



# **blue PiraT**

**User's Manual**

**DLT Recording**

**Version: 1.0.1**

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# Table of Contents

- LICENSE AGREEMENT ..... 3
- PRODUCT LIABILITY ..... 5
- 1 Introduction..... 6**
  - 1.1 Overview ..... 6
  - 1.2 Connecting the Data Logger ..... 6
  - 1.3 Software Versions ..... 7
  - 1.4 License..... 7
- 2 Configuration ..... 8**
  - 2.1 Configuration of DLT Logging over Ethernet..... 8
  - 2.2 Protocol Dropdown Menu & other setups ..... 9
  - 2.3 Configuration of DLT Logging over Serial ..... 10
- 3 Recording Data ..... 11**
  - 3.1 Display in the Remote Control ..... 11
- 4 Downloading the Trace Data ..... 12**
  - 4.1 Downloading the Trace Data for GN-Log ..... 12
- Appendix A: Abbreviations ..... 13**

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# 1 Introduction

## 1.1 Overview

By using the license „AUTOSAR DLT Recording“ it is possible to record trace data of electronic control units (from now on called „target“) over an DLT ethernet port or an seriell port.

## 1.2 Connecting the Data Logger

The target, from which the DLT should be recorded, has to be connected to the data logger by a cross-over Ethernet cable. To download the trace data from the data logger to a Laptop, the Ethernet port of the logger must be switched to the Ethernet cable of the Laptop (see Figure 1). By using the blue PiraT E data logger with integrated Ethernet switch, up to four targets can be recorded simultaneously (see Figure 2). To connect the data logger to a PC/Laptop, however, it is necessary to unplug one of them.

