



# BLUEPIRAT

:BY MAGNA



## BLUEPIRAT Series GPS User Guide / 30.09.2020

Version 5.0.1

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## 2 PRODUCT LIABILITY

### 2.1 Terms and Conditions of Sale and Delivery

The General Terms and Conditions of Sale and Delivery of MAGNA Telemotive GmbH can be found on our website (<https://telemotive.magna.com>) under imprint.

### 2.2 Important operating instructions

**Please note these important instructions about the handling of devices of MAGNA Telemotive GmbH!**

There's a linux system running on the devices and sometimes when the device has a dirty shutdown due to a power break down or unplugging the power supply, the system is corrupt from this time. You know this situation from a PC, when you switch it off some times it maybe will not work any more or show you some mistakes.

In most cases this issue is catched up and repaired by the linux system we use, but sometimes it can happen that the system on the logger is damaged and there's no access to the device any more.

We are optimizing the handling of corrupted systems permanently and are integrating some new enhancements regarding this kind of issues with every new release to save the system. But we can't make the system for 100% save against these influences.

**So please use always the provided mechanism for shutting down the device or the implemented standby function in which the device shutting down when no traffic is detected any more in an adjustable time.**

### 3 Overview

This user guide describes the feature of the license **GPS logging** for the data loggers

- BLUEPIRAT Rapid
- BLUEPIRAT Mini
- BLUEPIRAT2 5E
- BLUEPIRAT2
- BLUEPIRAT Remote

of MAGNA Telemotive GmbH.

This user guide describes the configuration and usage of this feature. The general configuration is described in the user guides of the used data logger as well as the System Client, which is valid together.

This document refers to **firmware version 05.00.01** and the **System Client** from **version 5.0.1**. Some features depending on model and feature license or may not be available in older versions.

Software updates and user guides for other, optional, licensed enhancements are available in our Service Center. (Please find the address under Contact at the last page.)

To ensure the most reliable operation of your system as possible, please make sure to use always current firmware and software versions.

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## 4 System requirements

### GPS Extension

The BLUEPIRAT2 can be extended by an internal GPS/Wi-Fi module. We are offering for all devices an external solution where the GPS module can be connected by an USB port

These USB devices are available:

- Navilock NL-602U
- Navilock NL-8002U

The communication between bus systems and control units is monitored, and relevant data can be recorded very precisely with the data logger. The collected data are stored to the logger and can be downloaded via Ethernet to a PC.

### Control Unit

You need a Windows based Laptop or PC to configure the devices by the **System Client**. It also allows to save the recorded data and to use them offline later.

### System Client

Update, configure and read out your data loggers with System Client. Save time with central administration of your software products. System Client is your key to success for using all our products!

### BLUEPIRAT Rapid

High-performance multi-bus data logger for modern vehicle architectures based on Automotive Ethernet. With up to 3 TB internal memory and supreme recording performance. Robust and compact for in-vehicle use.

Due to the increasing complexity of driver assistance systems and the growing number of infotainment applications, the data traffic between ECUs in the most recent vehicle models has grown significantly. Consequently, besides the various classic bus systems, modern vehicle architectures are based on Automotive Ethernet according to BroadR-Reach / IEEE 802.3 100(0)Base-T1, which can keep up with the growing bandwidth demand.

### Power Backup

The **Power Backup** is a special component, which is designed to bridge short voltage interruptions. It is connected upstream of the data loggers on the voltage side, and must be connected to them via a dedicated LS CAN port for controlling.

### BLUEPIRAT Mini

The **BLUEPIRAT Mini** is smallest data logger in the world with an outstanding functional scope. It offers a wide range of interfaces, stable temperature behavior, very low energy consumption, four GBit Ethernet ports, and much more. Different blue PiraT Mini can be expanded flexibly to one cluster and therefore handled very easily by using [System Link](#).

### BLUEPIRAT2

The **BLUEPIRAT2** is our top-class all-in-one data logger. Seven models cover a wide range of interfaces. (Device is EOL)

### BLUEPIRAT2 5E

Additionally, the **BLUEPIRAT2 5E** offers improved power management and power backup, five integrated Ethernet ports and super-fast start-up behavior. The BLUEPIRAT2 can be expanded flexibly via [System Link](#). (Device is EOL)

**Remote Control Touch (optional)**

Operate your BLUEPIRAT data loggers safely and comfortably from the driver's or passenger seat. Via System Link our new remote control becomes part of your logger network. One remote control can handle all connected loggers.

