Telemotive
a company of Magna

GPS logging User Guide

Version 3.4.1 / 22.01.2019

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3 Overview

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

- blue PiraT2
- blue PiraT2 5E
- blue PiraT Mini
- blue PiraT 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 Telemotive System Client, which is valid together.

This document refers to **firmware version 03.04.01** and the **Telemotive System Client** from **version 3.4.1**. 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 the Telemotive ServiceCenter. (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.

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.

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4 System requirements

Control Unit
A Windows based Laptop or PC is needed to configure the devices by **Telemotive System Client**. It also allows to save the recorded data and to use them offline later.

Telemotive System Client
The software client is used for configuring the data logger as well as downloading the recorded data or convert these into your needed file format. An firmware update can be performed by the **Telemotive System Client** too to ensure that your devices are always up to date.

Telemotive data logger
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.

The blue PiraT2 is our top-class all-in-one data logger. Seven models cover a wide range of interfaces.

Additionally, the blue PiraT2 5E offers improved power management and power backup, five integrated Ethernet ports and super-fast start-up behavior. The blue PiraT2 can be flexibly expanded via Telemotive System Link.

The blue PiraT 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 flexibly expanded to one cluster and therefore handled very easily by using Telemotive System Link.

Remote Control Touch
Operate your blue PiraT Mini or blue PiraT2 data loggers safely and comfortably from the driver's or passenger seat. Via Telemotive System Link our new remote control becomes part of your logger network. One remote control can handle all connected loggers.

blue PiraT Remote
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.

GPS Extension
The blue PiraT2 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

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 you have to connect the passive GPS antenna to the front connector of the blue PiraT2.

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

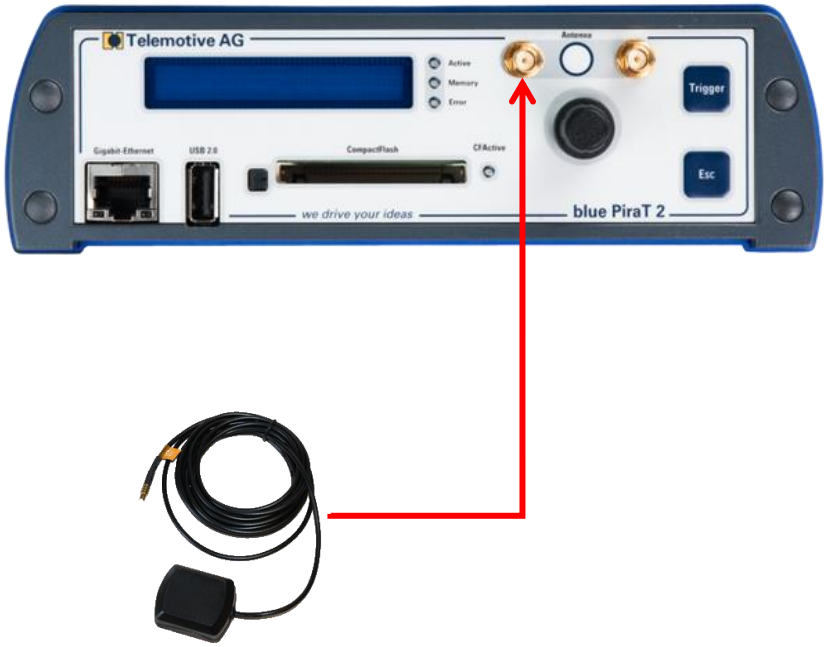

Figure 4.1: Mounting the antenna for internal GPS modules (bP2 only)

4.1 Further manuals

Beside this user guide we offer the main manuals for our client as well as for the different data logger generations in our ServiceCenter at https://sc.telemotive.de/bluepirat.

User manual for the Telemotive System Client
https://sc.telemotive.de/4/uploads/media/TelemotiveSystemClient_UserManual.pdf

User manual for blue PiraT2 / blue PiraT2 5E
https://www.telemotive.de/4/uploads/media/blue_PiraT2_UserManual.pdf

User manual for blue PiraT Mini
https://www.telemotive.de/4/uploads/media/blue_PiraT_Mini_UserManual.pdf

User manual for Remote Control Touch
https://sc.telemotive.de/4/uploads/media/RCTouch_UserGuide.pdf

User manual for blue PiraT Remote
https://sc.telemotive.de/4/uploads/media/blue_PiraT_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.