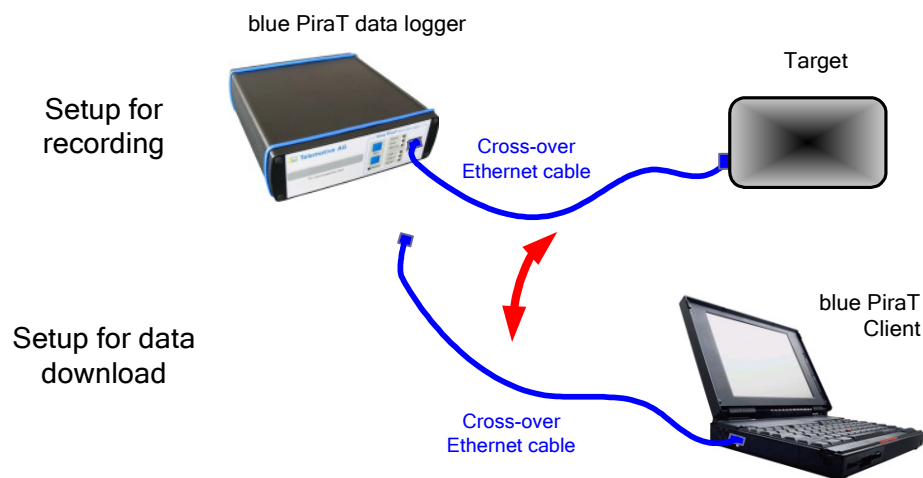


Figure 1. Connecting the data logger for recording over Ethernet

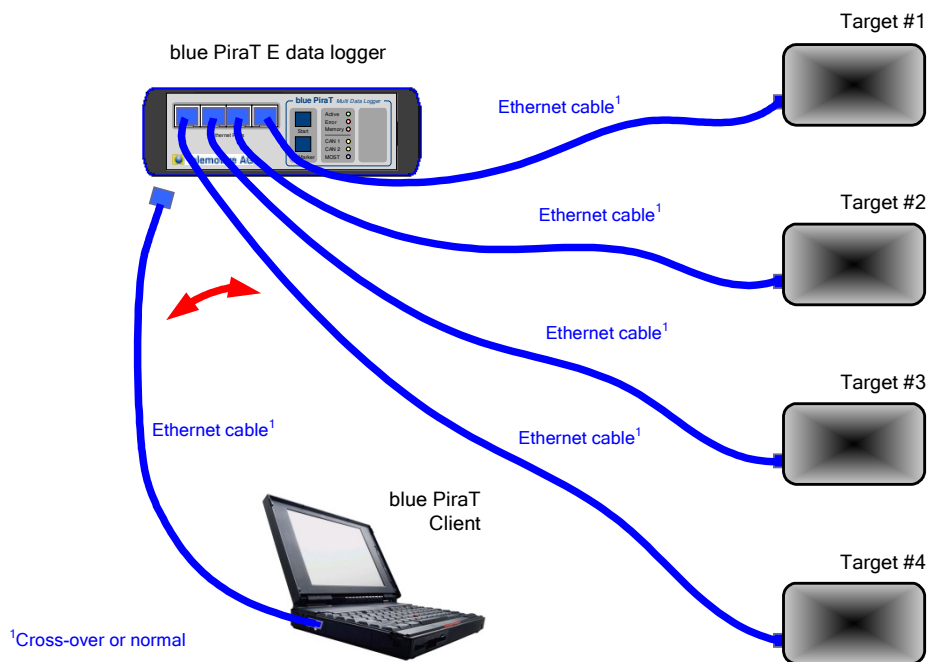


Figure 2. Connecting multiple targets to a blue PiraT E data logger

Targets with serial connections can be connected equivalent. Therefore the Universal bluePiraT Cable have to be used. More Information for connecting serial interface can be fin in blue PiraT user manual.

### **1.3 Software Versions**

This manual refers to the following software versions:

- Data logger firmware 7.1.1
- Client 4.1.1

