Telemotive AG
a company of Magna

Remote Control Voice
User Manual

Version 2.4.1 / 23.09.2016

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7. The Telemotive AG is justified to exchange defective goods against homogeneous acceptable ones or to eliminate the fault within an appropriate period. In this case a demand for redhibitory action or reduction of price expires. Warranty claims presuppose a due notice of defects.
8. Resale, transfer, donation, exchanges or the rental of the offered products at third party is permitted without clearance of the Telemotive AG.
9. German Law is deemed to be as legal basis.

3 Overview

The **blue PiraT Remote Control Voice** (RCV) and the **blue PiraT Remote Control** (RC) are remote controls and external display devices for the data loggers

- blue PiraT
- blue PiraT2
- blue PiraT2 5E
- blue PiraT Mini

of Telemotive AG. They provide ten function buttons in preparation for feature enhancements and expandable menu navigation as well as the following functions:

- set triggers
- display a list of set triggers
- show date and time
- display status information to the recorded buses (bus load etc.)
- play sound feedback by setting a trigger and pressing a button
- dim backlight of the display
- dim button illumination (just RCV)
- record and play Voice Notes (just RCV)

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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 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.

License
For some additional features 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

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.

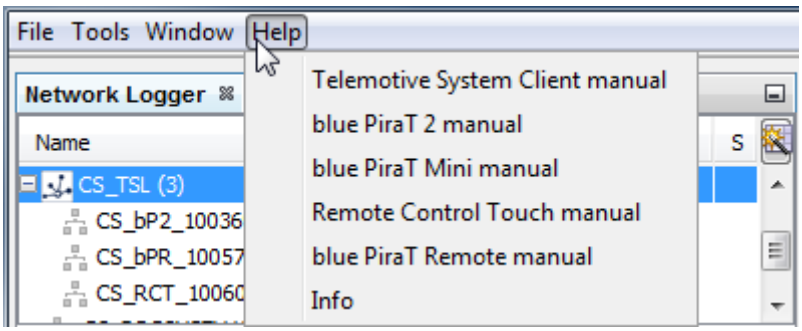

Figure 4.1: links to the manuals

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**.

5 Wiring the Remote Control (Voice)

5.1 With blue PiraT / blue PiraT2 (5E) / blue PiraT Mini

To connect the RC or RCV to the blue PiraT, blue PiraT2 (5E) or blue PiraT Mini a special universal cable set and a connection cable is necessary. The following figure shows the connection of the cables. The connection cable is plugged into the right side of the Remote Control (Voice).

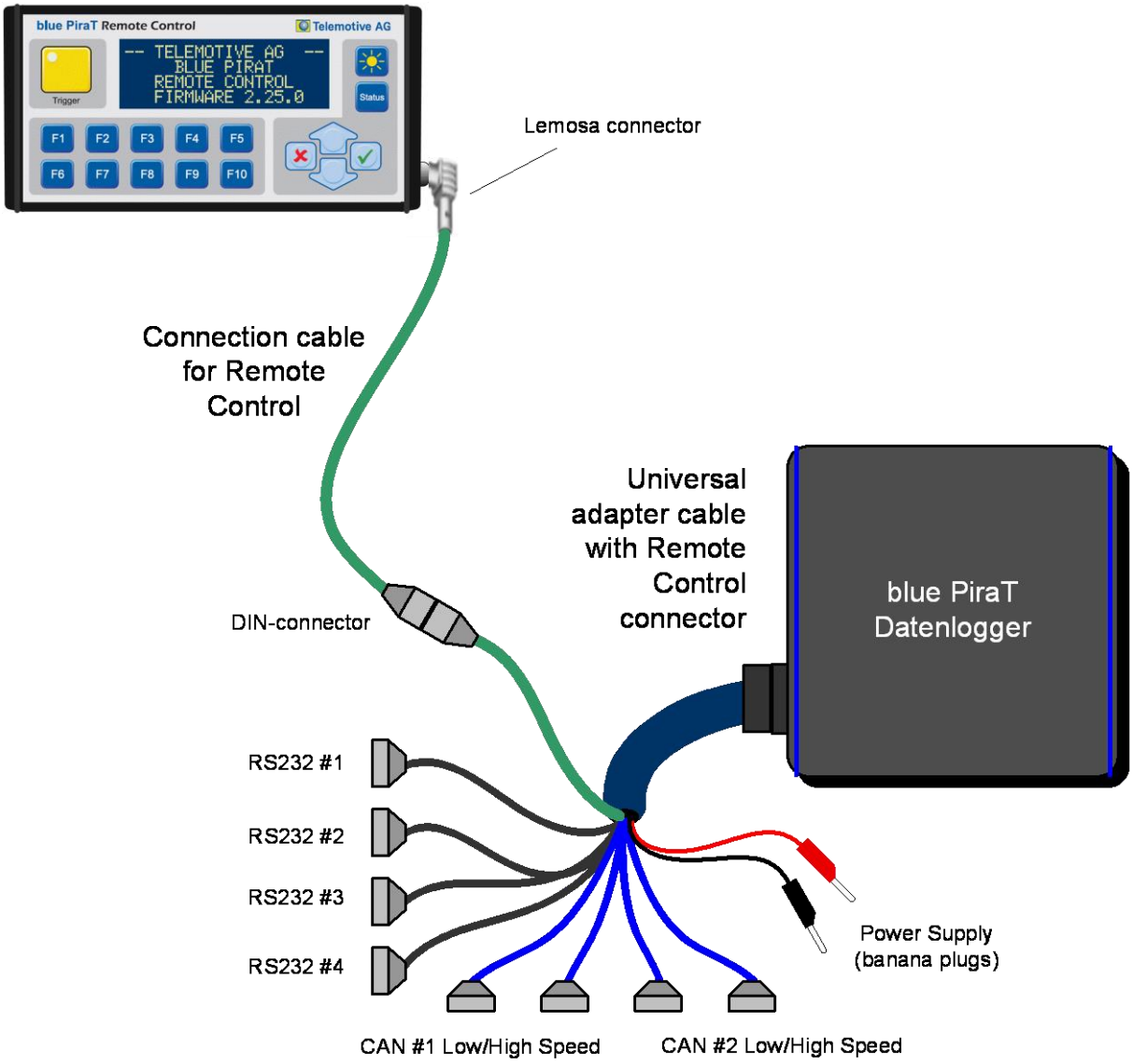

Figure 5.1: Wiring the Remote Control (Voice) with the data logger

Note:
By using a RC or RCV the power supply voltage must be limited to:

- **18 V in combination with RV**
- **24 V in combination with RCV**

5.2 By cascading (only available for blue PiraT)

In addition to the universal cable set a special cascading adapter for the Remote Control (Voice) is necessary.

Note:
It is not permitted to use the cascading adapter without plugged RC or RCV.

