



# blue PiraT Mini BroadR-Reach logging User Guide

Version 3.1.1 / 11.10.2017



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## 2 PRODUCT LIABILITY

The General Terms and Conditions of Sale and Delivery of Telemotive AG can be found on our website at: [General Terms and Conditions of Sale and Delivery Telemotive AG.pdf](#)

### 3 Overview

This user guide describes the feature of the license **Broad-R-Reach** for the newest generation of Telemotive AG data logger, called **blue PiraT Mini**.

**Broad-R-Reach** is available for **blue PiraT Mini CAN / CAN-FD** only!

This user guide describes the configuration and usage of this feature. The general configuration is described in the user guides of **the** blue PiraT Mini as well as the Telemotive System Client.

This document refers to **blue PiraT Mini firmware version 03.01.01** and the **Telemotive System Client version 3.1.1**. Some features depend 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. (*You will find the address under Contact*)

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

### Control Unit

A Windows based Laptop or PC is needed to configure the devices of Telemotive AG 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.

### blue PiraT2 / blue PiraT2 5E / blue PiraT Mini

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

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](#).

### License

For the additional feature **Broad-R-Reach**, 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).

## 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](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](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](https://www.telemotive.de/4/uploads/media/blue_PiraT_Mini_UserManual.pdf)

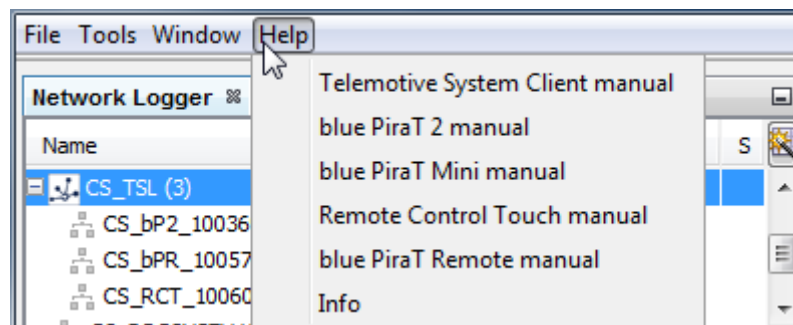
### User manual for Remote Control Touch

[https://sc.telemotive.de/4/uploads/media/RCTouch\\_UserGuide.pdf](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](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 4.1: 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 Activating BroadR-Reach logging

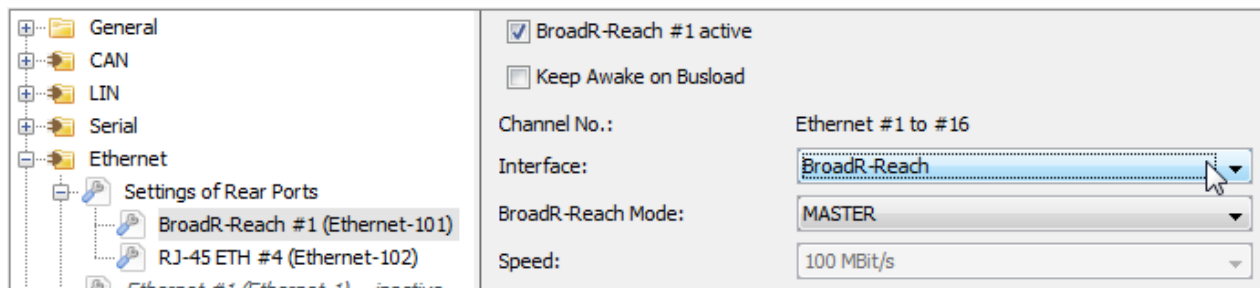
**BroadR-Reach** is an Ethernet based standard, which allows multiple components of the electrical system of a vehicle to get access to information by using unshielded twisted pair wires simultaneously.

The **blue PiraT Mini CAN** allows to disable the rear Ethernet ports **ETH #3** and **ETH #4** and activate the connectors **KFZ BRR 1** and **KFZ BRR 2** at the harness to be used for **BroadR-Reach**.

The changing to **BroadR-Reach logging** is done in the following two steps.