**BLUEPIRAT Remote (optional)**

While Remote Control Touch is just a control unit for handling unique devices or a TSL network, the blue PiraT Remote additional has logger functionality by offering internal storage and some interfaces. (Device is EOL)

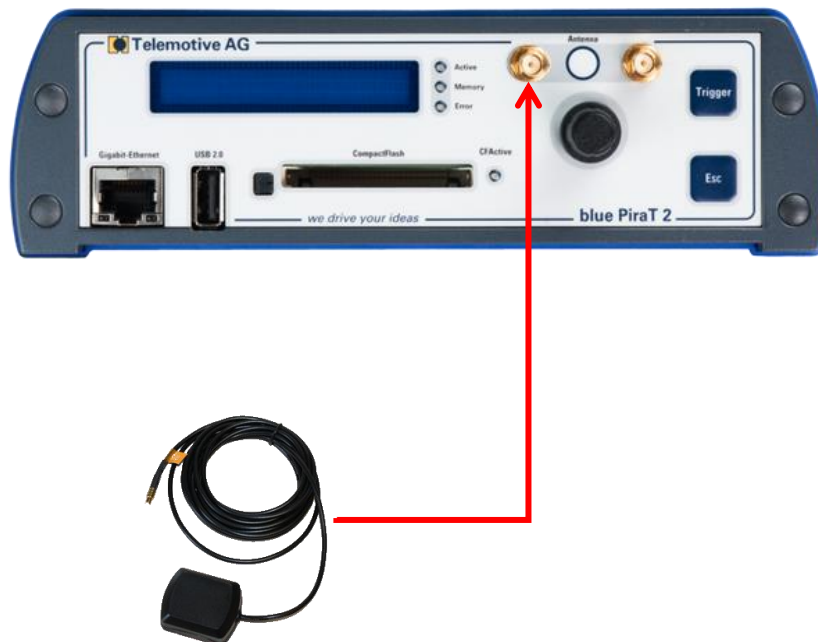
**License**

For the additional feature **GPS** (Global Positioning System) **logging** an installed license is required. Settings for licensed features can be performed with a valid license only.

If you need a license for your logger, please contact our sales department (please find the address under contact at the last page).

If you want to use the **GPS logging** feature for tracking GPS data on BLUEPIRAT2 with integrated GPS module, you have to connect the passive GPS antenna to the front connector of the BLUEPIRAT2.

**ATTENTION: The connector has to be bolt only by hand, NOT with any tools!**



**Figure 4.1: Mounting the antenna for internal GPS modules (bP2 only)**

At all other devices a GPS module is used which can be connected simply to the USB interface at the front of the data logger.

## 4.1 Further manuals

Beside this user Manual, we offer the main manuals for our System Client as well as for the different data logger generations in our Service Center at

<https://sc.telemotive.de/bluepirat>.

Our licensed enhancements have own manuals which are stored in the Service Center too. You will find a list of these enhancements in the user manuals in the chapter **Additional features by optional licenses**.

Under the following links, you always will find the latest versions:

### User manual for the System Client

[https://sc.telemotive.de/4/uploads/media/SystemClient\\_UserManual.pdf](https://sc.telemotive.de/4/uploads/media/SystemClient_UserManual.pdf)

### User manual for BLUEPIRAT Rapid

[https://sc.telemotive.de/4/uploads/media/BLUEPIRAT\\_Rapid\\_UserManual.pdf](https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Rapid_UserManual.pdf)

### User manual for BLUEPIRAT Mini

[https://sc.telemotive.de/4/uploads/media/BLUEPIRAT\\_Mini\\_UserManual.pdf](https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Mini_UserManual.pdf)

### User manual for Remote Control Touch

[https://sc.telemotive.de/4/uploads/media/RCTouch\\_UserGuide.pdf](https://sc.telemotive.de/4/uploads/media/RCTouch_UserGuide.pdf)