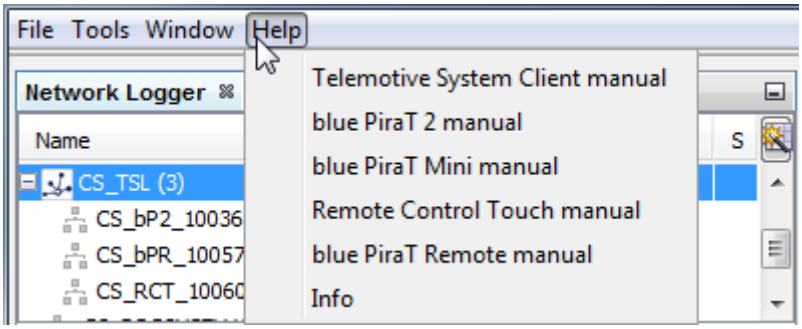

Figure 4.2: links to the manuals

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

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5 Configuring

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

Click on the application **[Open configuration]** in the Telemotive 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.

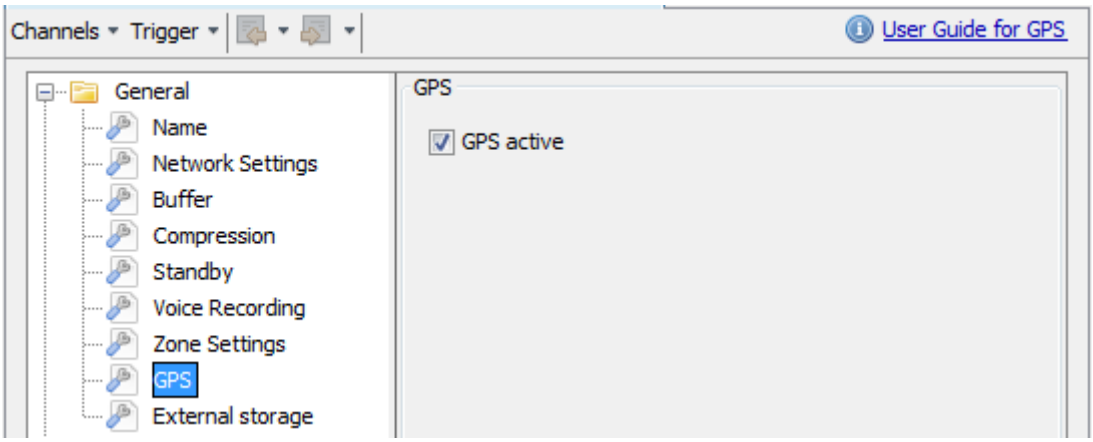

Figure 5.1: Activating the GPS interface

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 **[Write to logger]** 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 / blue PiraT Remote.

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

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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 Telemotive System Client**.

Step 1
Connect the data logger to your computer and start the Telemotive 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.

