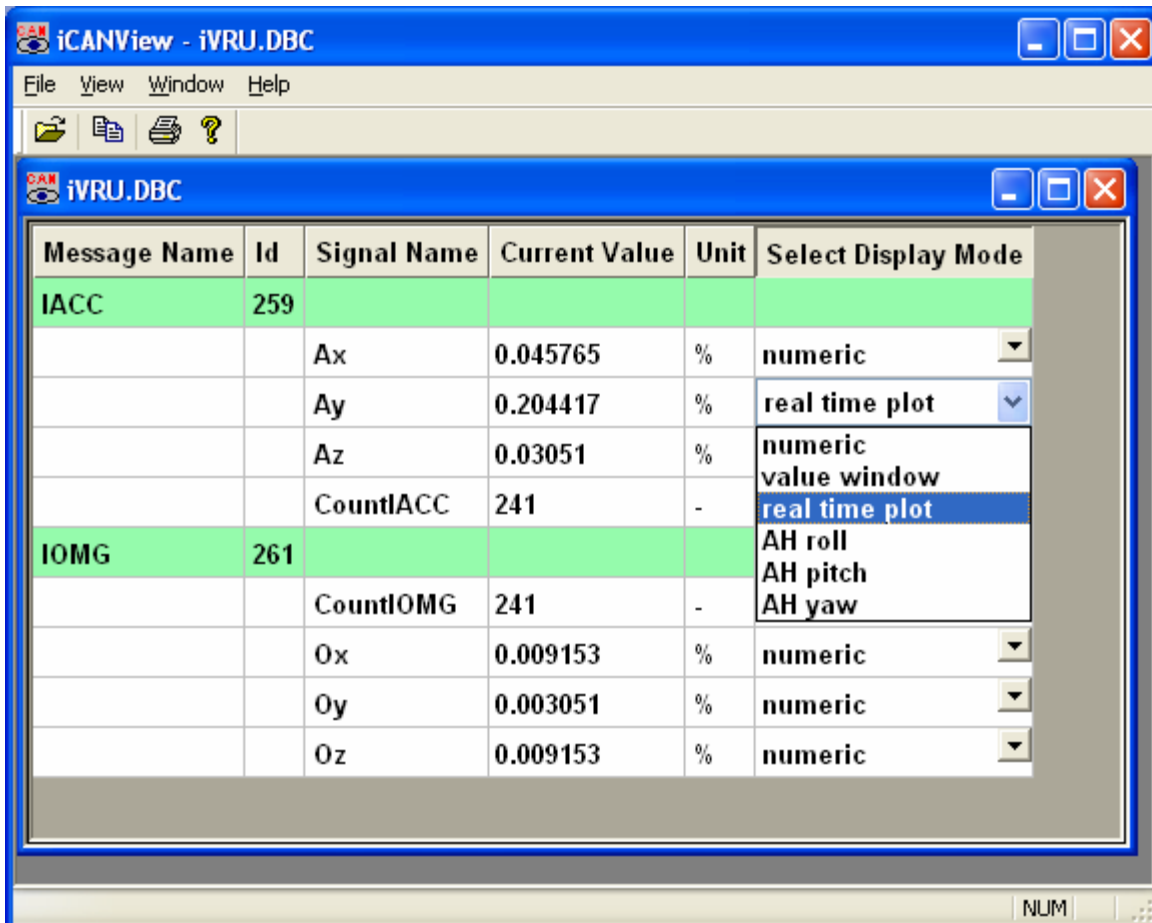
After the selection of a DBC file, the application shows first the modal Parameter selection dialog. The user must select there the current transmission speed (Baud rate) on the connected CAN bus. In the edit field named "Time interval" you can define the time interval which is displayed in the real time plot dialog. The other dialog fields are reserved for future use.