Since these software versions implement the latest protocol specification, it is highly recommended to immediately update from older versions. Software updates are frequently available in the blue PiraT Service Center. Please make sure to have a current software installed.

### **1.4 License**

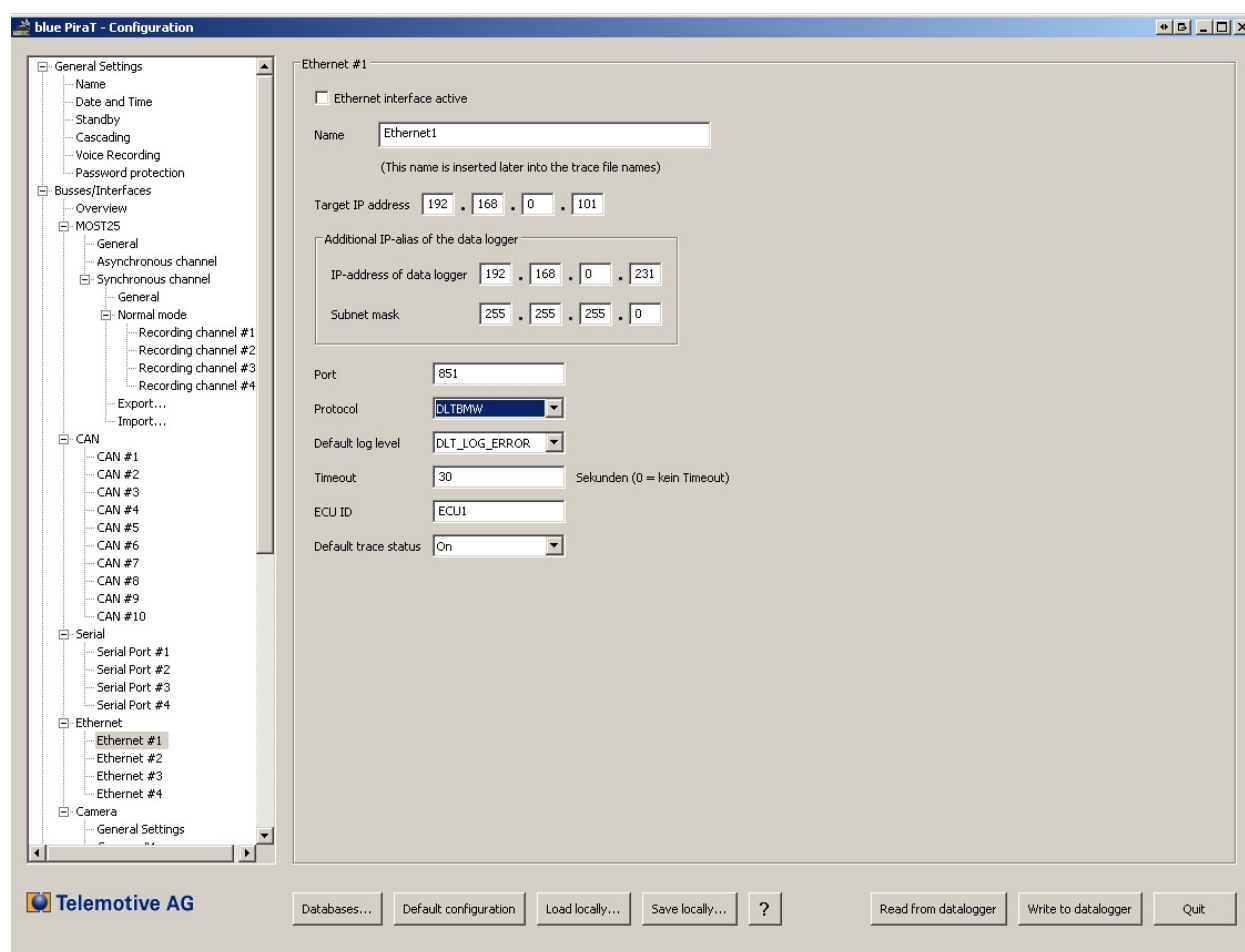
To enable this feature, an appropriate license must be present on the logger. For more information about obtaining and installing a license, please consult the general user's manual of the blue PiraT data logger.

