

blue PiraT2

Diagnostic Log and Trace User Guide

Version 1.9.1 - 29.01.2014



Index

1.	LICENSE AGREEMENT	2
2.	PRODUCT LIABILITY	3
3.	Overview	4
4.	System requirements	4
5.	Connecting the data logger	5
5.1.	Ethernet	5
5.2.	Serial ports.....	5
6.	Configuration	6
6.1.	Configuration of DLT logging over Ethernet	6
6.2.	Protocol dropdown menu & other setups	7
6.3.	Configuration of DLT logging over serial port.....	7
7.	Downloading the trace data	8
8.	Abbreviations	9
9.	Contact	10

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3. Overview

The License Diagnostic Log and Trace, BMW Specific (DLT-logging) enables the blue PiraT2 to log AUTOSAR DLT data via Ethernet and Serial ports.

This document refers to blue PiraT2 FW 01.09.01 and blue PiraT2 client version 1.9.1. Some features depending on model and feature license or may not be available in older versions.

Software updates are frequently available in the blue PiraT Service Center. Please make sure to use current software.

4. System requirements

Control Unit

A Laptop or a PC is used to configure the devices by a software client. It also allows to save the recorded data and to use them offline.

blue PiraT2

The blue PiraT2 is an optimized data logger developed by Telemotive AG. The communication of bus systems and control units are monitored and relevant data can be recorded very precisely with the blue PiraT2. The collected data are stored on the blue PiraT2 and can be downloaded to a PC

License

A license is required to use the DLT logging feature. All steps can be performed only with a valid license.

5. Connecting the data logger

5.1. Ethernet

The blue PiraT2 is equipped with a 1Gbit Ethernet port at the front panel (RJ45 connector) and with four 100Mbit Ethernet interfaces at the back (FCI connector).

Usually the 1Gbit Ethernet port will be used for connecting the data logger with a PC.

To connect a target to the back side, an Ethernet kit is available (see Figure 1).

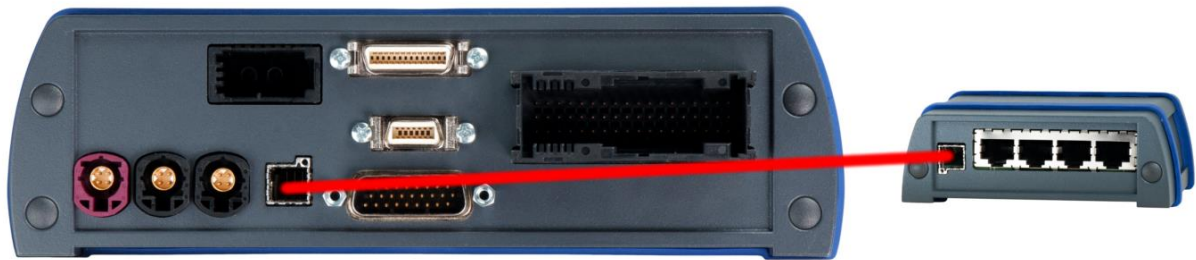


Figure 1: Connecting the Ethernet kit

The Ethernet kit provides four Ethernet ports. The blue PiraT2 is able to log up to eight Ethernet channels simultaneously. Five Targets could be plugged directly (One at the front and four at the back). If you need more plugs, you have to connect a hub, switch, etc. to one of the Ethernet plugs.

5.2. Serial ports

Targets with serial connections can be connected equivalent. Therefore the Adapter Cable Serial/RS232, Analog/Digital is used. At this Cable, you could connect six Serial Interfaces. More Information for connecting serial interface can be found in blue PiraT2 user manual.

6. Configuration

6.1. Configuration of DLT logging over Ethernet

To configure logging DLT over Ethernet, the configuration application must be started. The tree on the left shows the entries „Ethernet #1“ to „Ethernet #8“ to configure at most eight targets (see Figure 2).

Note:

"Ethernet #1" to "Ethernet #8" does not refer to the physical Ethernet ports of the blue PiraT2.