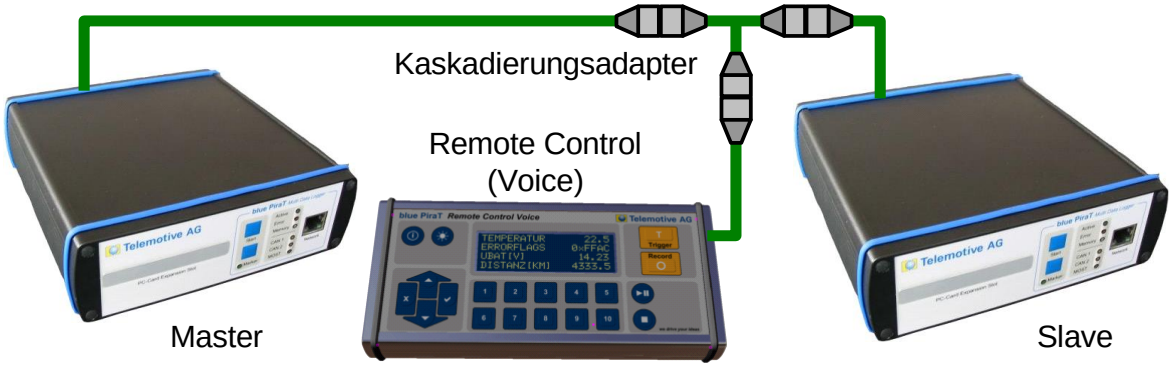

Figure 5.2: Connecting the RCV adapter with cascading

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6 Operation

The user interface of the **blue PiraT Remote Control** consists of a membrane keypad with 17 buttons and a display with 4 lines of 20 characters.

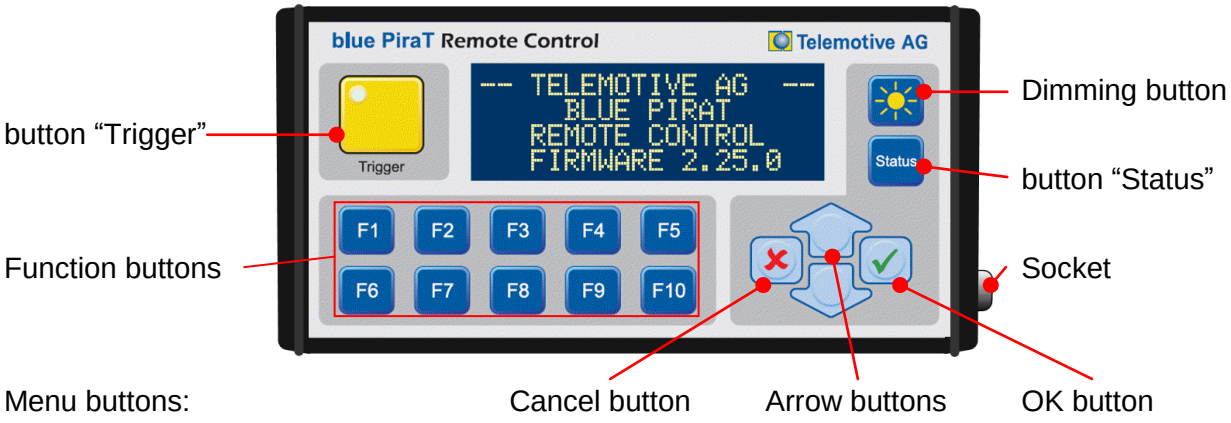

Figure 6.1: blue PiraT Remote Control

The user interface of the **blue PiraT Remote Control Voice** consists of a membrane keypad with 20 buttons and a display with 4 lines of 20 characters.

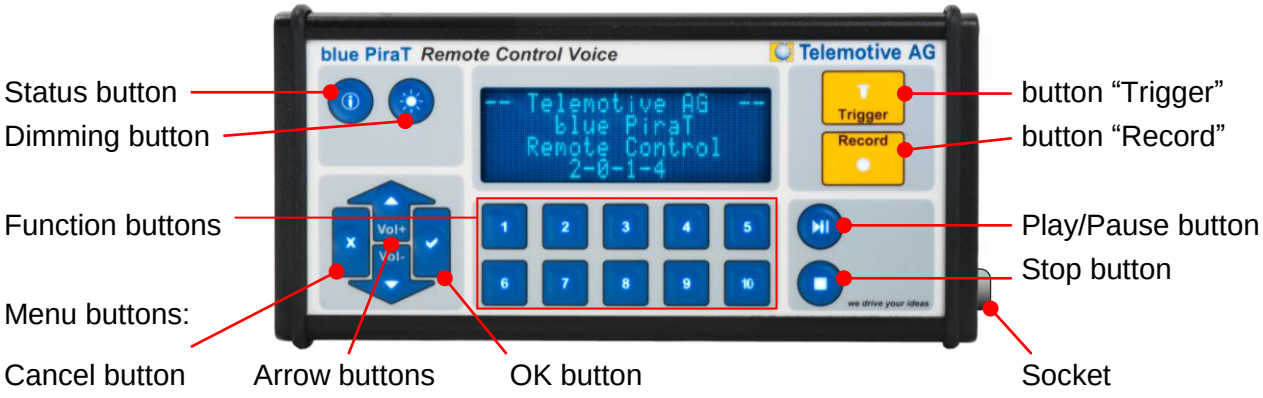

Figure 6.2: blue PiraT Remote Control Voice

The **RCV** has in addition to its built-in microphone a connector for an external microphone.

For the playback of Voice Notes, you have to connect a headphone.

Note:
Also at the right side is a fuse located. If the RCV is not working, please check this fuse (Miniature fuses 5x20mm, 2A time-lag).
The fuse of the RC is NOT accessible from the outside.

Figure 6.3: blue PiraT Remote Control Voice side view

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6.1 Activation and standby mode

The Remote Control (Voice) starts automatically when the data logger is activated. The Remote Control (Voice) can also be started via the **[Trigger]** button. The data logger is automatically activated in this case. If the data logger changes to the standby mode, the Remote Control (Voice) also switches to standby.

At the startup of the Remote Control (Voice) an initial screen is shown for two seconds, followed by a Legal Disclaimer, which is displayed for three seconds.

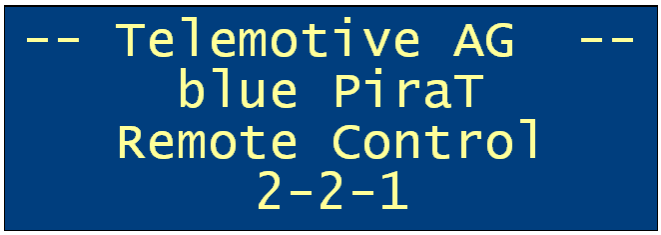

Figure 6.4: Home Screen

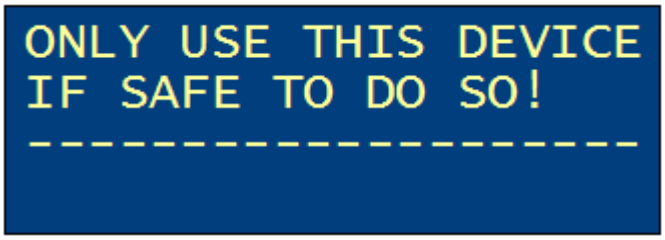

Figure 6.5: Legal Disclaimer

During the connection to the data logger the message “Waiting for logger” is shown. During activation all buttons are disabled, except the Dimming button. During the startup the button illumination is turned off and it is not possible to turn off the display.