3.3 The view window

The data read are displayed in a view window in real-time. The rows with the green background show the message data, the others show the signal data of the message. In the first row the names of the columns are shown. In the last column named „Select Display Mode“ the user can select how the current value of the signal is displayed. The possible modes are:

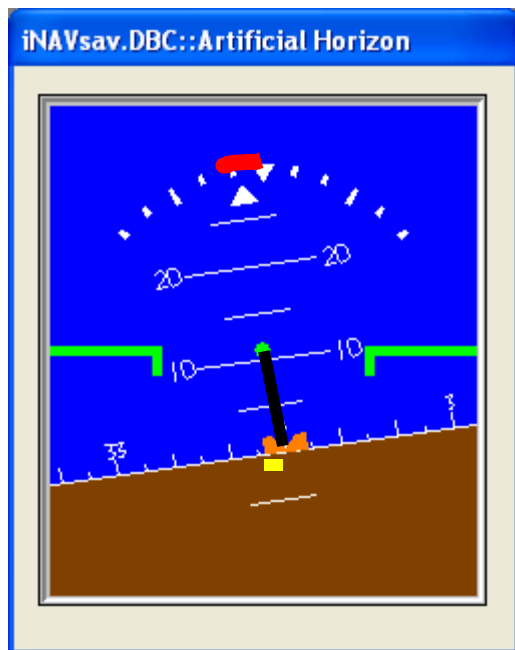
- Numeric, the default and always active window
- Value window, a specially dialog window for this signal is shown
- Real time plot, the value is also shown in a real time plot output
- AH roll, the value is also shown in an artificial horizon as the roll value
- AH pitch, the value is also shown in an artificial horizon as the pitch value
- AH yaw, the value is also shown in an artificial horizon as the yaw value



Message Name	Id	Signal Name	Current Value	Unit	Select Display Mode
IACC	259				
		Ax	0.045765	%	numeric
		Ay	0.204417	%	real time plot
		Az	0.03051	%	numeric
		CountIACC	241	-	value window
					real time plot
IOMG	261				AH roll
		CountIOMG	241	-	AH pitch
					AH yaw
		Ox	0.009153	%	numeric
		Oy	0.003051	%	numeric
		Oz	0.009153	%	numeric

To select a certain mode, click the arrow field of the cell. Then a dropdown list is opened with the six possible modes. Click on the mode you want and leave the cell by clicking another position in the window.