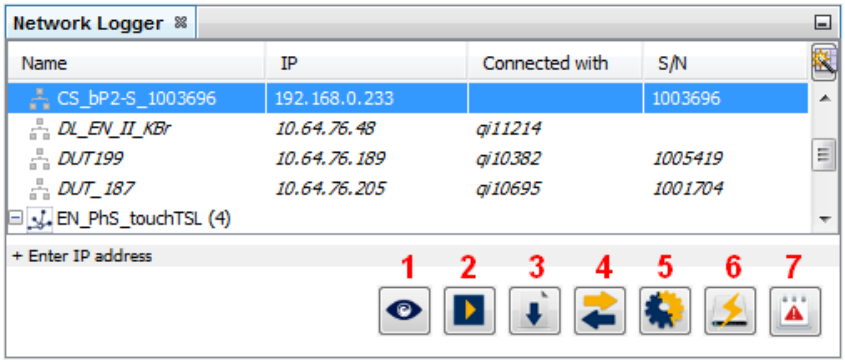
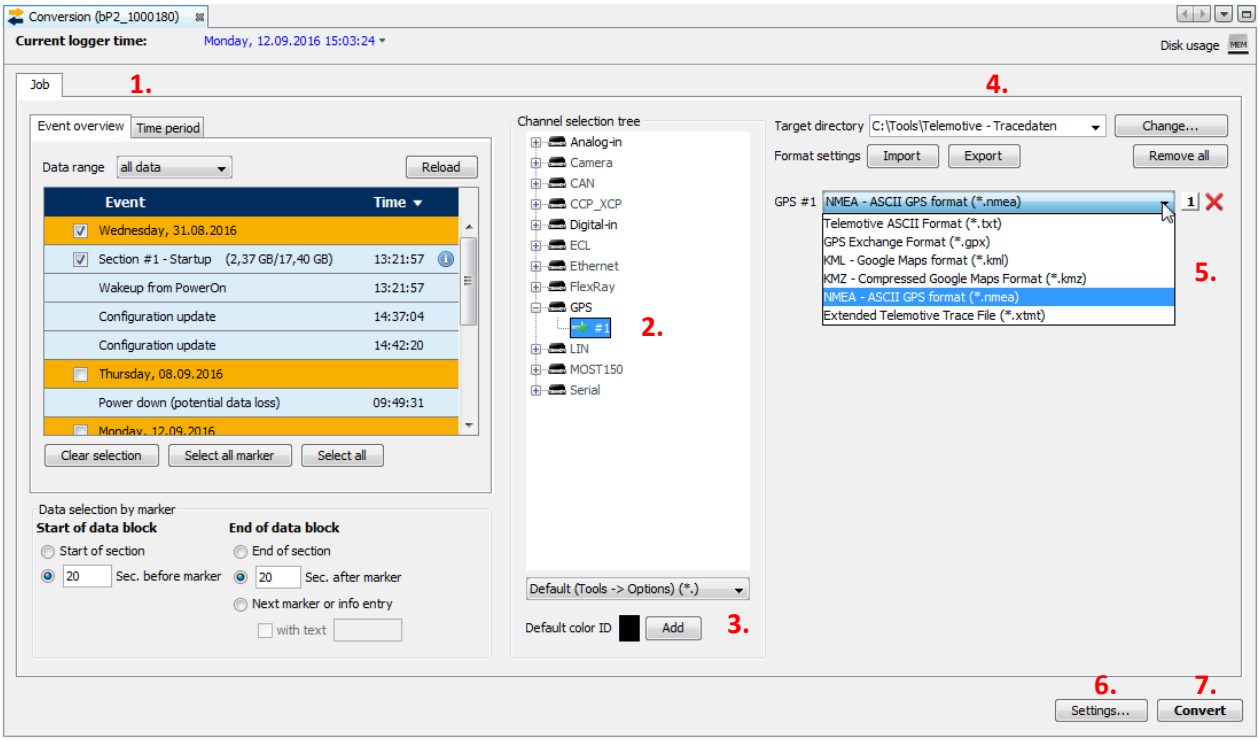


Figure 6.1: Telemotive System Client

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.