## 2 Configuration

### 2.1 Configuration of DLT Logging over Ethernet

To configure the logging over DLT Ethernet, the configuration application must be started. If the license has been installed correctly, the tree on the left shows the entries „Ethernet #1“ to „Ethernet #4“ to configure at most four targets (see Figure 3).

*Note: "Ethernet #1" to "Ethernet #4" do not refer to the physical Ethernet ports of the blue PiraT E.*



**Figure 3. Configuration of the Ethernet logging**

Each of the four virtual Ethernet ports can be activated or deactivated. If a name is given for the port, the client uses the Ethernet port name 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 GN-Log.

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., 192.168.0.231 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".

## 2.2 Protocol Dropdown Menu & other setups

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

- 1) Menu Protocol: Choose "BMWDLT" for logging DLT messages
- 2) Menu DefaultLogLevel: Here can be configured one of the DLT Default LogLevels specified within the DLT Specification (Figure 4).
- 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 bluePiraT tries to reconnect.
- 4) Menu ECU-ID: Here it can be defined a ECU-ID Name, so if no ECU-ID is sended by the ECU it will be taken.
- 5) Default Trace Status could configure the Default Trace Status, defined within the DLT standard.

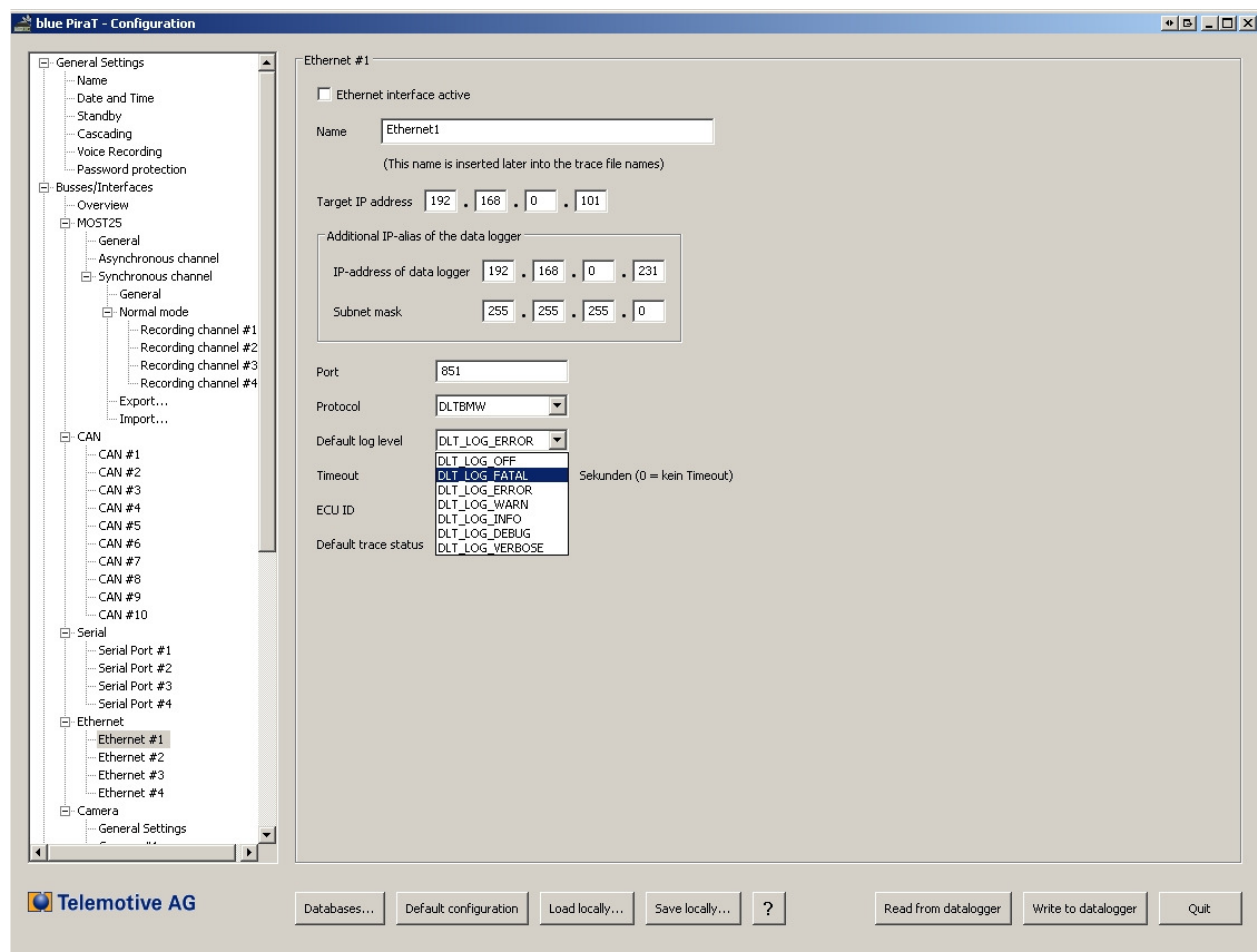


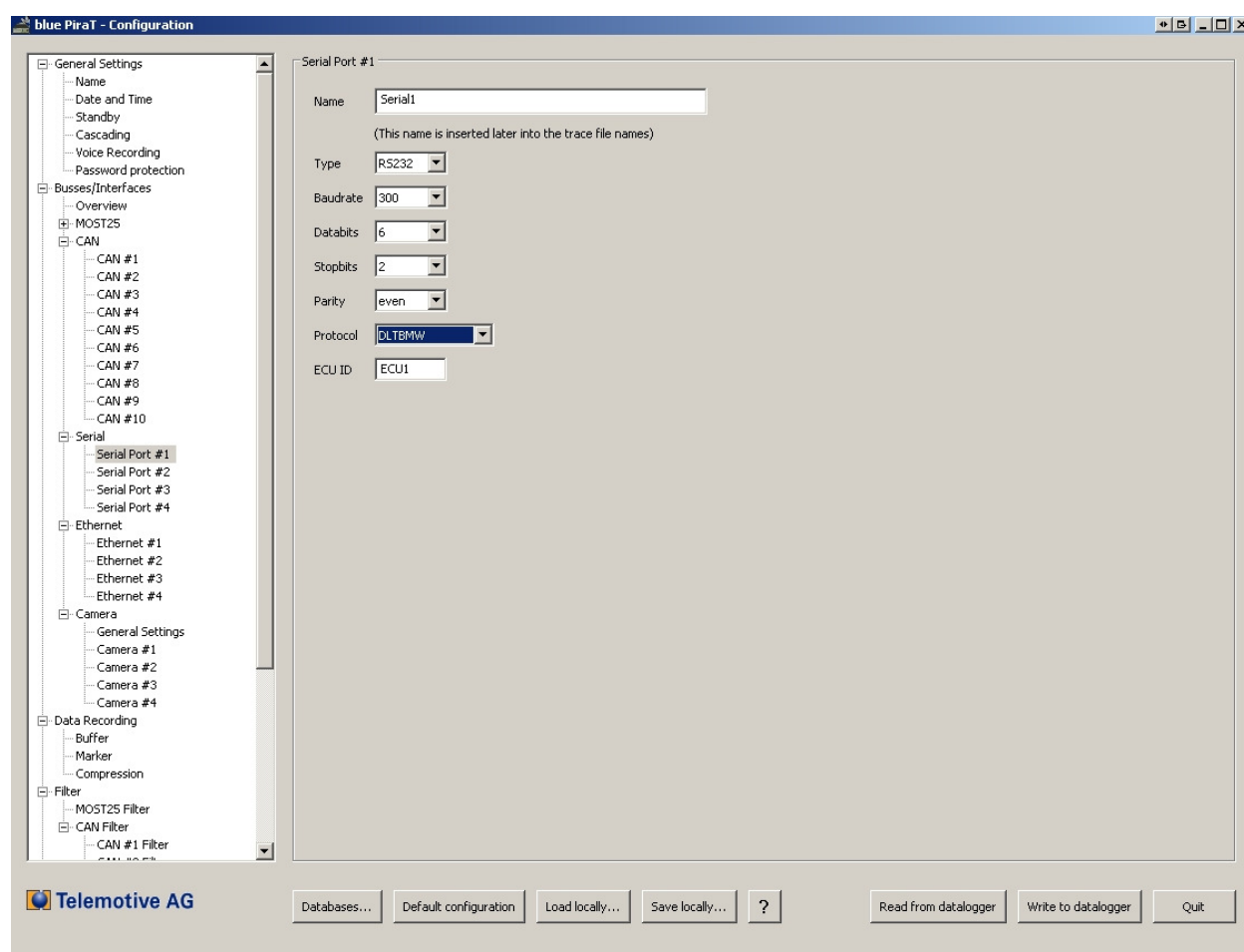
Figure. 4 Protocol Dropdown Menu

## 2.3 Configuration of DLT Logging over Serial

To configure the logging over DLT Serial, the configuration application must be started. If the license has been installed correctly, the tree on the left shows the entries „Serial #1“ to „Serial #4“ to configure at most four targets (see Figure 5).