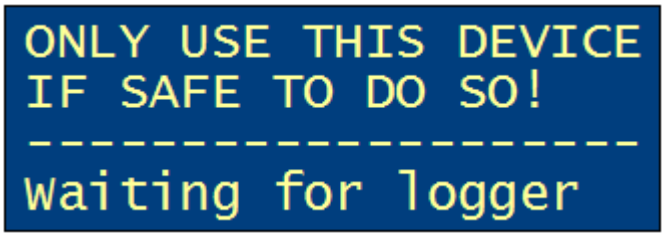

Figure 6.6: Connect to the data logger

If a new firmware for the Remote Control (Voice) is available after a firmware update of the data logger, the following message appears.

Figure 6.7: Request to update the firmware

If the user presses the OK button **[✓]**, the update is started according section 6.9. The Cancel button **[✖]** overleaps the firmware update.

6.2 Standard screen

The standard screen is shown in the following figure. At the top of the display the date and time of the data logger will be displayed. Below this, the status, memory usage and trigger counter are displayed.

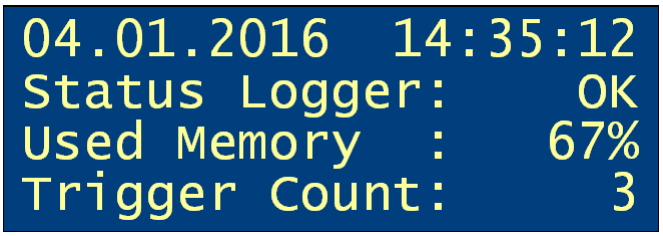

Figure 6.8: Standard screen at normal status

“ERROR” is displayed in case of failure of the data logger. It’s always the case, when the Error-LED on the front panel of the data logger lights. When the status changes from “OK” to “ERROR”, the Remote Control (Voice) signals this by five short audio signals.

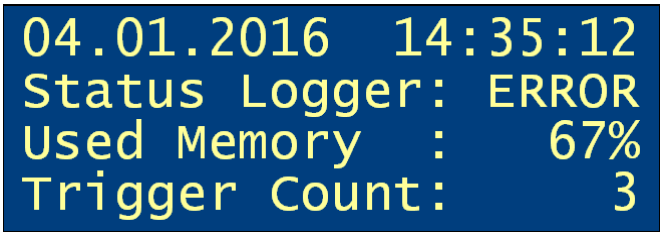

Figure 6.9: Standard screen at logger error

6.3 Setting trigger

With the **[Trigger]** button you can set triggers. The triggers are numbered and shown with date and time of setting in the display for three seconds. When cascading the trigger numbers are synchronized.

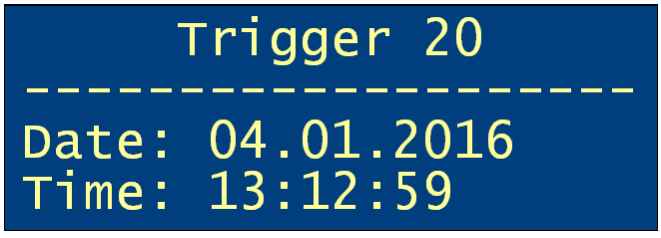

Figure 6.10: Set trigger

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6.4 Record Voice Note (only RCV)

The recording of a Voice Note is started with the **[Record]** button. The recording can be stopped via the Stop button or the Cancel button **[✖]**. Otherwise it will stop automatically after the configured maximum recording length (blue PiraT max. 120 s, blue PiraT2 max. 160 s). When recording a Voice Note, a trigger is set.

The recording can be temporarily interrupted with the Play/Pause button and continued by pressing the Play/Pause button again. If you don't continue the recording within approx. 20 seconds, it will stop automatically.

During Voice Note recording this message is displayed:

Figure 6.11: Voice Note recording

The progression of the buffering is presented by a progress bar and a percentage display.

After concluding the recording the data are transmitted to the data logger. The buffering progress is presented by a progress bar and a percentage display until the Voice Note record has been completely transmitted. The RCV can be operated during transmission. If the Cancel button **[✖]** is pressed, the standard display is shown. The playing or recording of Voice Notes during the transmission is not possible. When you press the Play/Pause button or the **[Record]** button during transmission, the buffering window is furthermore displayed.

Figure 6.12: Buffering Voice Note transmission

6.5 Dimming the lighting

With the Dimming button the brightness of the button illumination and the backlight of the display can be changed simultaneously. By pressing the button the brightness is increased. After the maximum brightness level (level 6 at RC, level 4 at RCV) the brightness is again set to the minimum. The brightness value is stored in the Remote Control (Voice), so the brightness remains constant after a standby of the data logger. A longer button press (about one second) of the Dimming button turns the button illumination and the backlight of the display off. In this case all buttons are active. Press any button to turn the lights back on.

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6.6 Status displays

The Status button switches between different status displays. By pressing the Status button for several times or by using the arrow buttons, you can navigate through the status displays. Further information you can find below.

- 6.6.1 CAN
- 6.6.2 Serial interfaces
- 6.6.3 LIN
- 6.6.4 MOST25
- 6.6.5 MOST150
- 6.6.6 FlexRay
- 6.6.7 Camera
- 6.6.8 Ethernet
- 6.6.9 CCP/XCP (only blue PiraT2 with license CCP/XCP)
- 6.6.10 GPS (only blue PiraT2 with license GPS)
- 6.2 Standard screen

In the upper, right corner you can see the number of the status display and the total number of status displays. The status displays are updated once per second. By pressing the Cancel button **[✘]**, the standard screen is shown.

6.6.1 CAN

The CAN status display includes their utilization at all channels. The display is generated dynamically depending on the number of the data logger's channels – for more than six channels, a second screen is necessary. In case of error frames, "ERROR" is displayed instead of the busload. After one second without error frames, the display switches back to displaying the busload. If the CAN interface is not enabled in the data logger configuration, "OFF" is displayed.

