

blue PiraT2

Remote Control Monitor User Guide

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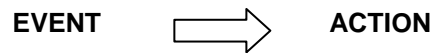
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3. Overview

With the remote control monitor function, it is possible to display current values of selected CAN signals immediately in the remote control unit. The remote Control Monitor is a part of the blue PiraT2 trigger function. The function is called as a trigger, when a defined event will cause a certain, singular action.



This user manual describes the configuration and the overall functionality of the remote control monitor function.

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

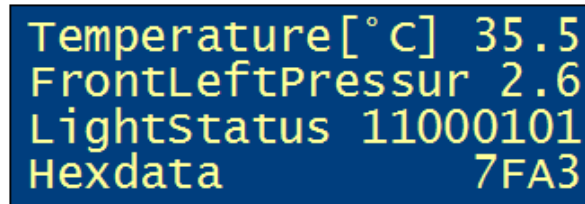
License

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

The remote control monitor function works on any blue PiraT2 systems with a remote control. However, it is necessary to purchase a special license for this function. Please read the manual "blue PiraT2 - How to manage licenses" for more information about handling licenses.

5. Remote Control Monitor Functionality

The remote control unit has a four-line display, each with 20 characters. The remote control monitor function is able to handle up to 10 different remote control monitor windows. A remote control monitor window (see Figure 1) is activated by a trigger event.



```
Temperature[°C] 35.5
FrontLeftPressur 2.6
Lightstatus 11000101
Hexdata 7FA3
```

Figure 1: A sample remote control monitor

The window is closed by pushing the Stop (✖)-button or Status-button, causing the remote control display is switching to the previous screen. The user can configure up to 20 different CAN-signals for each remote control monitor window. One CAN signal will be displayed in each line. Since the remote control display only contains four lines, it is possible to scroll the CAN signal entries with the “up” and “down” buttons.

For each CAN signal, the following information are shown:

- CAN signal name
- If given, the physical unit of the CAN signal (e.g. mph)
- Value of the CAN signal

The signal name and the signal unit are displayed left-aligned, while the signal value is displayed right-aligned. If the 20 columns of the display are not sufficient to display all information (i.e., the signal name would overlap with the text or the unit), the signal value overwrites text and/or unit. The display automatically changes to floating point display if a CAN signal value exceeds the maximum number of displayable characters.

6. Connection

To use the remote control monitor function, it is required to connect a remote control unit (see Figure 2).