### User manual for BLUEPIRAT Power Backup

[https://sc.telemotive.de/4/uploads/media/BLUEPIRAT\\_Power\\_Backup\\_UserManual.pdf](https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Power_Backup_UserManual.pdf)

### User manual for BLUEPIRAT2 / BLUEPIRAT2 5E

[https://sc.telemotive.de/4/uploads/media/BLUEPIRAT2\\_UserManual.pdf](https://sc.telemotive.de/4/uploads/media/BLUEPIRAT2_UserManual.pdf)

### User manual for BLUEPIRAT Remote

[https://sc.telemotive.de/4/uploads/media/BLUEPIRAT\\_Remote\\_UserGuide.pdf](https://sc.telemotive.de/4/uploads/media/BLUEPIRAT_Remote_UserGuide.pdf)

For having an easy access if necessary, the most important manuals are linked in the client under the menu item [Help] and are reachable easily from there.

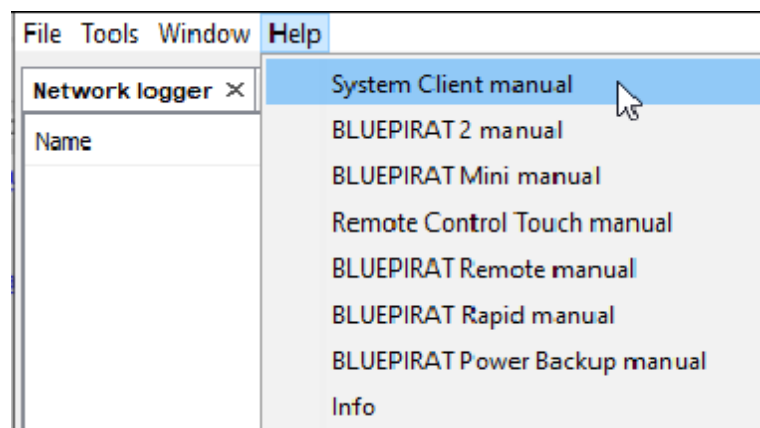


Figure 4.2: links to the manuals in the System Client



## 4.2 Additional features by optional licenses

Additional features can be activated by purchasing and installing licenses. Licenses can be ordered at our sales team. You find the user guides for these additional features in our Service Center. Currently the following licensed features are available.

Feature	Description
<b>Camera Link</b>	video recording via video server or network cameras Till now, only some cameras from AXIS were supported
<b>WLAN</b>	supporting wireless LAN / WiFi (802.11, 802.11a, 802.11n), (802.11ac from FW 02.04.01)
<b>GPS logging</b>	tracking of GPS data
<b>Measurements with CCP</b>	CAN Calibration Protocol
<b>Measurements with XCP</b>	Universal Measurement and Calibration Protocol Currently the functionality for Ethernet (XCP on Ethernet) and the CAN-bus (XCP on CAN) are available.
<b>MOST150 Streaming</b>	logging MOST150 synchronous/isochronous data
<b>MLBevo / QXDM</b>	The license Connected-Gateway MLBevo enables the recording of data of the ATOP control unit MLBevo via USB to the Magna Telemotive data logger and convert these data with the System Client. (from FW 02.03.01) Additional this license allows to log Qualcomm QXDM logs via USB (from FW 03.06.XX)
<b>Download Terminal</b>	The in the System Client integrated Download Terminal allows an automatization of configured tasks for a defined group of devices. (from FW 02.03.01)
<b>Test automation</b>	Interface for connecting to test automation tools. At the moment, the sending of CAN messages is supported. (from FW 02.04.01)
<b>Cellular network</b>	Allows the logger to send status messages over cellular network. (from FW 03.01.01)
<b>Firmware Care</b>	As part of the " Service Product Firmware Care ", new software and firmware versions are made available for download for a limited period of time. This service is available for 12 months from the date of purchasing the <b>BLUEPIRAT</b> .  This period can be extended by licenses.

Table 4.1: Additional features by optional licenses

## 4.3 Firmware Care

MAGNA Telemotive GmbH invests a great amount in the further development of its products.

For this we regularly provide new functions and enhancements via firmware and client releases.

### Basic conditions

As part of the " Service Product Firmware Care ", new software and firmware versions are made available for download for a limited period of time. This service is available for 12 months from the date of purchasing the **BLUEPIRAT**. This period can be extended.