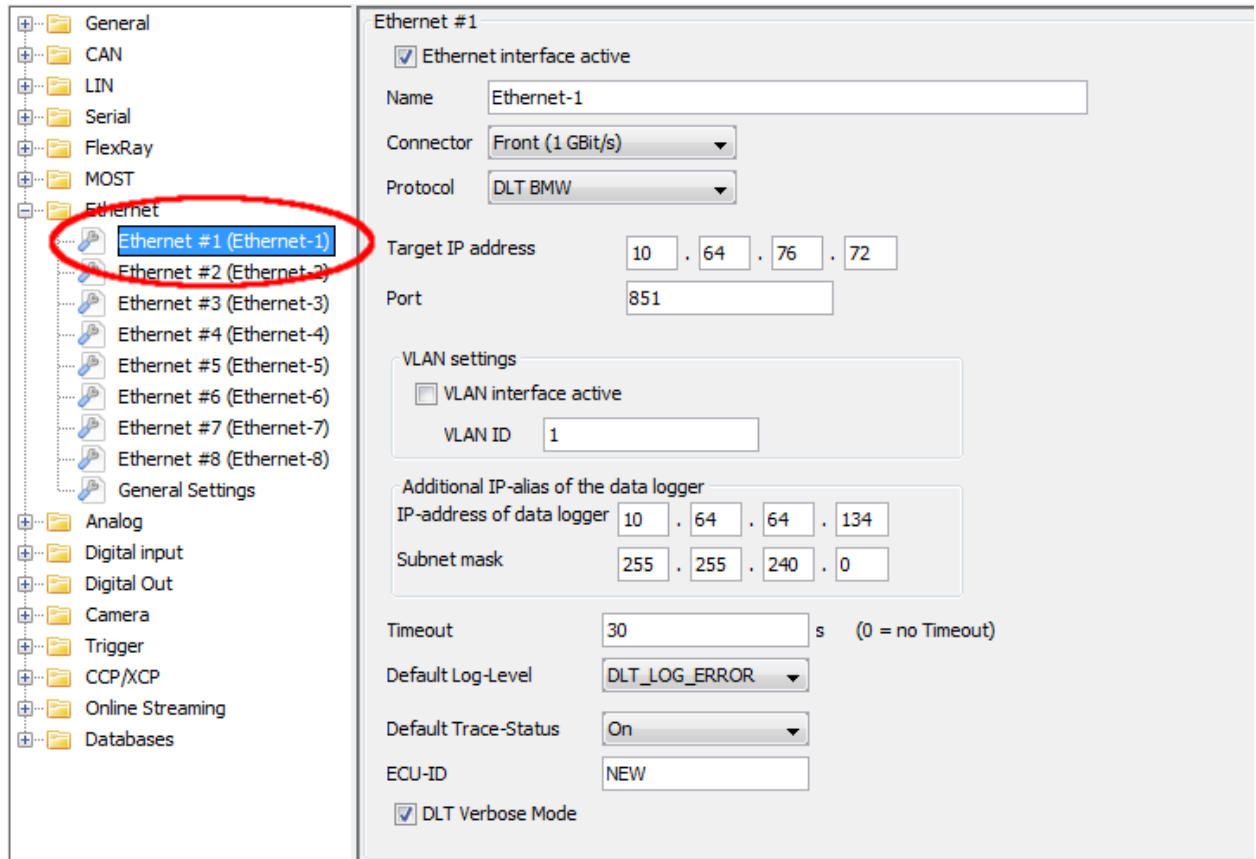


Figure 2: Configuration of the Ethernet logging

Each of the eight virtual Ethernet ports can be activated or deactivated. The client uses the name of the Ethernet port in the file names of the Ethernet trace files. To locate the target, its fixed IP address must be entered. It is possible to assign an additional IP-address ("IP-alias") and subnet mask for recording the Ethernet data.

There are the following limitations of the IP-configuration:

- The target must have an IP address and port within the subnet of the data logger. This subnet is configured in the settings for the IP-alias.
- It is not possible to use the IP address of the data logger (i.e., 192.168.0.233 or any additionally configured IP-alias) for the IP-address of the target.
- The target should not be configured as 192.168.0.x with $x \leq 100$, because this range is used for DHCP.
- The combination of IP address and port number must not be used by any other target.