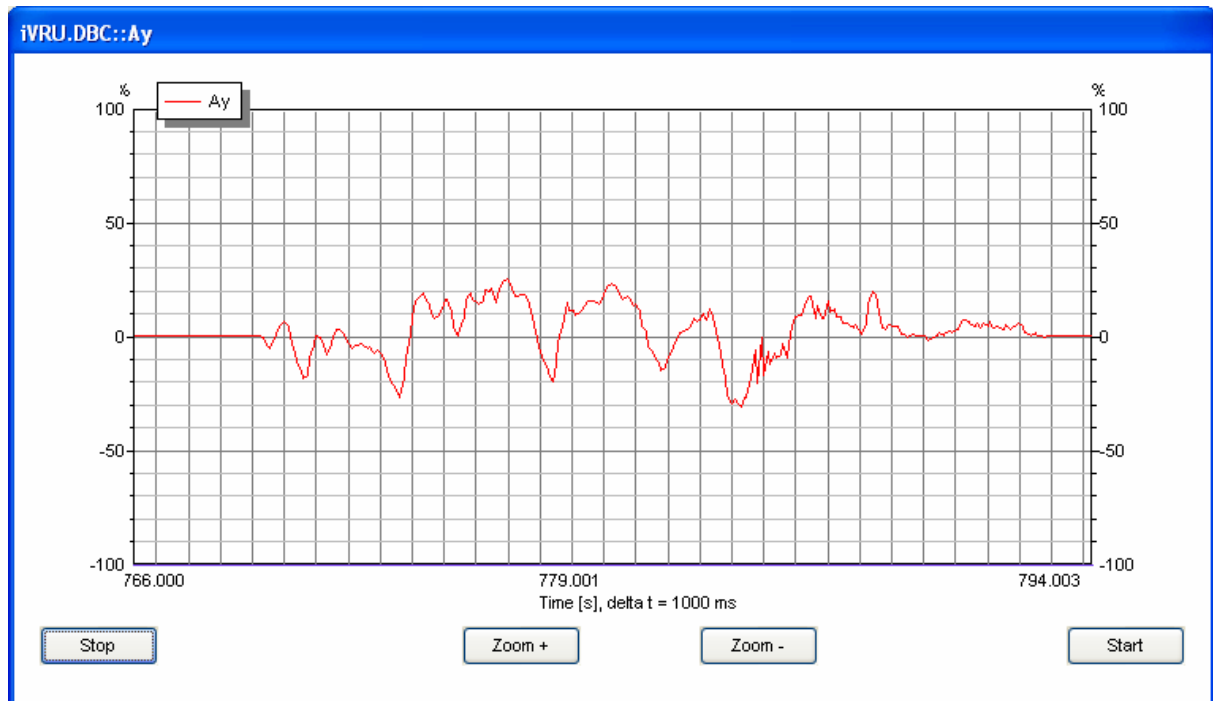
3.4 The Artificial Horizon window



The artificial horizon is used to display three angle values with the unit [°] at the same time. The red mark gives you the value for the roll angle, the black mark gives you the value for the pitch value and the yellow mark gives you the value for yaw angle. This window is closed, if no signal have the assigned display modes „AH roll“, „AH pitch“ or „AH yaw“.

3.5 The Real Time Plot dialog

If you select the display mode „real time plot“ for one of the signals, then one dialog for this signal is opened. In the Real Time Plot dialog (RTP-dialog), the signal's value

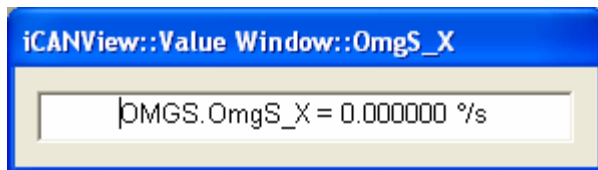


is shown over the time in seconds. The time in seconds is the value since the first Real Time Plot dialog was opened. If you click the Stop button, then the output in this dialog will be stopped. The output to this dialog will go on, if you click the Start button. The caption of the dialog and the legend of the left y axis show the signal name. To close this dialog select the display mode „numeric“. With the „Zoom +“ and the „Zoom -“ buttons you can increment and decrement the zoom factor for the y-axis.

If you use several plot windows and if the focus is set to the view window, you can start all Real Time Plots with F5 and you can stop all Real Time Plots with the function key F6 at the same time.