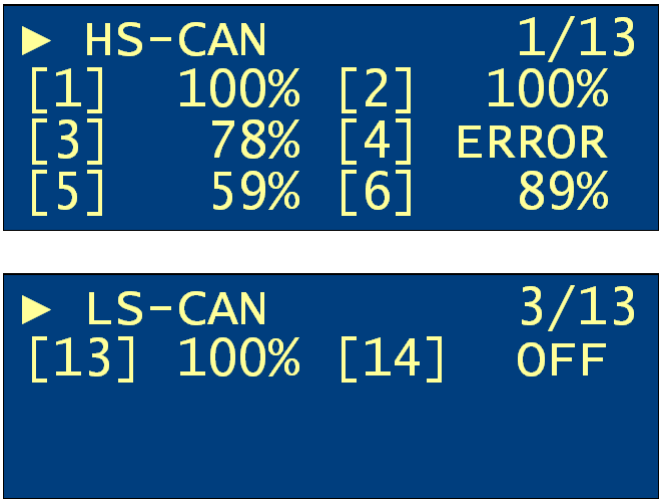

Figure 6.13: CAN status

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6.6.2 Serial interfaces

The status display of the serial interfaces includes their utilization at all channels. The display is generated dynamically depending on the number of the data logger's channels – for more than six channels, a second screen is necessary. In case of error frames, "ERROR" is displayed instead of the busload. After one second without error frames, the display switches back to displaying the busload. If the serial interface is not enabled in the data logger configuration, "OFF" is displayed.

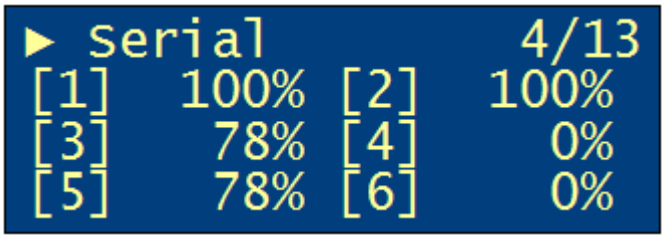

Figure 6.14: Serial status

6.6.3 LIN

The LIN status display includes their utilization at all channels. The display is generated dynamically depending on the number of the data logger's channels – for more than six channels, a second screen is necessary. In case of error frames, "ERROR" is displayed instead of the busload. After one second without error frames, the display switches back to displaying the busload. If the LIN interface is not enabled in the data logger configuration, "OFF" is displayed.

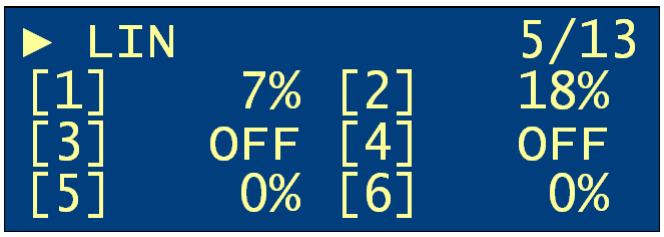

Figure 6.15: LIN status

6.6.4 MOST25

The MOST25 status display includes the number of messages per second (here: 12345) and the bytes per control message and MOST data packet (here: 123 kilobyte).

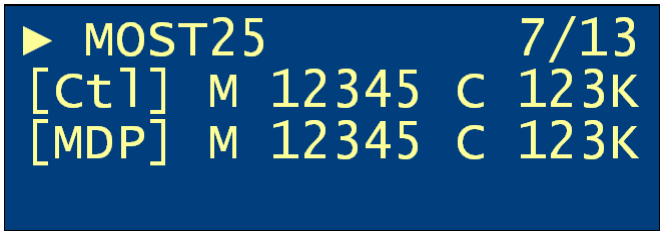

Figure 6.16: MOST25 status

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- Ctl = Control Data
- MDP = MOST Data Packet
- M = messages / sec
- C = bytes / sec

“Light off” is shown if the cable is not proper plugged in or if the bus is inactive.

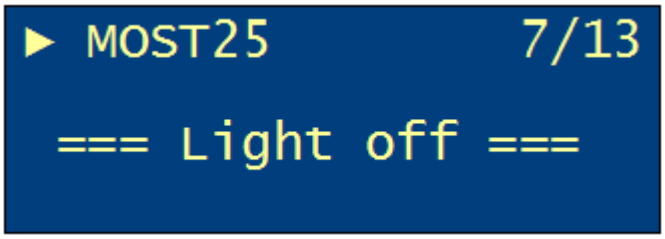

Figure 6.17: MOST25 status: Light off

6.6.5 MOST150

The MOST150 status display includes the number of messages per second (here: 12345) and the bytes per control message, MOST data packet and MOST Ethernet packet (here: 123 kilo-byte).

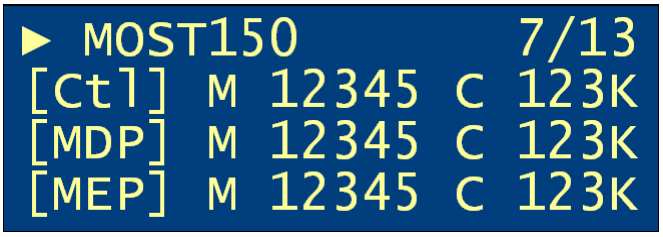

Figure 6.18: MOST150 status

- Ctl = Control Data
- MDP = MOST Data Packet
- MEP = MOST Ethernet Packet
- M = messages / sec
- C = bytes / sec

“Light off” is shown if the cable is not proper plugged in or if the bus is inactive.

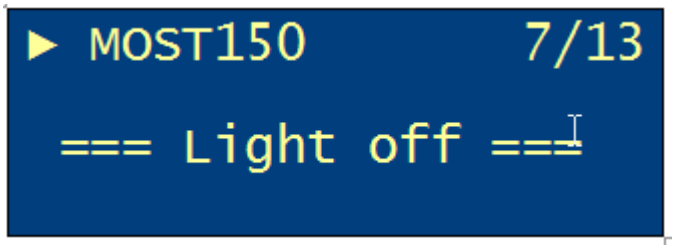

Figure 6.19: MOST150 status: Light off

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6.6.6 FlexRay

The FlexRay status display includes their utilization at both channels in Kframes per second. If a channel is disabled, “OFF” is shown. The notification “n/c”, meaning “not connected”, is shown if no FlexRay bus is plugged (only for blue PiraT).

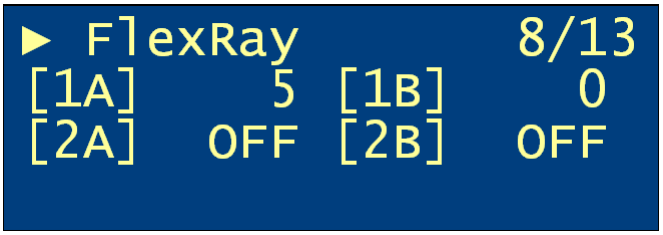

Figure 6.20: FlexRay status

6.6.7 Camera

The camera status display includes the transmission rate of each camera channel in Kbytes per second. If a channel is disabled, “OFF” is shown. The notification “n/c”, meaning “not connected”, is shown if no camera is plugged.

Figure 6.21: Camera status

6.6.8 Ethernet

The Ethernet status display includes the transmission rate of each channel in Kbytes per second. If a channel is disabled, “OFF” is shown. The notification “n/c”, meaning “not connected”, is shown if no Ethernet station is plugged.