Example: If you configure the address "10.0.0.1" with subnet mask "255.255.255.0" as an IP-alias, the data logger uses the "10.0.0.x" subnet for communication with the target. Hence, the target must be located in the same subnet – possible IP-addresses range from "10.0.0.2" to "10.0.0.255".

6.2. Protocol dropdown menu & other setups

In the dropdown menu it is possible to choose different protocols:

Menu Protocol:

Choose "BMWDLT" for logging DLT messages

Menu DefaultLogLevel:

Here you can set one of the DLT default Log-Levels specified within the DLT Specification (see Figure 3).

Menu Timeout

Here you can setup "Timeout". Timeout means that time after connection will be closed, when no data coming in. After closing connection the bluePiraT2 tries to reconnect.

Menu ECU-ID:

Here it can be defined an ECU-ID name, so if no ECU-ID is sent by the ECU it will be taken.

Default Trace Status

This setting configures the Default Trace Status, defined within the DLT standard.

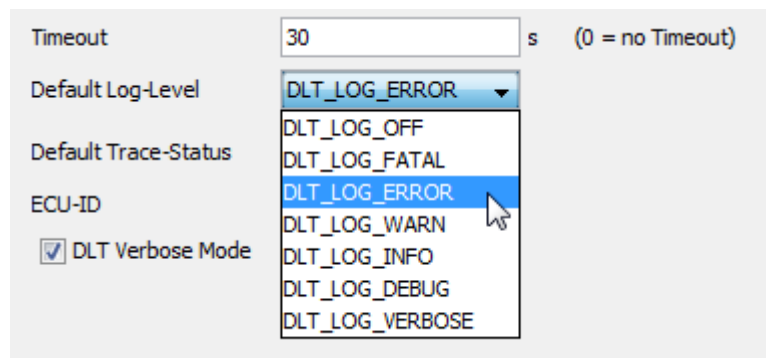


Figure 3: Log-Level Dropdown Menu

6.3. Configuration of DLT logging over serial port

To configure logging DLT over serial, the configuration application must be started. The tree on the left shows the entries „Serial #1“ to „Serial #6“ to configure at most four six (see Figure 4).

- Menu Protocol: Choose **DLTBMW** for logging DLT messages
- Menu Baudrate, Databits, Stopbits, and Parity are configuring the interface
- Menu ECU-ID: Here it can be defined an ECU-ID Name, so if no ECU-ID is sent by the ECU it will be taken.

Note:

Serial DLT doesn't support DefaultLogLevel or DefaultTrace Status.