3.6 *The value window*

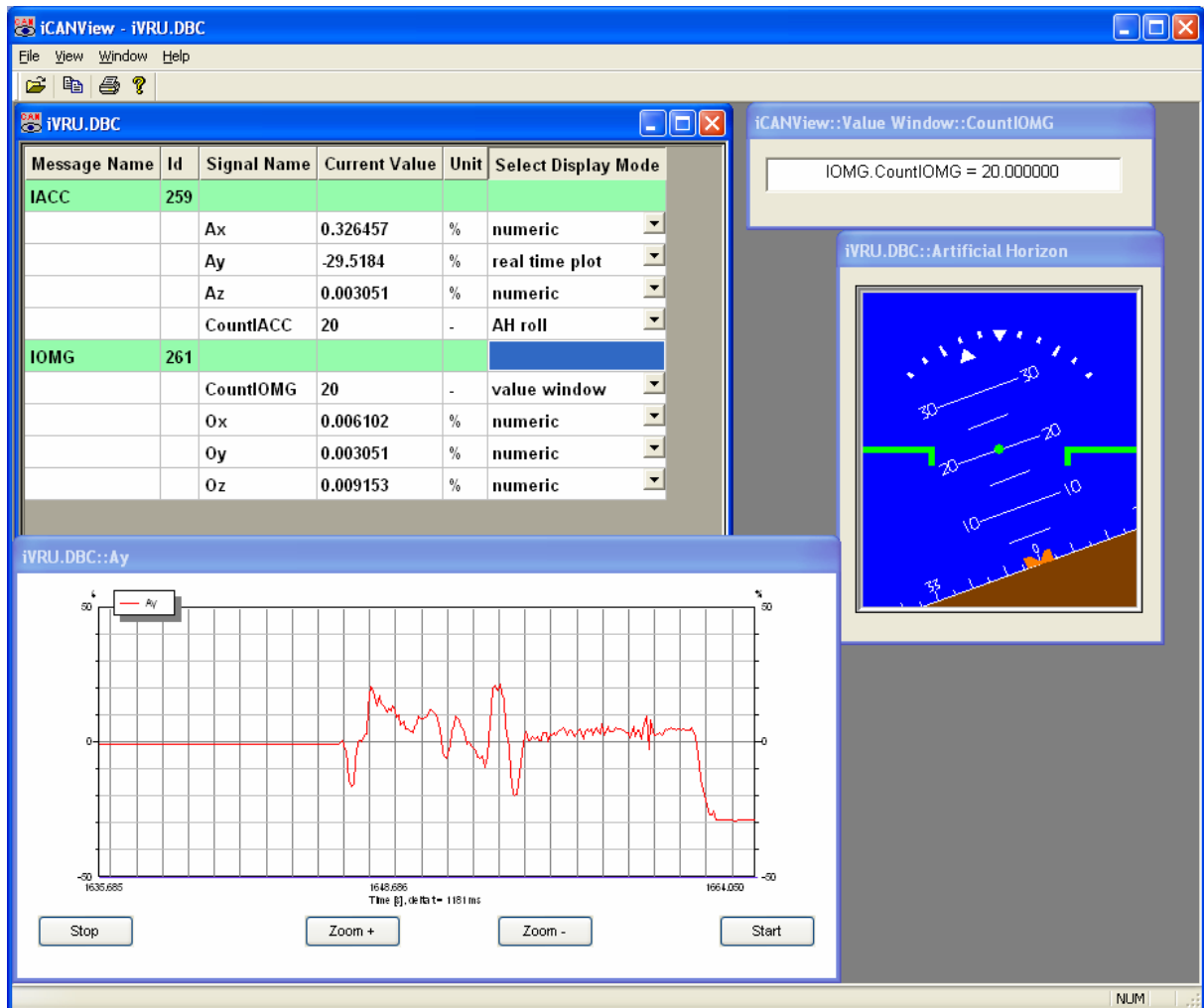
This window displays the assigned signal with the message name, the signal name, the current value and the physical unit.



The message and the signal name are separated with a dot.

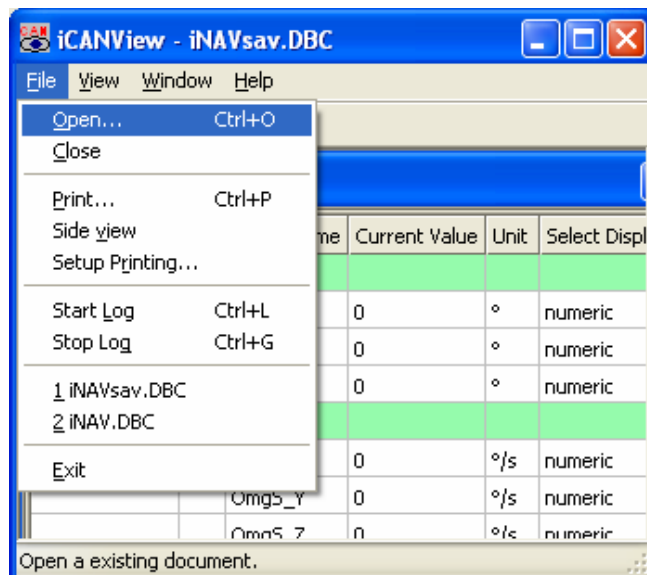
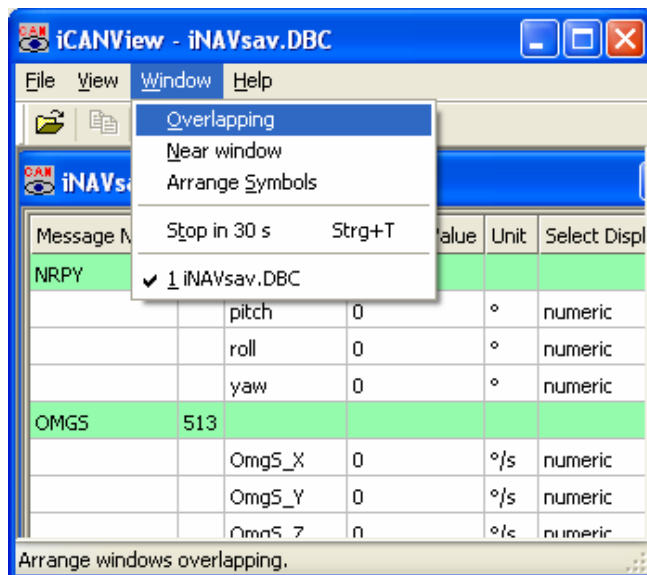
3.7 A sample session