For details, please contact your sales partner (see contact at the end of the manual for addresses).

### Affected products

- **BLUEPIRAT Rapid**
- **BLUEPIRAT Mini**
- **Remote Control Touch**
- **BLUEPIRAT2 5E**
- **BLUEPIRAT2**
- **BLUEPIRAT Remote**

### Note:

Enhancements are only possible in current firmware releases.

### Attention:

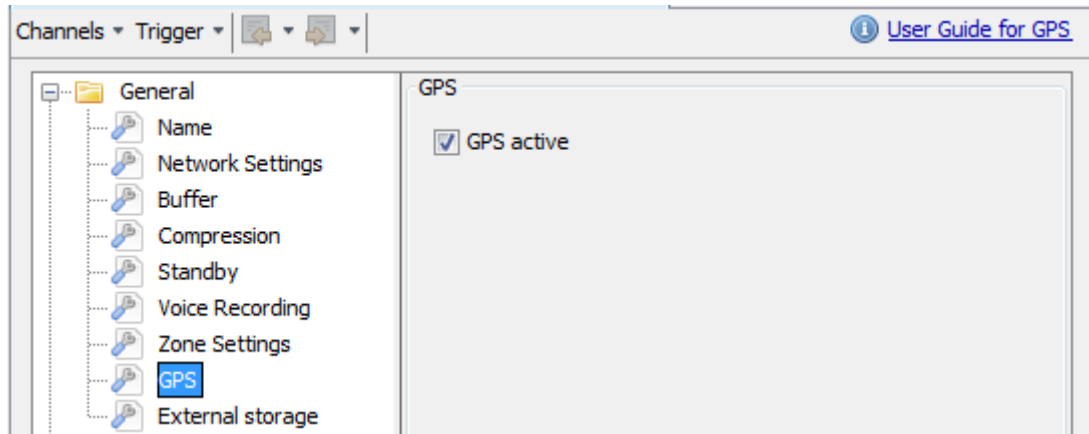
Please note that updates to main firmware versions (05.00.01 / 06.00.01) need a special update license and can't be flashed to a device without this license.

To buy these licenses please contact our sales department under [TMO.Sales@magna.com](mailto:TMO.Sales@magna.com) (please find the complete address under Contact on the last page).

## 5 Configuring

At first connect the data logger to your computer and start the System Client.

Click on the application **[Open configuration]** in the System Client. Expand the folder **[General]** in the window on the right. In the sub category **[GPS]** you can activate or deactivate logging of GPS data via a checkbox.



**Figure 5.1: Activating the GPS interface**

The complete data logger configuration can be managed by the following buttons:

Button	Effect
Default configuration	resets all settings back to factory defaults Changes are only local! To apply changes on the device use the <b>[Write to logger]</b> button.
Load from file...	loads all settings from a file
Save as file...	saves all settings to a file
Write to logger	writes all settings back to the data logger Changes are applied immediately. Exceptions are displayed by the client and the device can be restarted directly.

Complete the configuration by clicking **[Write to logger]**.

### 5.1 Displaying the current data

The current data can be viewed directly via Live View. They can also be displayed in the busload view or via Remote Control Monitor on a Remote Control Touch / BLUEPIRAT Remote.

For more information about these features, see the System Client Guide.

## 6 Downloading and converting the data

This chapter describes the data download only for GPS data. For more information about download and converting data please have a look at the **User manual for the System Client**.

### Step 1

Connect the data logger to your computer and start the System Client.

### Step 2

Select the corresponding data logger in the window “Network Logger” and click either the button:

- **[Download data] (3)**, to generate an offline data set from the logger’s data, or
- **[Convert data] (4)**, to convert an offline data set or directly the logger’s data to another format.