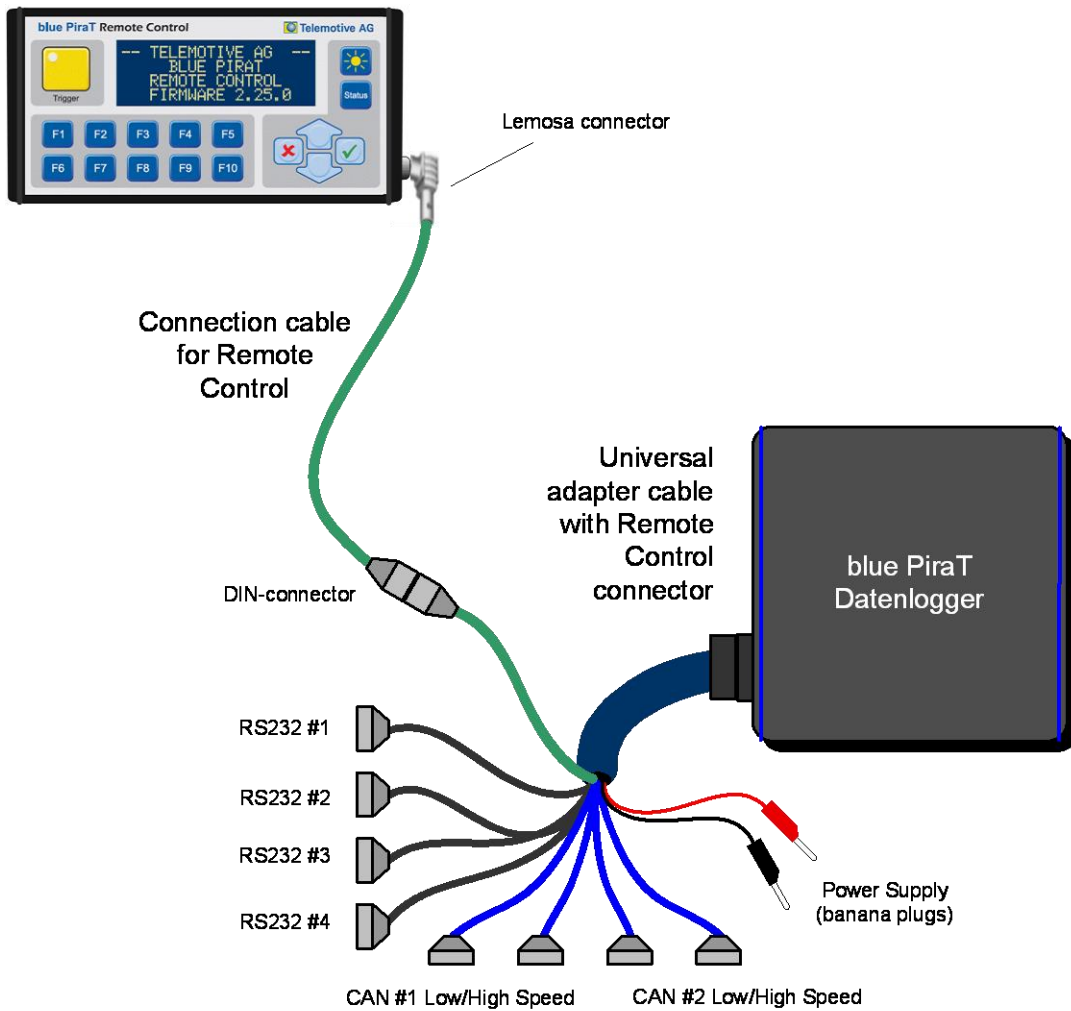


Figure 2: Connection of the bluePiraT with the standard cable harness

7. Configuration

7.1. Configuration menu

The configuration application of the blue PiraT2 Client must be started to configure a remote control monitor. If the license has been installed correctly, the selection tree on the left hand side shows the entry "Trigger". The remote control monitor is defined as a trigger, i.e., a defined event (a function key) causes a unique action (the display of the remote control monitor).

With the selection of the "Add Trigger..(xx/50)" button, it is possible to configure up to 50 different triggers (see Figure 3).