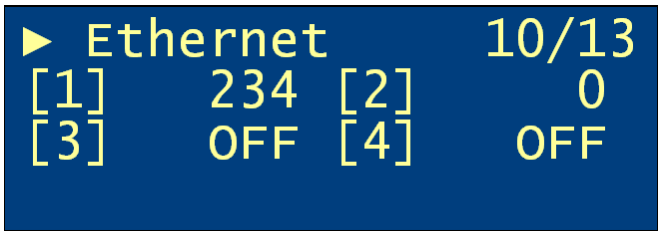

Figure 6.22: Ethernet status

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6.6.9 CCP/XCP (only blue PiraT2 with license CCP/XCP)

The CCP/XCP status display includes the difference of the busload before and during (CCP/XCP) measurement. If a channel is disabled, “OFF” is shown.

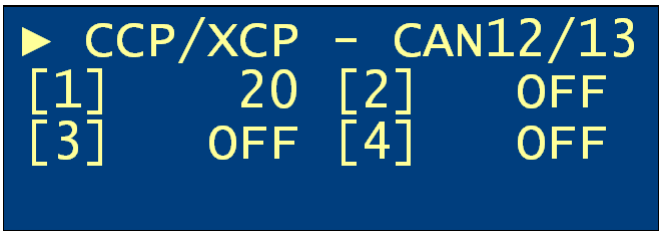

Figure 6.23: CCP/XCP status

6.6.10 GPS (only blue PiraT2 with license GPS)

The GPS status display includes the position, the absolute altitude, the driving speed, the movement direction and the number of located satellites.

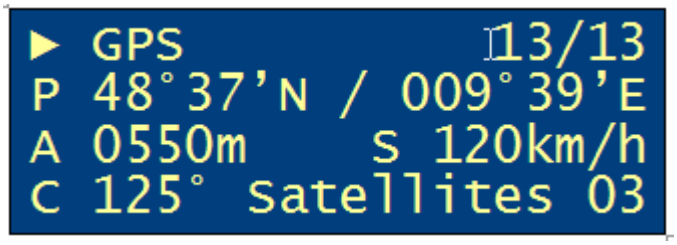

Figure 6.24: GPS status

- P = position latitude/longitude
- A = altitude above sea level
- S = speed
- C = course/direction
- Satellites = number of satellites found (at least 3 to determinate the position)

“No GPS Signal” is shown because of at least one of the following reasons:

- The GPS connection is disabled.
- The GPS receiver is not connected.
- No satellite or too few satellites were found.

Figure 6.25: GPS status: no GPS signal

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6.7 Available status codes of the bustypes

	CAN	Serial	LIN	FlexRay	Camera	Ethernet	CCP/XCP
OFF	X	X	X	X	X	X	X
N/C					X	X	
ERROR	X	X					X

- OFF = interface disabled
- N/C = not connected

6.8 Menu items

The menu items are accessible by using the arrow buttons. These buttons can switch through all menu items. The currently selected menu item is displayed in the top line, along with the menu item number and the total number of menu items. A menu function is executed by the OK button **[✓]** and stopped by the Cancel button **[✖]**. In the last case the standard screen will be shown (see section 6.2).

There are the following default menu functions:

- 6.8.1 Show Trigger list
- 6.8.2 Clear Trigger list (only for blue PiraT)
- 6.8.3

Network Configuration

- 6.8.4 Voice Notes (only at RCV)
- 6.8.5 Play a Voice Note by the RCV
- 6.8.8 Cascading (only for blue PiraT)

6.8.1 Show Trigger list

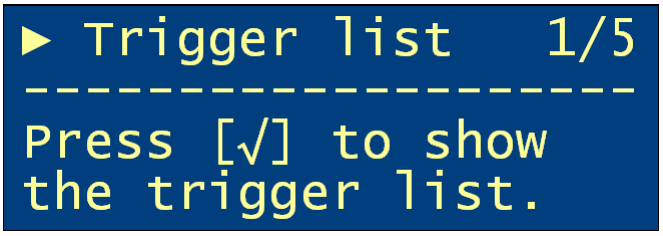

Figure 6.26: Menu item “Trigger list”

The menu item “Trigger list” contains the list of triggers, which lists all triggers stored on the data logger with their number and time (date and time) of setting. With the arrow buttons you can move through the list.

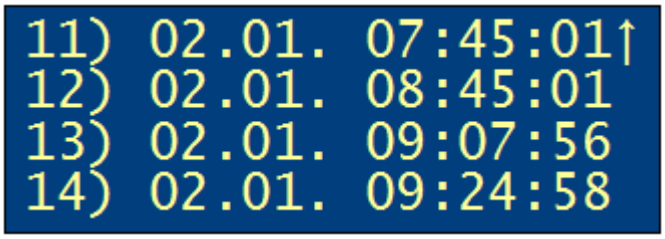

Figure 6.27: Trigger list

When there is no trigger on the data logger, the following message is shown:

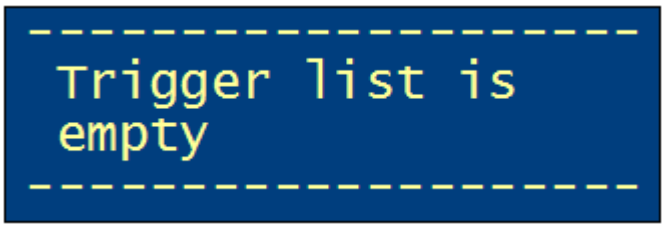

Figure 6.28: Empty trigger list

6.8.2 Clear Trigger list (only for blue PiraT)

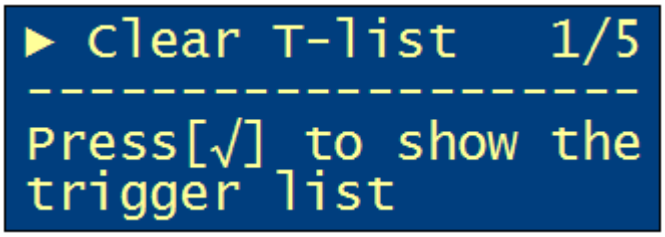

Figure 6.29: Menu item “Clear T-list”

To clear all triggers from the trigger list, select the menu item “Clear T-list” with the OK button **[✓]**. The menu function is executed by the OK button **[✓]** and stopped by the Cancel button **[✘]**.

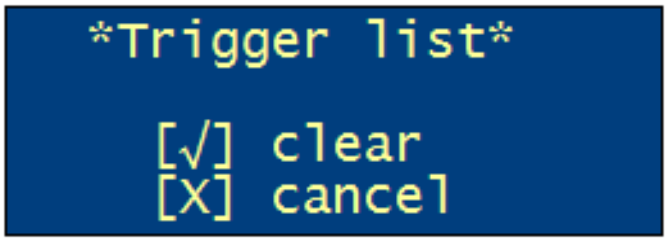

Figure 6.30: Clear trigger list

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6.8.3 Network Configuration

In the menu item “Network Cfg.” the DHCP mode, the IP address of the data logger and the subnet mask is shown.