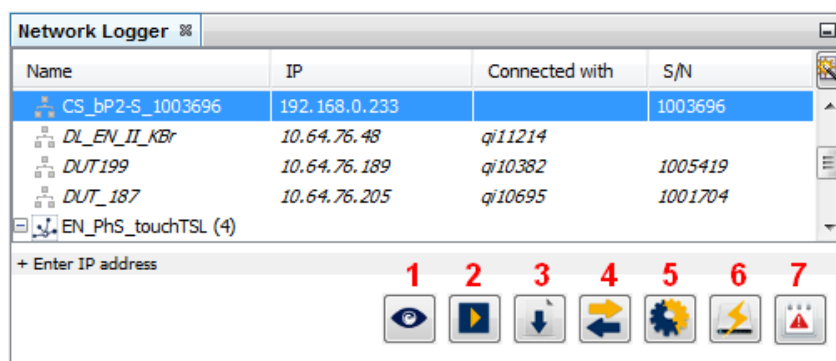
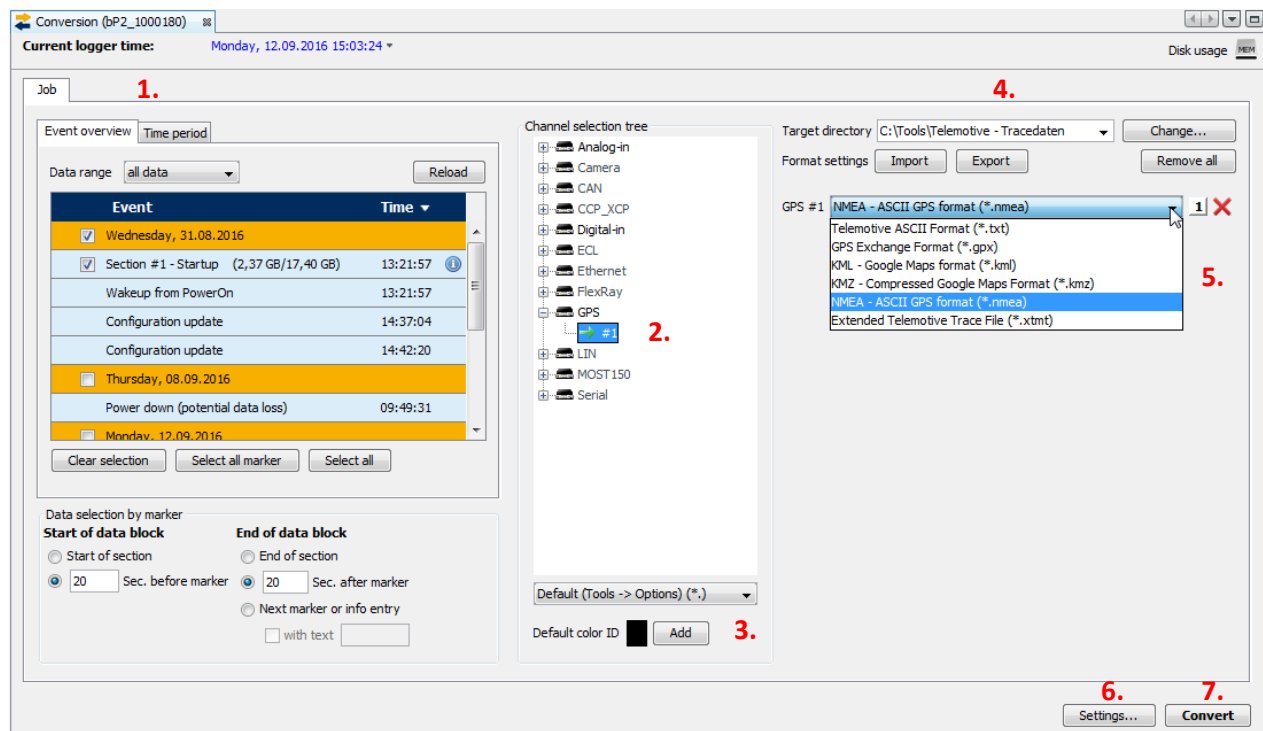


Figure 6.1: System Client

### Step 3

Convert the GPS data as follows.