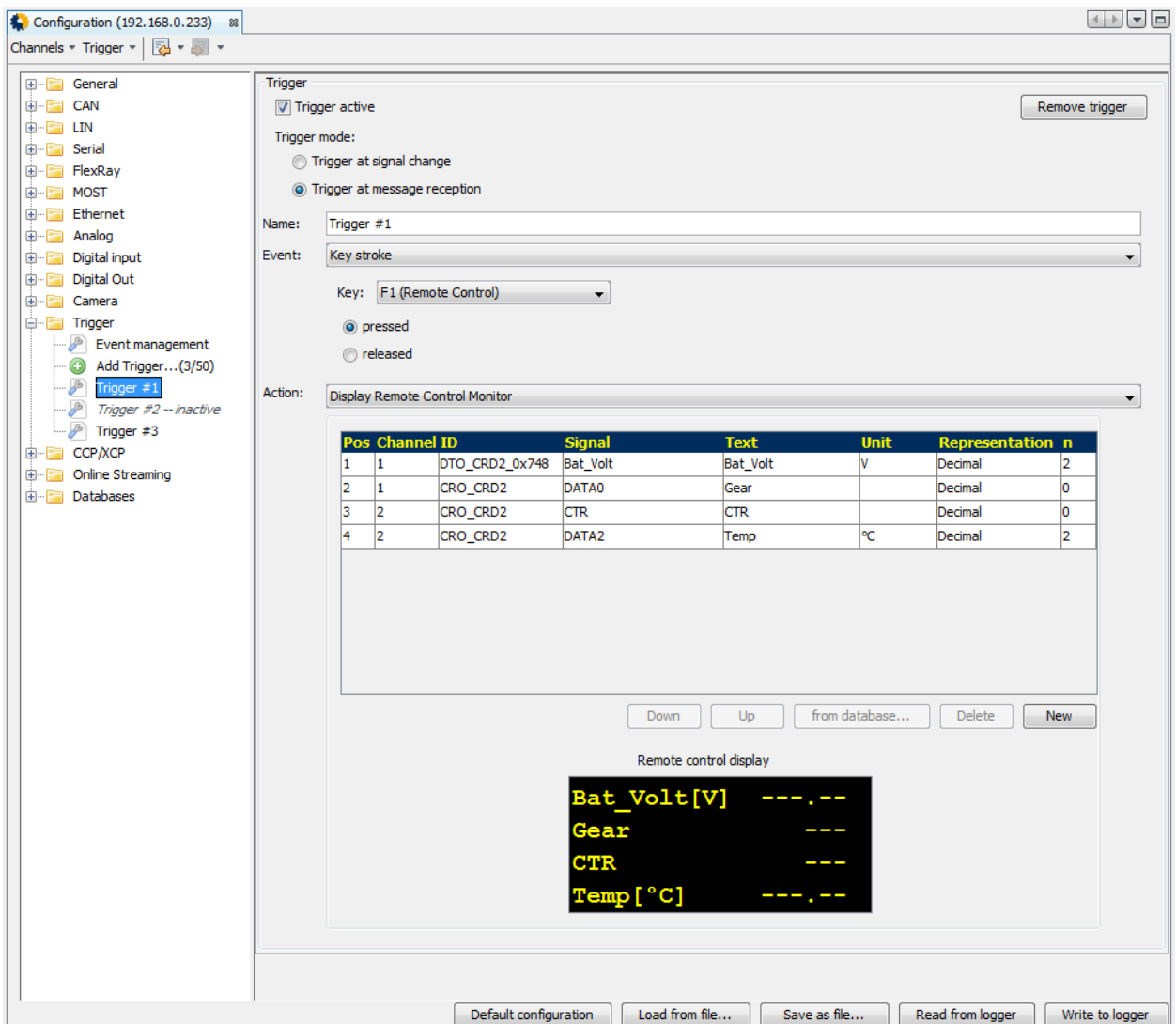


Figure 3: Configuration of the remote control monitors

7.2. Trigger configuration

After selecting the option „Add trigger...(xx/50)“, a panel for configuration of the trigger appears. The different options are described in Figure 4.



Figure 4: Configuration 'New trigger'

7.2.1. Trigger state

Each trigger can be configured to be active or inactive. If a trigger is inactive, its parameters are still kept in the configuration, but the data logger does not execute the trigger.

7.2.2. Trigger mode

Each trigger has two different modes of evaluation of the trigger condition:

7.2.3. Trigger at signal change:

The trigger occurs only if there is a change in the signal value and the event conditions are met. This trigger condition mode is applicable for periodic signals, where only one trigger is required for the first time the event condition is true.

7.2.4. Trigger at message reception:

The trigger occurs every time a signal message was received and the event conditions will be met. This trigger mode is applicable if every reception of a message should cause a new trigger. (default trigger mode)

7.2.5. Trigger name

The name of the trigger can be changed by the user. The new trigger name is displayed in the selection tree on the left hand side.

7.2.6. Trigger event and action

The trigger function is defined by an event and a consecutive action. Events and actions can be defined and changed by the user in any sequence.

7.2.7. Removing the trigger

The button "Remove trigger" deletes the entire trigger configuration.

7.3. Configuration of the Remote Control Monitor

Is there just a license Remote Control Monitor installed on the datalogger (without license “Complex Triggers”), you could use twelve triggers. It is possible to configure ten triggers with the action “Remote Control Monitor” und two with an arbitrary action.