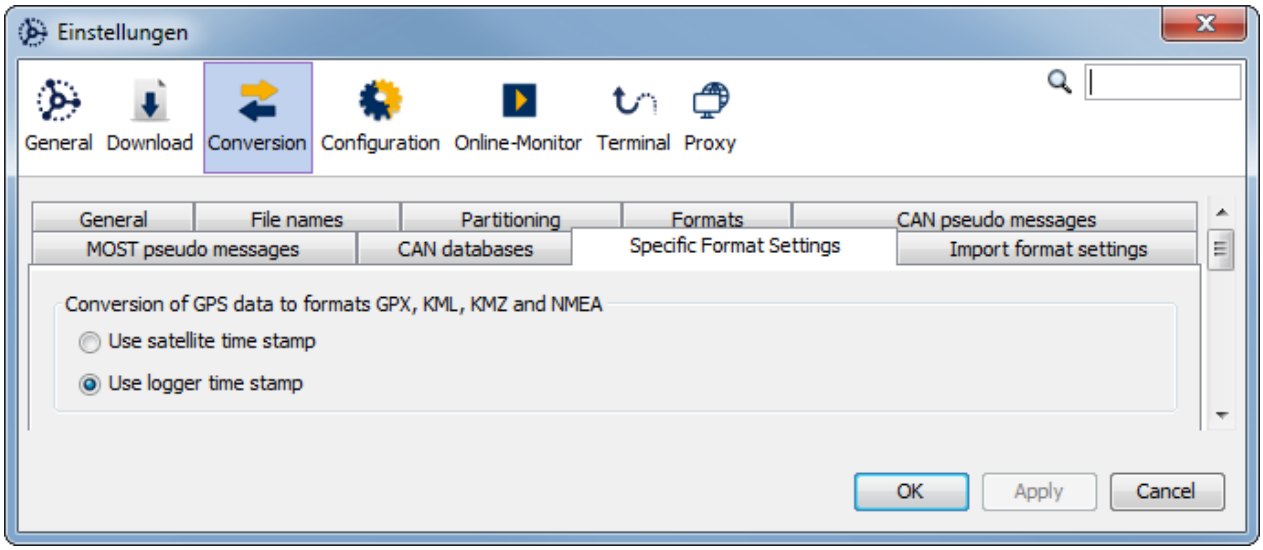


Figure 4.1: Specific format settings

Step 4
Press the **[Convert]** button **(7.)** to start the conversion of the selected GPS data into the selected format.

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7 Additional information

NMEA format → have a look at
http://en.wikipedia.org/wiki/NMEA_0183

GPS Exchange format → have a look at
http://en.wikipedia.org/wiki/GPS_eXchange_Format

KML/KMZ standard → have a look at
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
blue PiraT	**P**rocessing **I**nformation **R**ecording **A**nalyzing **T**ool
bP	**b**lue **P**iraT
bP2	**b**lue **P**iraT**2**
bP2 5E	**b**lue **P**iraT**2** 5E
bPMini	**b**lue **P**iraT Mini
RC Touch	**R**emote **C**ontrol **T**ouch
bP Remote	**b**lue **P**iraT **R**emote
A2L	**A**SAM MCD-**2** MC **L**anguage
AE	**A**utomotive **E**lectronics
ACK	**ACK**nowledged
CAN	**C**ontroller **A**rea **N**etwork
CCP	**C**AN **C**alibration **P**rotocol
CF	**C**ompact **F**lash
CRO	**C**ommand **R**eceive **O**bject
DAQ	**D**ata **A**cquisition
DTO	**D**ata **T**ransmission **O**bject
ECL	**E**lectrical **C**ontrol **L**ine
ECU	**E**lectronic **C**ontrol **U**nit
FIBEX	**FI**eld **B**us **Ex**change Format
FW	**F**irm**w**are
GMT	**G**reenwich **M**ean **T**ime
INCA	**IN**tegrated **C**alibration and **A**pplication Tool
LAN	**L**ocal **A**rea **N**etwork = Netzwerk
LIN	**L**ocal **I**nterconnect **N**etwork
MAC	**M**edia **A**ccess **C**ontrol
MCD	**M**easure **C**alibrate **D**iagnose
MDX	**M**eta **D**ata E**X**change Format
MEP	**M**OST **E**thernet **P**acket
MOST	**M**edia **O**riented **S**ystems **T**ransport (www.mostnet.de)
ODT	**O**bject **D**escriptor **T**able
ODX	**O**pen **D**ata E**X**change
OEM	**O**riginal **E**quipment **M**anufacturer

PHY	**PHY**sical Bus Connect
PW	**P**ass**w**ort
RX	**R**eceiver Data
SD	**S**ecure **D**igital
SFTP	**S**ecure **F**ile **T**ransfer **P**rotocol
SHA	**S**ecure **Ha**sh
SSL	**S**ecure **S**ockets **L**ayer
TCP/IP	**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol
TLS	**T**ransport **L**ayer **S**ecurity
TMP	**T**ele**m**otive **P**acketformat
TSL	**T**elemotive **S**ystem **L**ink
UDP	**U**ser **D**atagram **P**rotocol
USB	**U**niversal **S**erial **B**us
UTC	**U**niversal **T**ime, **C**oordinated
Wi-Fi	**Wi**reless **Fi**delity
WLAN	**W**ireless **L**ocal **A**rea **N**etwork
XCP	Universal Measurement and **C**alibration **P**rotocol

Table 8.1: Abbreviations

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11 Contact

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