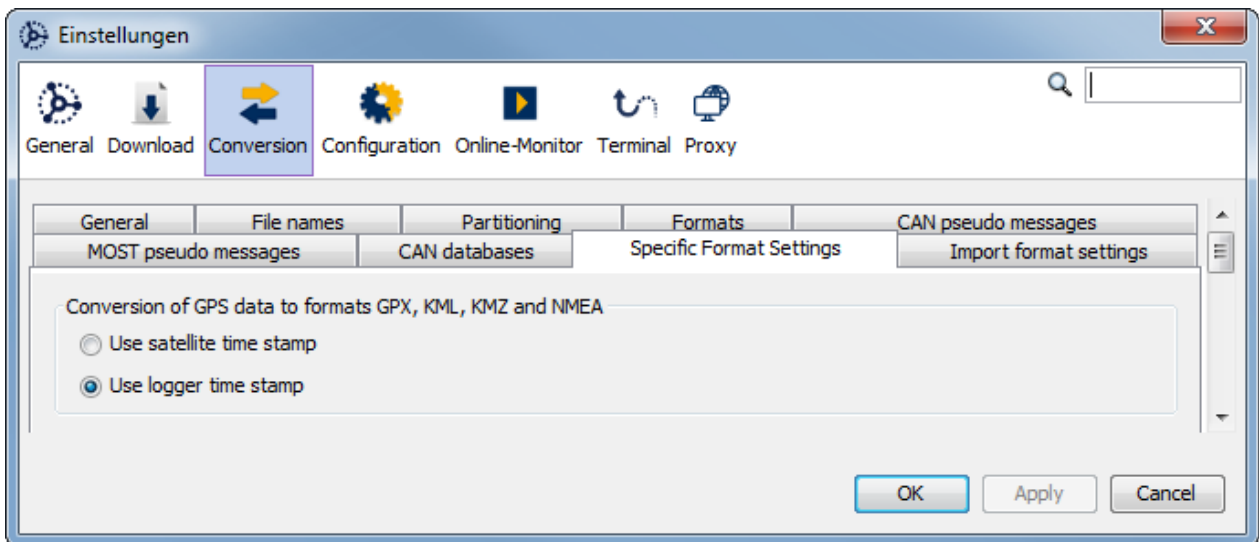
1. Select the data to be converted in the “Event overview” or in the “Time period”.

2. Select the GPS channel.
3. Click **[Add]** or double-click the GPS channel.
4. Select a target directory.
5. Select the format, to which you want to convert the GPS data.
6. Click **[Settings...]**, to define the timestamp of the converted data:
  - Use satellite time stamp
  - Use logger time stamp

**Note:**

The use of **satellite time stamp** is only available when you convert into the file formats **GPS Exchange, KML – Google Maps, KMZ – Compressed Google Maps and NMEA – ASCII GPS**.

Due to the possibility of converting several signals into one file this option is not available in the other conversion formats so that the GPS signals refer to the time stamps of the other signals in the converted file. Therefore in this case the logger time stamp is used during conversion.



**Figure 4.1: Specific format settings**

**Step 4**

Press the **[Convert]** button **(7.)** to start the conversion of the selected GPS data into the selected format.

## 7 Additional information

NMEA format → have a look at

[http://en.wikipedia.org/wiki/NMEA\\_0183](http://en.wikipedia.org/wiki/NMEA_0183)

GPS Exchange format → have a look at

[http://en.wikipedia.org/wiki/GPS\\_eXchange\\_Format](http://en.wikipedia.org/wiki/GPS_eXchange_Format)

KML/KMZ standard → have a look at

[http://en.wikipedia.org/wiki/Keyhole\\_Markup\\_Language](http://en.wikipedia.org/wiki/Keyhole_Markup_Language)