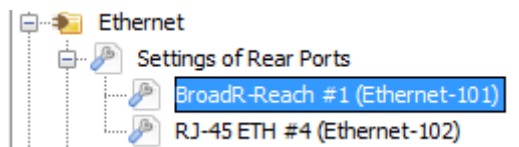
### 5.1 Switching the interface in the configuration

In the Telemotive System Client the needed interfaces are switched from RJ-45 to BroadR-Reach.



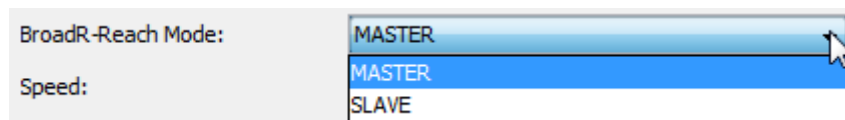
**Figure 5.1: Activating BroadR-Reach**

For a better clarity the name of the interface changes immediately in the overview. In this case ETH #3 to **BroadR-Reach #1** and ETH #4 is still configured to **RJ-45**.

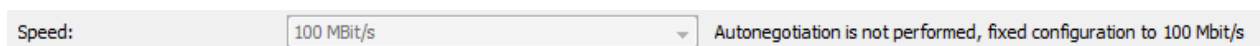


**Figure 5.2: Changing of description**

The **BroadR-Reach** interface can also operate in MASTER or SLAVE mode.



**Figure 5.3: Selecting BroadR-Reach Mode**



Except for the transfer rate, which is fixed to 100 Mbit/s for BroadR-Reach, all settings inclusive the available filter options match to the settings for Ethernet logging.

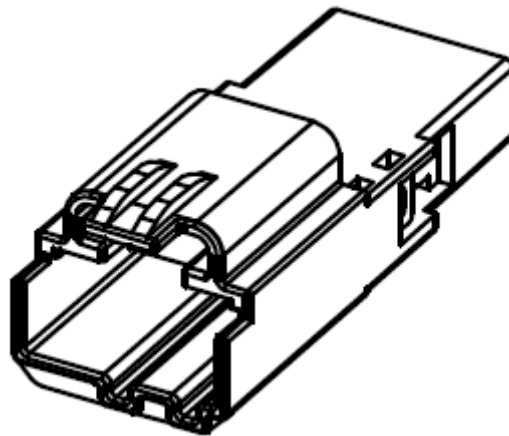
A detailed description of all the settings for the Ethernet ports you will find in the User Guide of the Telemotive System Client.



## 5.2 Changing the interface

If one or both Ethernet interfaces are changed to **BroadR-Reach**, the Ethernet port on the device is disabled. But the **BroadR-Reach** connector on the wiring harness is enabled instead and must be used for the connection.

The BroadR-Reach interfaces are implemented to the wiring harness as black connectors and labeled with **KFZ BRR 1 / KFZ BRR 2**.



**Figure 5.4: BroadR-Reach plug (Molex 310681010-series)**

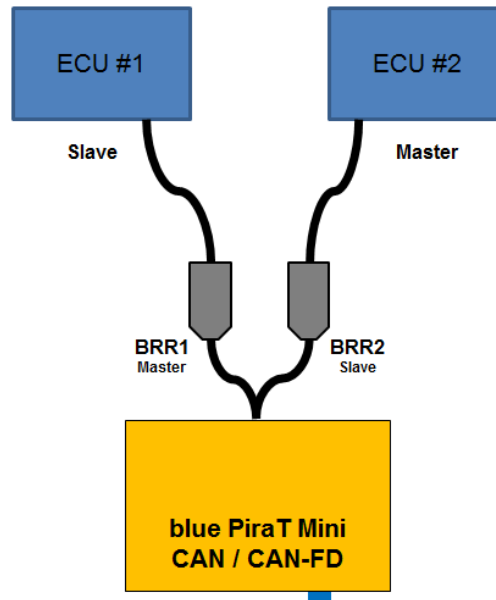
- Link to Molex: [Molex 31068-1010](#)
- Mates with: [Molex 31068-1040](#)