- 1) Menu Protocol: Choose DLTBMW for logging DLT messages
- 2) Menu Type: Configure interface for serial RS232 or RS422
- 3) Menu Baudrate, Databits, Stopbits, and Parity are configuring the interface
- 4) Menu ECU-ID: Here it can be defined a ECU-ID Name, so if no ECU-ID is sent by the ECU it will be taken.

**Note: Serial DLT doesn't supports DefaultLogLevel an nor DefaultTrace Status.**

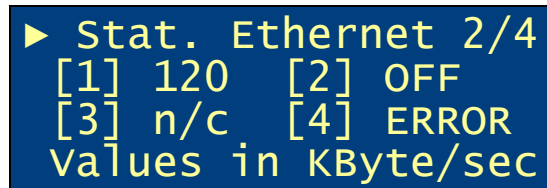


**Figure. 5 Protocol Dropdown Menu**

## 3 Recording Data

### 3.1 Display in the Remote Control

The status display function of the remote control (triggered by the "Status" button) provides an additional screen to show the current status and data rate of the ethernet connection of the supported protocols (see Figure 6).



```
▶ Stat. Ethernet 2/4
[1] 120   [2] OFF
[3] n/c   [4] ERROR
Values in KByte/sec
```

**Figure 6. Display of the Ethernet Status**

There are four possible types of display:

- OFF: The Ethernet target is deactivated in the configuration
- n/c: No connection to the target is established, i.e., the target has not (yet) responded to the connection requests
- ERROR: There is an error in connecting to the target (e.g., protocol error)
- Data rate in KByte/sec

# 4 Downloading the Trace Data

## 4.1 Downloading the Trace Data for GN-Log

If the license has been installed properly, the data transfer settings show the four virtual Ethernet ports in the file format tab (see Figure 7). The available file format for DLT is .log Format. Therefore all Ethernet DLT channel will be written in one file and all serial channels will also be written in another file.