7.3.1. Event – Remote Control Function keys

The event “Key stroke” is only able to trigger one action. However, different function keys can be assigned to different actions.

First, the user has to select one remote control function key from F1 to F10. The setting “button pressed” or “button released” is the second parameter which has to be selected by the user (see Figure 5).

Figure 5: Event – Remote Control function key

The action is be triggered one time, when the event-requirement “button pressed” or “button released” switches into the status true. A connected remote control is required for this event.

7.3.2. Action – Remote Control Monitor

In the second configuration step, the user has to select the action “Remote Control Monitor”.

Pos	Channel ID	Signal	Text	Unit	Representation	n	
1	1	DTO_CRD2_0x748	Bat_Volt	Bat_Volt	V	Decimal	2
2	1	CRO_CRD2	DATA0	Gear		Decimal	0
3	2	CRO_CRD2	CTR	CTR		Decimal	0
4	2	CRO_CRD2	DATA2	Temp	°C	Decimal	2

Figure 6: Action – Remote Control Monitor

7.3.3. New signal

A new line is added to the existing CAN signal list if the the "New" button is selected. It is possible to add up to 20 CAN signals for each remote control monitor window. Each new line is added to the end of the list.

7.3.4. Signal selection

Initially, a new signal in the signal list has no CAN signal parameters associated with it. The user has to select those via the button "from database..". A signal selection window appears, which contains a list of CAN signals read from the chosen CAN database (see Figure 8**Fehler!** **Verweisquelle konnte nicht gefunden werden.**).

Pos	Channel ID	Signal	Text	Unit	Representation	n
1	<input type="text"/>				Decimal	2

Figure 7: New CAN-signal

The user can define the associated CAN-database for each CAN channel and select the required signal.

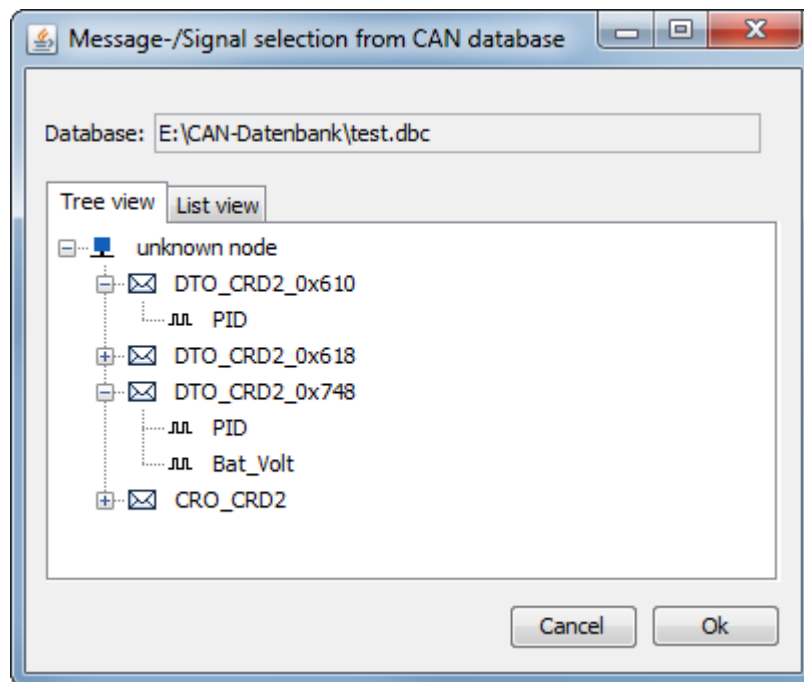


Figure 8: Signal selection from CAN-database

CAN-signals with the value type 'IEEE float' and 'IEEE double' will be supported.

7.3.5. Signal order

The display order of the CAN signals can be adjusted by pressing the "up"- and "down"-buttons. Before the user has to select the CAN signal that has to be moved.