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### 5.3 BroadR-Reach connection sample

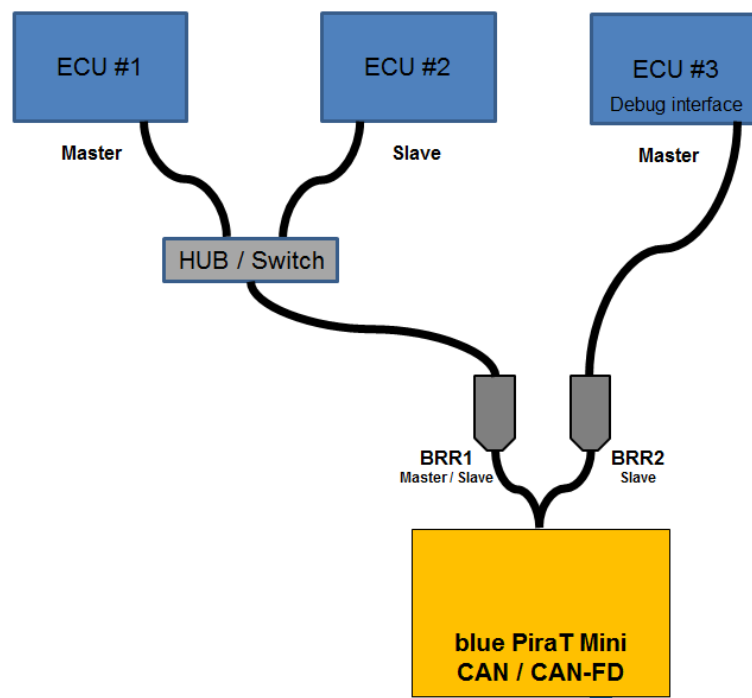
These two samples show possibilities, in which way the BroadR-Reach interfaces can be used.

The connection between two units can be separated and passed through the logger for logging one channel.



**Figure 5.5: BroadR-Reach – logging one channel**

When a connection between two units is separated and passed by port forwarding over a HUB or switch to the logger, only one interface is needed to log this channel with spy logging. The other interface can be used e.g. for logging from a debug interface of another unit. This is shown in the following picture.



**Figure 5.6: BroadR-Reach – logging of two channels**

## 6 Abbreviations

Kürzel / abbreviation	Bedeutung / meaning
<b>blue PiraT</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>blue PiraT</b>
<b>bP2</b>	<b>blue PiraT2</b>
<b>bP2 5E</b>	<b>blue PiraT2 5E</b>
<b>bPMini</b>	<b>blue PiraT Mini</b>
<b>RC Touch</b>	<b>R</b> emote <b>C</b> ontrol <b>T</b> ouch
<b>bP Remote</b>	<b>blue PiraT Remote</b>
<b>A2L</b>	<b>A</b> SAM <b>M</b> CD- <b>2</b> <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>PHY</b> sical Bus Connect
<b>PW</b>	<b>Pass</b> wort
<b>RX</b>	<b>Re</b> ceiver Data
<b>SD</b>	<b>Secure</b> Digital
<b>SFTP</b>	<b>Secure</b> File Transfer Protocol
<b>SHA</b>	<b>Secure</b> Hash
<b>SSL</b>	<b>Secure</b> Sockets Layer
<b>TCP/IP</b>	<b>Transmission</b> Control Protocol/ <b>Internet</b> Protocol
<b>TLS</b>	<b>Transport</b> Layer Security
<b>TMP</b>	<b>Telemotive</b> Packetformat
<b>TSL</b>	<b>Telemotive</b> System Link
<b>UDP</b>	<b>User</b> Datagram Protocol
<b>USB</b>	<b>Universal</b> Serial Bus
<b>UTC</b>	<b>Universal</b> Time, Coordinated
<b>Wi-Fi</b>	<b>Wireless</b> Fidelity
<b>WLAN</b>	<b>Wireless</b> Local Area Network
<b>XCP</b>	<b>Universal</b> Measurement and Calibration Protocol

**Table 6.1: Abbreviations**
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