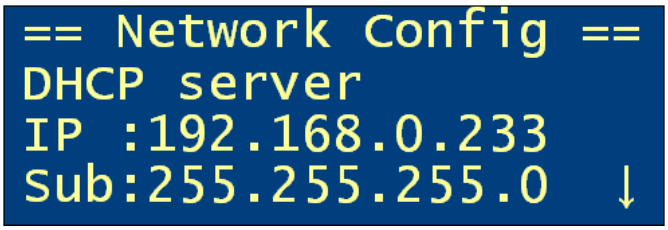

Figure 6.31: Network configuration

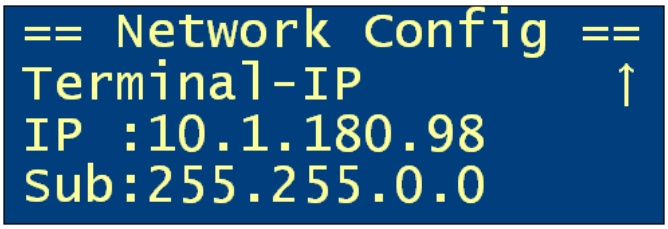

Figure 6.32: Network configuration continuation

6.8.4 Voice Notes (only at RCV)

The menu item “Voice Notes” contains the list of Voice Notes, which lists all Voice Notes stored on the data logger with their number and time (date and time) of recording. With the arrow buttons you can move through the list.

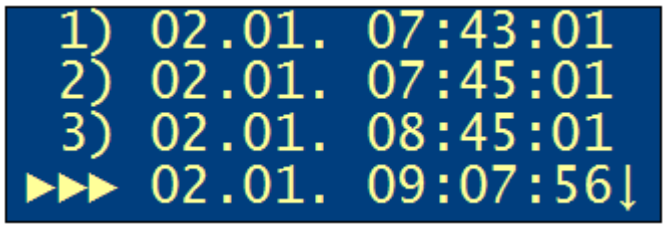

Figure 6.33: Voice Note list

When there is no Voice Note on the data logger, the following message is shown:

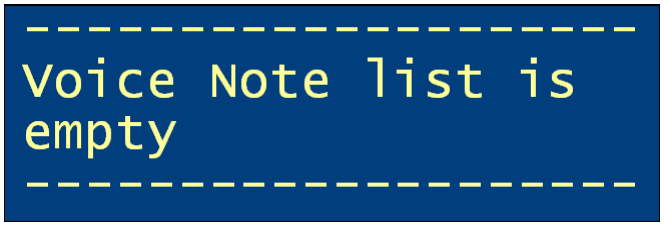

Figure 6.34: Empty Voice Note list

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6.8.5 Play a Voice Note by the RCV

To play a Voice Note, select the menu item “Voice Notes” with the OK button **[✓]** or press the Play/Pause button. In the Voice Note list switch with the arrow buttons to the desired Voice Note. Either press the Play/Pause button or select the Voice Note with the OK button **[✓]** and press the Play/Pause button.

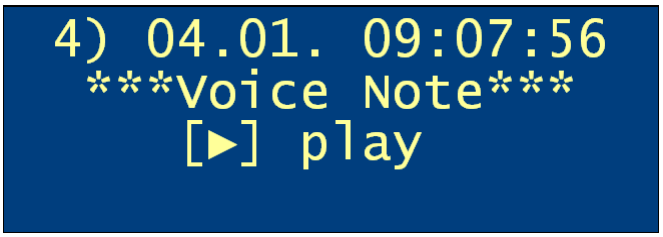

Figure 6.35: Selecting Voice Note

If no audio device (e.g., headset) is connected to the RCV on the headphone jack, the Voice Note cannot be played. About that, the following notification is displayed:

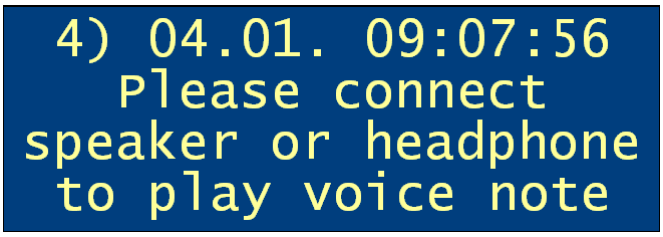

Figure 6.36: Request to connect a speaker/headphone

Connect an audio device and press the Play/Pause button again.

The Voice Note is transmitted from the data logger to the RCV. The buffering progress is presented by a progress bar and a percentage display until the Voice Note record has been completely transmitted. The RCV can be operated during transmission. If the Cancel button **[✖]** is pressed, the Voice Note list is shown. The playing or recording of Voice Notes during the transmission is not possible. When you press the Play/Pause button or the **[Record]** button during transmission, the buffering window is furthermore displayed.

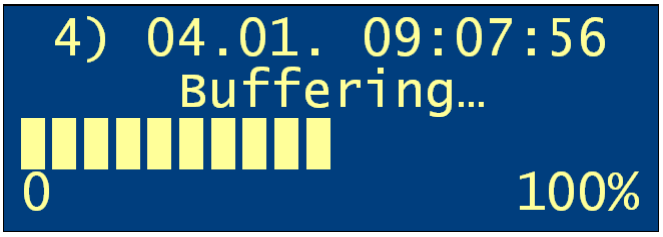

Figure 6.37: Buffering of Voice Note playback

When the Voice Note is transmitted, it will be played. The progress of the playback is presented by a time bar and a seconds display.

Figure 6.38: Playback of Voice Note

The playback can be temporarily interrupted with the Play/Pause button and continued by pressing the Play/Pause button again.

The playback can be stopped prematurely via the Stop button or the Cancel button **[✕]**. When the playback stops, the Voice Note list is displayed.

Set volume

During the buffering of the Voice Note playback and the playback the volume can be set using the arrow buttons.

To increase the volume, press the upper arrow button. To decrease the volume, press the lower arrow button. The volume level is presented by a bar and a percentage display. The display disappears after a short time.

Figure 6.39: Adjusting volume

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6.8.6 Play a Voice Note by the Telemotive System Client

Open either the application **[Download data]** or **[Convert data]** in the client. In the Event overview Voice Notes are indicated with a speaker symbol beside the marker. To play a Voice Note, click its speaker.