7.3.6. Delete signal

The user can delete single CAN signals from the signal list via the "Delete" button after selecting the desired signal.

7.3.7. Signal display parameters

All display parameters of a selected CAN signal are initially loaded from the CAN-database. They are partly displayed in signal list of the configuration program. In the remote control monitor window the following CAN signals are displayed:

- Signal name
- Signal unit
- Signal value

The parameters signal name and signal unit can be modified by the user.

Pos	Channel ID	Signal	Text	Unit	Representation	n	
1	1	DTO_CRD2_0x748	Bat_Volt	Bat_Volt	V	Decimal	2
2	1	CRO_CRD2	DATA0	Gear		Decimal	0
3	2	CRO_CRD2	CTR	CTR		Hexadecimal	0
4	2	CRO_CRD2	DATA2	Temp	°C	Decimal	2

Figure 9: CAN-signal editing

7.3.8. Signal name

The remote control monitor uses the signal name loaded from the CAN-database as the default value. The user can edit the signal name in the column "Text" (see Figure 9Fehler! Verweisquelle konnte nicht gefunden werden.).

7.3.9. Signal unit

The remote control monitor uses the signal unit loaded from the CAN-database as default value. The user can edit or delete the signal unit in the column "Unit" (see Figure 9Fehler! Verweisquelle konnte nicht gefunden werden.).

7.3.10. Signal value

The column "Representation" allows choosing one of three possible number formats in which the CAN signals are interpreted:

Scaled decimal format:

The signal value is displayed as an integer value or as floating point value with up to (max.) 7 decimal places. If a signal value exceeds the maximum number of displayable characters, the display automatically changes to floating point display.

Hexadecimal format:

The signal value is displayed as a hexadecimal raw value up to a CAN signal bit length of 32 bit. For CAN signal values that are greater than 32 bit, only the scaled decimal format is available.

Binary format:

The signal value is displayed as a binary raw value up to the CAN signal bit length of 8 bit. For CAN signal value greater than 8 bit only the scaled decimal or the hexadecimal format is available.

The user can select the format in the column "Representation" (see Figure 9Fehler! Verweisquelle konnte nicht gefunden werden.).

The remote control monitor function automatically calculates the number of the required decimal places from the database's. CAN signal parameters 'bit length', 'value range', 'factor' and 'offset' and put this value into the column 'n' as the default.

The user can change the number of the decimal places in the range from 0 to 7 in the column 'n' (see Figure 9 **Fehler! Verweisquelle konnte nicht gefunden werden.**).

7.4. Remote control monitor preview

The remote control monitor preview allows checking how the current configuration will look like in the remote control display. This feature simplifies adjusting the parameters for a proper display within the 20 columns.

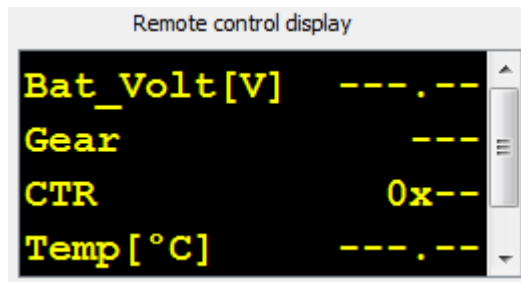


Figure 10: Remote control monitor preview

Since the actual values of the CAN signals are not known at this point, default value lengths are used for the preview.

The display of the signal value has always a higher priority as the display of the signal name and the signal unit. The signal value will overwrite the signal unit and the signal name, if 20 characters for a line are not enough to display all parameters.

7.5. Database Change

Is there a change of the CAN-database during the configuration or before loading a configuration, the display of the signal parameters will be updated to the new CAN-database. The signals will be displayed as follows, if there is no matching between new CAN-database and selected signal or the CAN-database is completely deactivated.