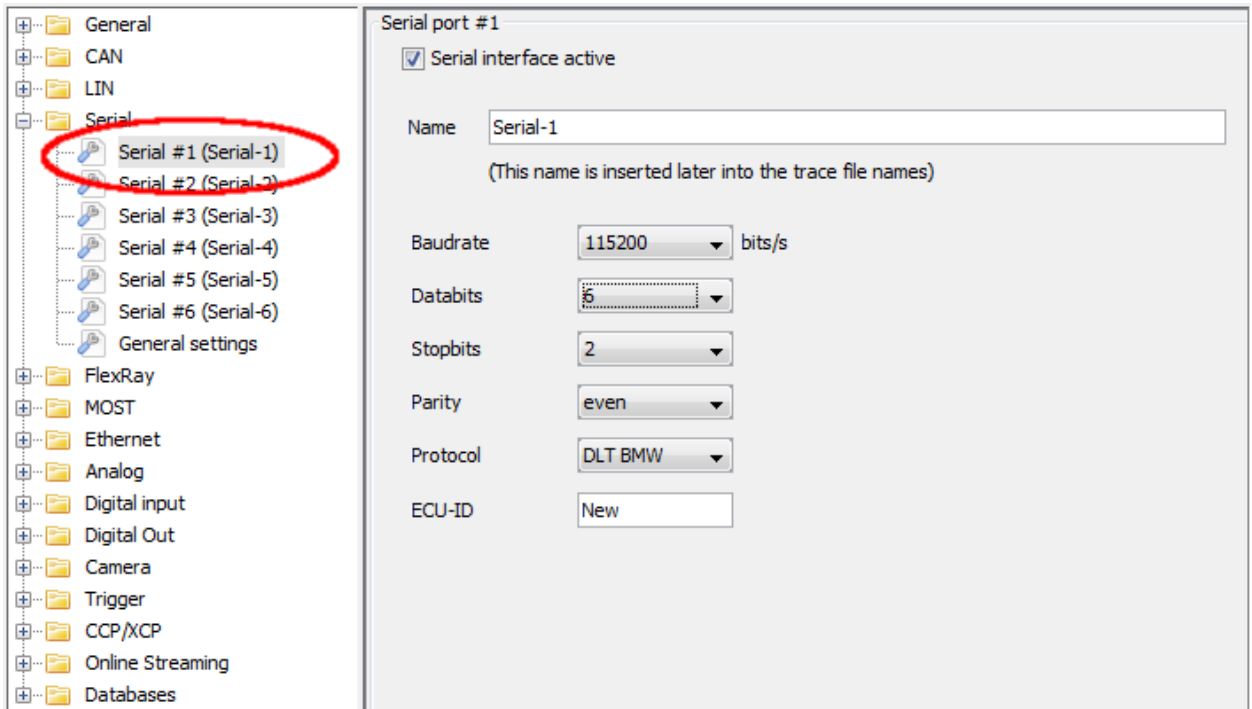


Figure 4: Configuration of the Serial logging

7. Downloading the trace data

In the conversation menu, the recorded data could be converted in the .dlt format. Please select an Ethernet channel and change the output format to “DLT Logging Format (*.dlt)” (see Figure 5). It is also possible to export the same channel in another format (e.g. Telemotive ASCII Format).

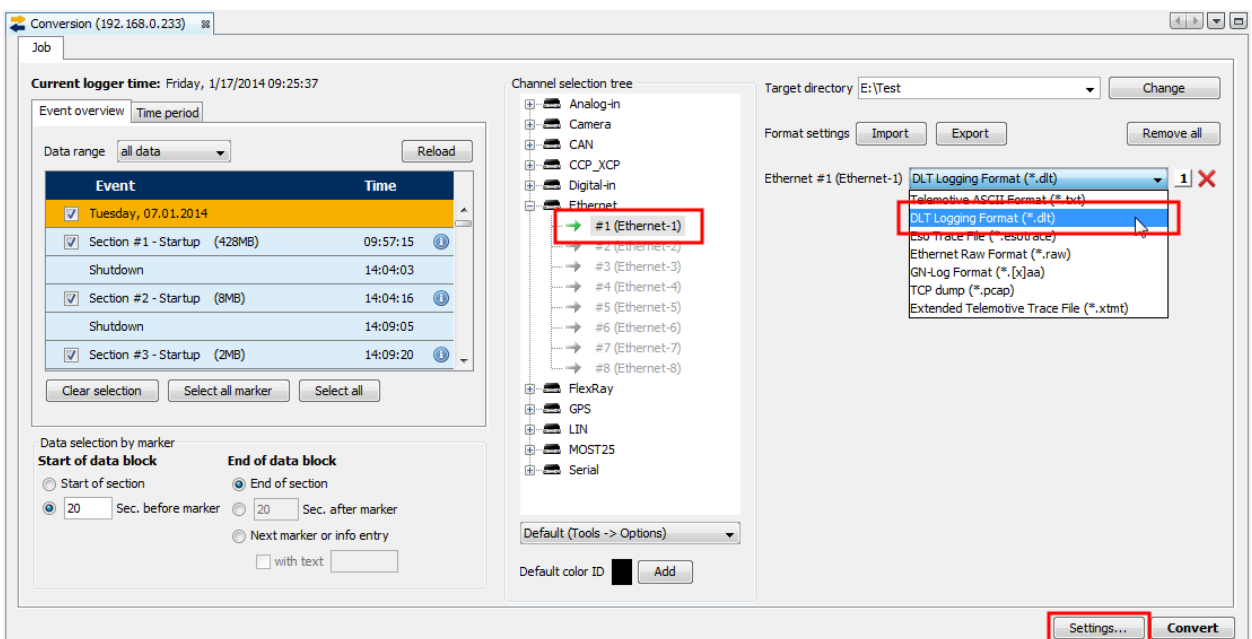


Figure 5: Converting the DLT data

To set the output data format of all Ethernet channels to the DLT format, select “Settings” and the “Format” register.