Here you can see a sample application session.

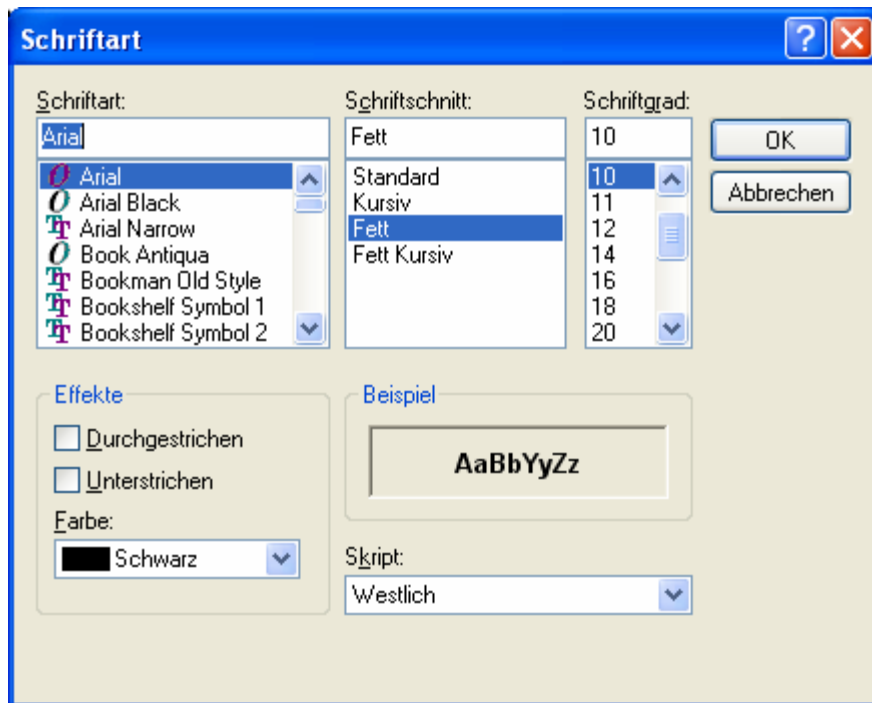


4 Special menu points

If you have selected a DBC file, you can start and stop the writing of the received CAN messages with the menu points “File->Start Log” and “File->Stop Log”. The messages will be written in a ring buffer log file with a maximum size of 8 MB. With the menu point “Window->Stop in 30 s”, you can stop the output to all RTP-dialogs after 30 seconds. The time can be set in the parameter setting window (see chapter 3.2)



The menu point “View->Select font” lets you select a font with the windows standard font selection box.



You get the same dialog box, if you select the menu point “window->Set value window font”. Then you can select a font for all current active value windows.

If you select the menu point “Help->Online document”, a manual in pdf format will be opened.

5 Special keys

If the focus is set to the view window, you can start all Real Time Plots with F5 and you can stop all Real Time Plots with the function key F6 at the same time.

7 Hotline

If you need any assistance with this software, please contact our service hotline.

Phone: +49-6894-9657-32