Pos	Channel ID	Signal	Text	Unit	Representation	n
1	1	0x748	Bat_Volt	V	Decimal	2
2	1	0x74a	Gear		Decimal	0
3	1	0x74a	CTR		Hexadecimal	0
4	2	0x74a	Temp	°C	Decimal	2

Figure 11: Change of CAN-database

ID:

CAN-ID of the original CAN-signal in hexadecimal format

Signal:

'?????' instead of the original CAN signal name

Text:

unit , representation and decimal places don't change.

8. Trigger management

Please click on the dictionary “Trigger” at the selection tree to manage your triggers (see Figure 12).

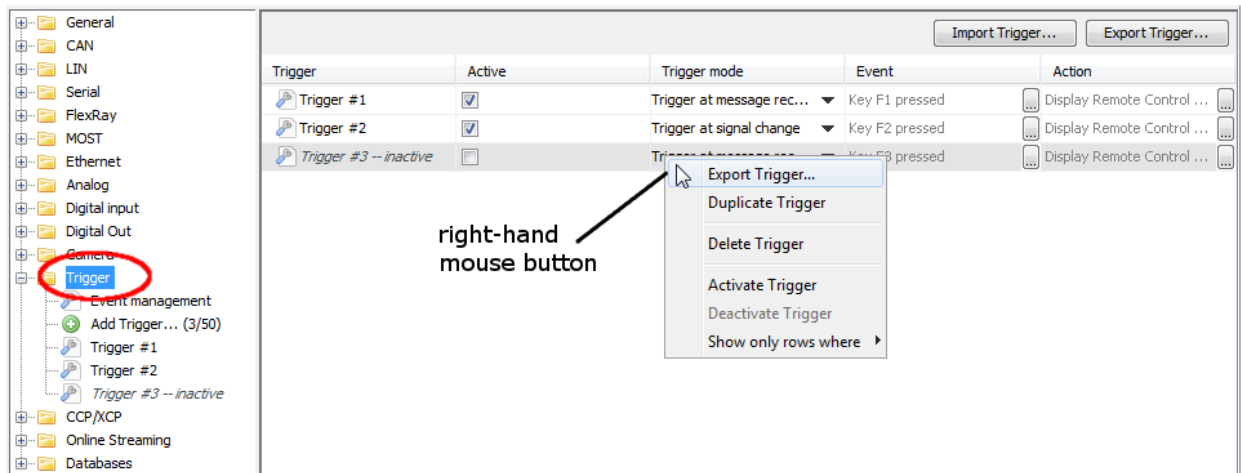


Figure 12: Trigger management

It is possible to select one or more triggers from the list. The selected triggers can be managed by the function buttons on the upper side or by the right-hand mouse button.

The following management functions are available:

Export trigger:

Selected trigger configurations will be stored in a file (.zip)

Import trigger:

Trigger configurations will be loaded from an external trigger file (.zip) and added to the existing trigger list.

Remove trigger:

Selected trigger configurations will be removed from the list.

Duplicate trigger:

Selected trigger configurations will be duplicated and added to the existing trigger list. The duplicated trigger will be renamed by the extension “_Copy”. The trigger name can be changed by the user.

Enable / disable Trigger:

You can enable and disable the triggers. The configuration stays on the logger but only activated triggers will be executed.

Filter the displayed trigger:

The trigger list could be filtered by selecting a box in the triggerlist with the right-hand mouse button and select “Show only rows where”. The filter is depending on the selected column.

9. Appendix

9.1. Remote control unit character set

The following characters from the windows-1254 character set table are supported by the remote control monitor function:

	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-A	-B	-C	-D	-E	-F
0-																
1-																
2-	SP	!		#	\$	%	&	'	()	*	+	,	-	.	/
3-	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4-	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5-	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6-	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7-	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
8-																
9-																
A-		ı	ç	£		¥		§	¨		ª	«				-
B-	°	±	²	³		µ	¶	·				»	¼	½		¿
C-				Ã	Ä	Å	Æ	Ç		É						Ï
D-		Ñ				Õ	Ö	×	Ø				Ü			ß
E-	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F-		ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü			ÿ

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