<https://developers.google.com/kml/documentation/kmzarchives>

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## 8 Abbreviations

Kürzel / abbreviation	Bedeutung / meaning
<b>BLUEPIRAT</b>	<b>P</b> rocessing <b>I</b> nformation <b>R</b> ecording <b>A</b> nalyzing <b>T</b> ool
<b>bP</b>	<b>BLUEPIRAT</b>
<b>bP2</b>	<b>BLUEPIRAT2</b>
<b>bP2 5E</b>	<b>BLUEPIRAT2 5E</b>
<b>bPMini</b>	<b>BLUEPIRAT Mini</b>
<b>RC Touch</b>	<b>R</b> emote <b>C</b> ontrol <b>T</b> ouch
<b>bP Remote</b>	<b>BLUEPIRAT Remote</b>
<b>A2L</b>	<b>A</b> SAM <b>M</b> CD-2 <b>M</b> C <b>L</b> anguage
<b>AE</b>	<b>A</b> utomotive <b>E</b> lectronics
<b>ACK</b>	<b>A</b> C <b>K</b> nowledged
<b>CAN</b>	<b>C</b> ontroller <b>A</b> rea <b>N</b> etwork
<b>CCP</b>	<b>C</b> AN <b>C</b> alibration <b>P</b> rotocol
<b>CF</b>	<b>C</b> ompact <b>F</b> lash
<b>CRO</b>	<b>C</b> ommand <b>R</b> eceive <b>O</b> bject
<b>DAQ</b>	<b>D</b> ata <b>A</b> cquisition
<b>DTO</b>	<b>D</b> ata <b>T</b> ransmission <b>O</b> bject
<b>ECL</b>	<b>E</b> lectrical <b>C</b> ontrol <b>L</b> ine
<b>ECU</b>	<b>E</b> lectronic <b>C</b> ontrol <b>U</b> nit
<b>FIBEX</b>	<b>F</b> ield <b>B</b> us <b>E</b> xchange <b>F</b> ormat
<b>FW</b>	<b>F</b> irmware
<b>GMT</b>	<b>G</b> reenwich <b>M</b> ean <b>T</b> ime
<b>INCA</b>	<b>I</b> N <b>T</b> egrated <b>C</b> alibration and <b>A</b> pplication <b>T</b> ool
<b>LAN</b>	<b>L</b> ocal <b>A</b> rea <b>N</b> etwork = Netzwerk
<b>LIN</b>	<b>L</b> ocal <b>I</b> nterconnect <b>N</b> etwork
<b>MAC</b>	<b>M</b> edia <b>A</b> ccess <b>C</b> ontrol
<b>MCD</b>	<b>M</b> easure <b>C</b> alibrate <b>D</b> iagnose
<b>MDX</b>	<b>M</b> eta <b>D</b> ata <b>E</b> Xchange <b>F</b> ormat
<b>MEP</b>	<b>M</b> OST <b>E</b> thernet <b>P</b> acket
<b>MOST</b>	<b>M</b> edia <b>O</b> riented <b>S</b> ystems <b>T</b> ransport ( <a href="http://www.mostnet.de">www.mostnet.de</a> )
<b>ODT</b>	<b>O</b> bject <b>D</b> escriptor <b>T</b> able
<b>ODX</b>	<b>O</b> pen <b>D</b> ata <b>E</b> Xchange
<b>OEM</b>	<b>O</b> riginal <b>E</b> quipment <b>M</b> anufacturer
<b>PHY</b>	<b>P</b> H <b>Y</b> sical <b>B</b> us <b>C</b> onnect
<b>PW</b>	<b>P</b> asswort
<b>RX</b>	<b>R</b> eceiver <b>D</b> ata
<b>SD</b>	<b>S</b> ecure <b>D</b> igital
<b>SFTP</b>	<b>S</b> ecure <b>F</b> ile <b>T</b> ransfer <b>P</b> rotocol
<b>SHA</b>	<b>S</b> ecure <b>H</b> ash
<b>SSL</b>	<b>S</b> ecure <b>S</b> ockets <b>L</b> ayer
<b>TCP/IP</b>	<b>T</b> ransmission <b>C</b> ontrol <b>P</b> rotocol/ <b>I</b> nternet <b>P</b> rotocol
<b>TLS</b>	<b>T</b> ransport <b>L</b> ayer <b>S</b> ecurity
<b>TMP</b>	<b>T</b> elemotive <b>P</b> acketformat
<b>TSL</b>	<b>T</b> elemotive <b>S</b> ystem <b>L</b> ink
<b>UDP</b>	<b>U</b> ser <b>D</b> atagram <b>P</b> rotocol
<b>USB</b>	<b>U</b> niversal <b>S</b> erial <b>B</b> us

<b>UTC</b>	<b>Universal Time, Coordinated</b>
<b>Wi-Fi</b>	<b>Wireless Fidelity</b>
<b>WLAN</b>	<b>Wireless Local Area Network</b>
<b>XCP</b>	<b>Universal Measurement and Calibration Protocol</b>

**Table 8.1: Abbreviations**



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## 11 Contact



DRIVING **EXCELLENCE.**  
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