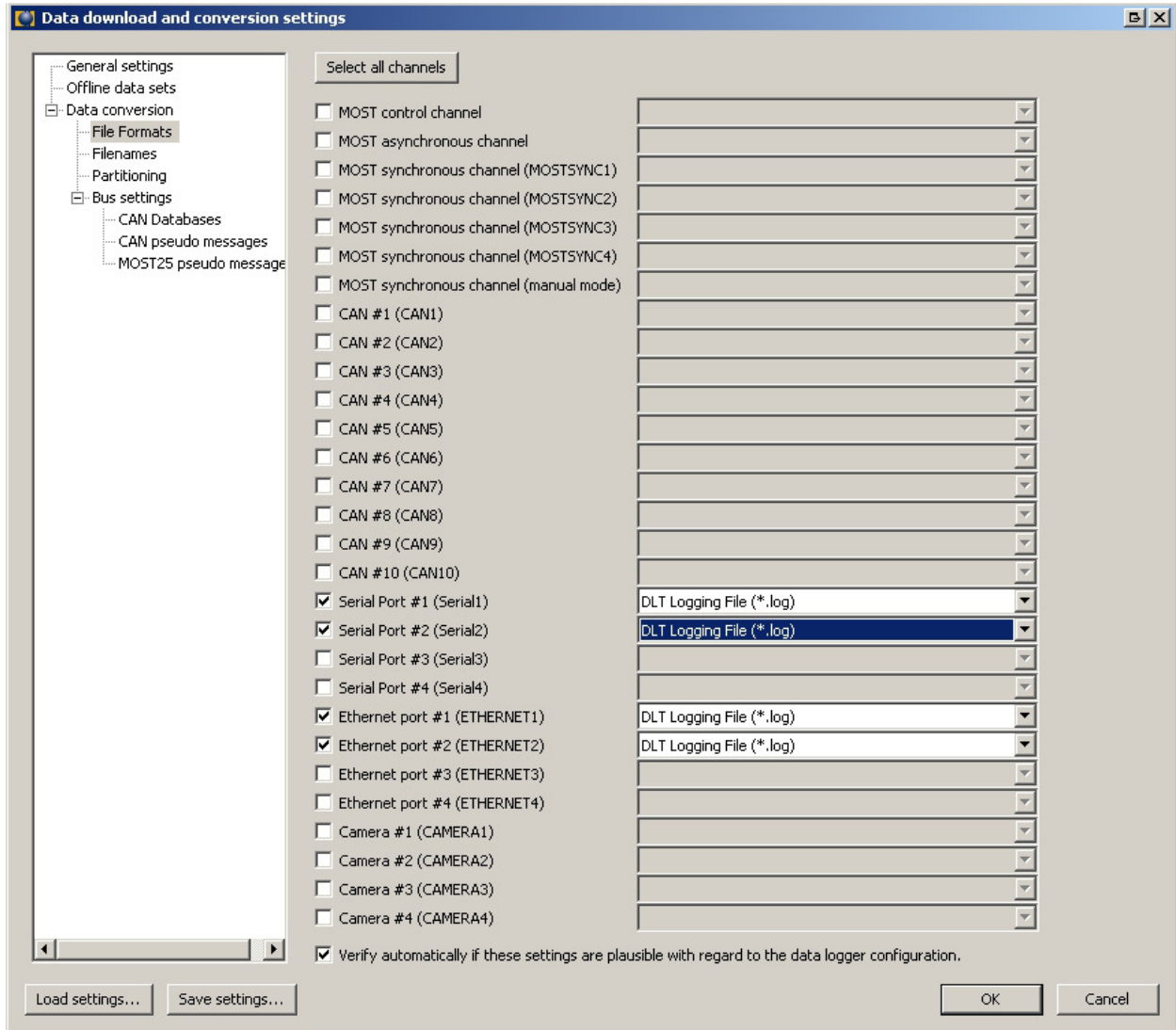


Figure 7. Ethernet file formats in the data transfer settings

## **Appendix A: Abbreviations**

blue PiraT Processing Information Recording Analysing Tool