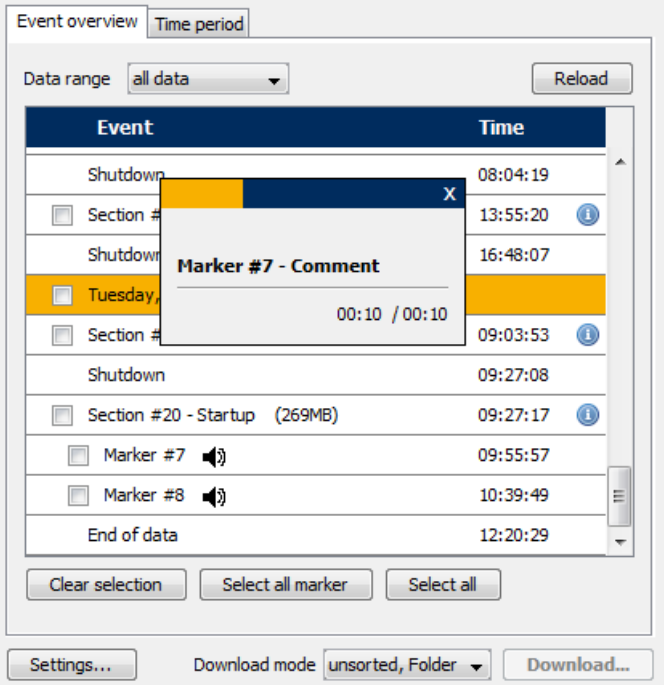

Figure 6.40: Event overview in the Telemotive System Client

6.8.7 Download a Voice Note

If a section, which is converted or downloaded, contains Voice Notes, these will be stored in the WAV format automatically. In the offline data set the audio files are stored in the folder “data\audio”. When converting the audio files are stored in the target directory together with the data.

In the file name the start and end time of the Voice Note of is stored.

6.8.8 Cascading (only for blue PiraT)

Note:
To use the cascading function, the feature must be enabled in the blue PiraT configuration tool.

The basic function of the menu item “Cascading" is the switchover of the Remote Control (Voice) display between the two cascaded loggers (Master/Slave). The menu function is executed by the OK button **[✓]** or by longer pressing the Status button.

In all menu functions and status displays the current mode (M = master display, S = slave display) is displayed in the upper left corner. In the status displays (see section 6.6) the bus status of the activated data logger is displayed.

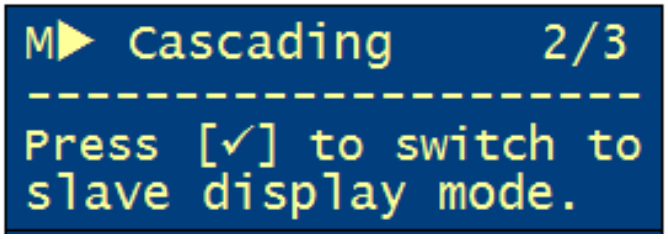

Figure 6.41: Switching to “slave display mode”

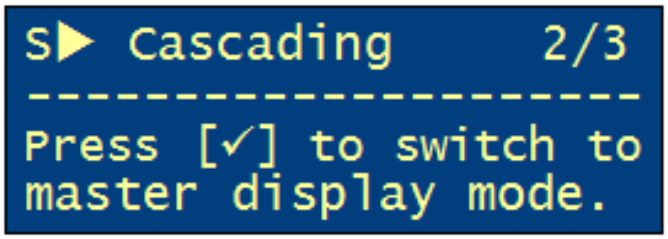

Figure 6.42: Switching to “master display mode”

The standard screen of cascading is shown as follows:

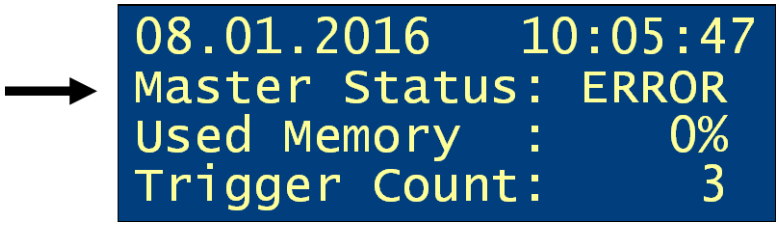

Figure 6.43: Standard screen in “master display mode”

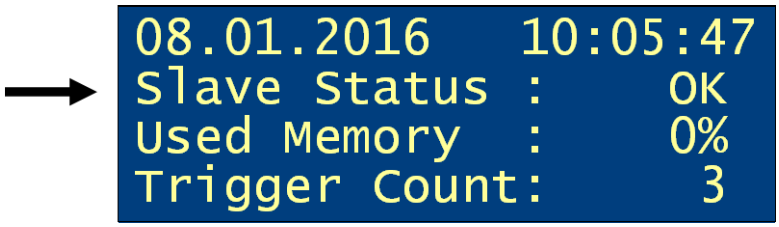

Figure 6.44: Standard screen in “slave display mode”

When switching to the „master display mode“ or the „slave display mode” the following display will appear for 1 second on the Remote Control (Voice):

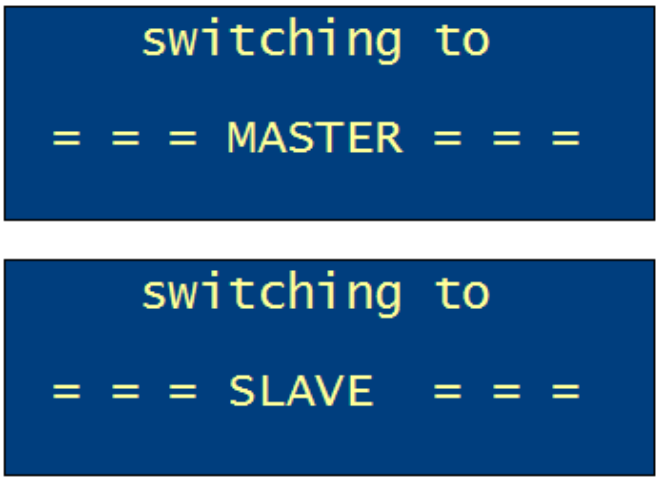

Figure 6.45: Switchover master/slave

If the switchover is not possible, a failure notification is shown:

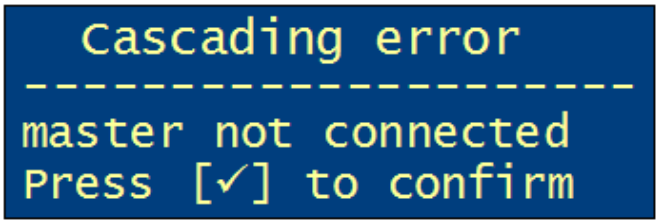

Figure 6.46: Failure notification due to missing master

The blue PiraT2 (master and slave) can detect a misconfiguration. A misconfiguration occurs when one of the following combinations are adjusted and connected:

- Master / Master
- Slave / Slave
- Master / Standard (Cascading disabled)
- Slave / Standard (Cascading disabled)

In case of an incorrect configuration of the master-slave-remote control-system, a failure notification will be displayed on the Remote Control (Voice). The failure notification will remain visible until the configuration error has been fixed.