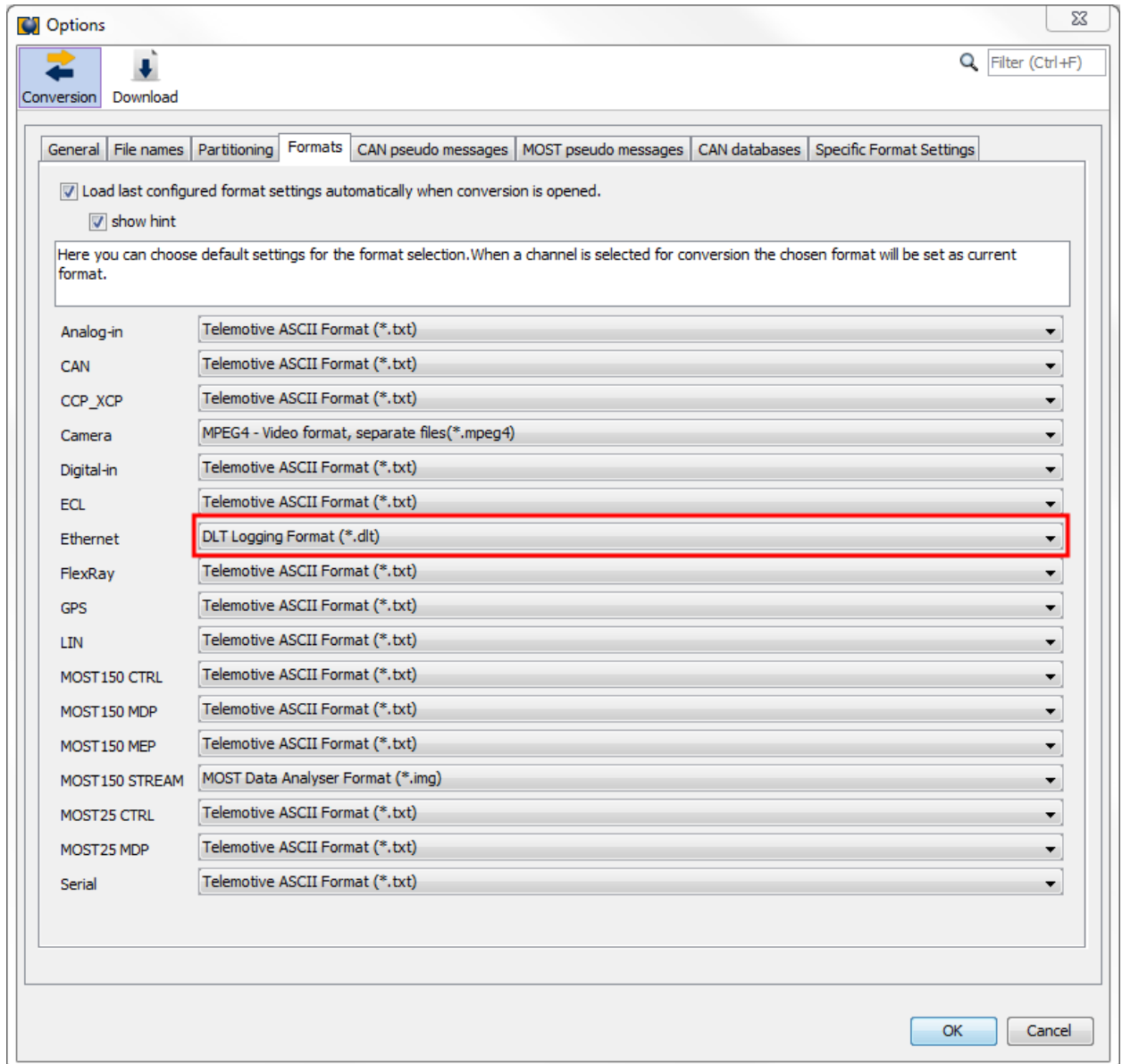


Figure 6: Ethernet file formats in the data transfer settings

8. Abbreviations

blue PiraT2	Processing Information Recording Analysing Tool, 2. generation
DLT	AUTOSAR Diagnostic Log and Trace

9. Contact



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