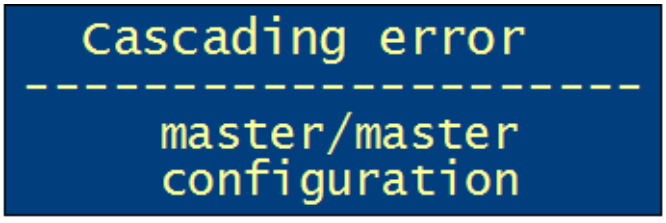

Figure 6.47: Configuration error master/master

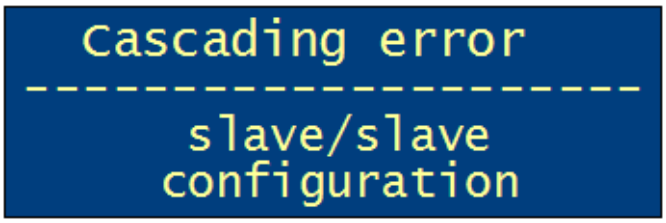

Figure 6.48: Configuration error slave/slave

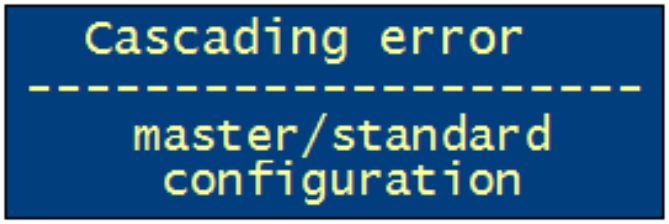

Figure 6.49: Configuration error slave/standard or master/standard

If there is an error in the time synchronization, the following message will be displayed on the Remote Control (Voice):

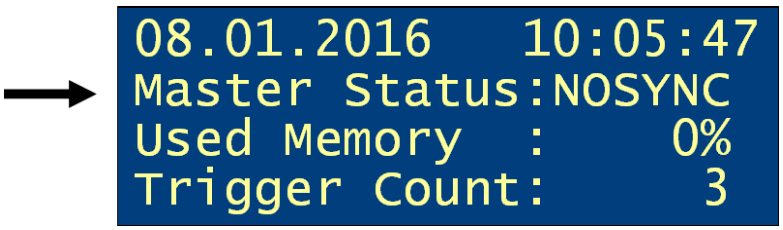

Figure 6.50: Standard screen at time synchronization failure

The trigger counter is synchronized at the master or slave data logger for all triggers who are set due to the cascading. Existing triggers are retained.

For example:
The master data logger has a trigger count by 5, the slave data logger by 9. After cascading these loggers, the next set trigger makes a trigger count of 10 at both loggers.

Note:
It's recommended to delete the trigger counter at the master and the slave logger before cascading.

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6.9 Updating the Firmware

The appropriate firmware of the Remote Control (Voice) is included in the firmware package of the data logger. If a data logger firmware with a new Remote Control (Voice) firmware is uploaded, the Remote Control (Voice) automatically requests to update its firmware at the next startup (see Figure 6.7: Request to update the firmware).

If this is selected by a user, a security prompt appears. An abort is possible by using the Cancel button **[✖]**. After confirming with the OK button **[✓]** the firmware update begins. This takes no more than a minute.

Caution:
The Remote Control (Voice) and the data logger may not be separated from the power and not shut down during the firmware update. The connection between Remote Control (Voice) and data logger may not be separated.

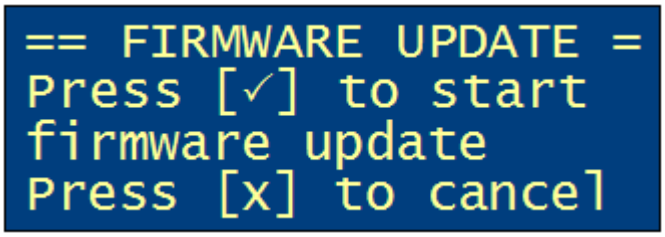

Figure 6.51: Security prompt before updating the firmware

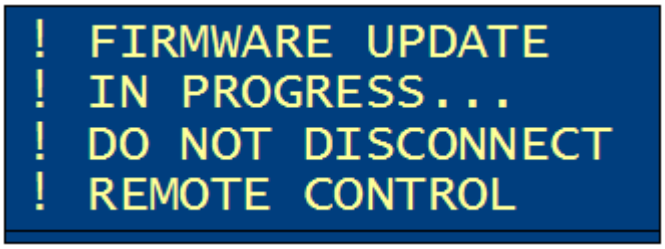

Figure 6.52: Update of firmware

6.10 Function buttons

The function buttons **[1]** to **[10]** are scheduled for feature enhancements, like, e.g., the licenses **Complex Triggers** and **Remote Control Monitor** (see **User manual for the Telemotive System Client**).

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7 Technical data

7.1 Remote Control

General data

Power supply	8.5 V..16 V, 12 V (typ.)
Power consumption (ca.)	75 mA...315 mA (depending on display brightness)
Power consumption in standby mode (ca.)	0.1 mA
Temperature range (in action)	- 4 °F to + 122 °F
Temperature range (storage)	- 4 °F to + 158 °F
Weight (ca.)	300 g

Housing

Dimensions (ca.)	6.06" x 3.35" x 0.98" (154 mm x 85 mm x 25 mm)
Controls	Membrane keypad with 17 buttons
Displays	Display, 20 characters x 4 lines
Connections	LEMO connector for connection to the data logger

7.2 Remote Control Voice

General Data

Power	8.5 V..16 V, 12 V (typ.)
Power consumption (ca.)	200 mA...350 mA (depending on display brightness)
Power consumption in standby mode (ca.)	0.1 mA
Temperature range (in action)	- 4 °F to + 122 °F
Temperature range (storage)	- 4 °F to + 158 °F
Weight (ca.)	370 g

Housing

Dimensions (ca.)	6.81" x 3.35" x 0.98" (173 mm x 85 mm x 25 mm)
Controls	Membrane keypad with 20 buttons
Displays	Display, 20 characters x 4 lines
Connections	LEMO connector for connection to the data logger 3.5 mm external microphone jack 3.5 mm jack for headphone

8 Abbreviations

abbreviation	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 HW2.x	**b**lue **P**iraT**2** Hardware 2.x
bPMini	**b**lue **P**iraT Mini
TSL	**T**elemotive **S**ystem **L**ink
TSC	**T**elemotive **S**ystem **C**lient
CAN	**C**ontroller **A**rea **N**etwork
LIN	**L**ocal **I**nterconnect **N**etwork
MOST	**M**edia **O**riented **S**ystems **T**ransport (www.mostnet.de)
ECL	**E**lectrical **C**ontrol **L**ine
MEP	**M**OST **E**thernet **P**acket
USB	**U**niversal **S**erial **B**us
CF	**C**ompact **F**lash
SD	**S**ecure **D**igital
LAN	**L**ocal **A**rea **N**etwork = Netzwerk
FW	**F**irm**w**are
PW	**P**ass**w**ort
SFTP	**S**ecure **F**ile **T**ransfer **P**rotocol
SHA	**S**ecure **Ha**sh
SSL	**S**ecure **S**ockets **L**ayer
TLS	**T**ransport **L**ayer **S**ecurity
TMP	**T**ele**m**otive **P**acketformat
UTC	**U**niversal **T**ime, **C**oordinated
GMT	**G**reenwich **M**ean **T**ime

Table 8.1: Abbreviations

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11 Contact

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