Repeater for indication and control
IFS7002R

Instruction Manual

Revision 2/16.11.09

Contents

1. Introduction

Repeater IFS7002R is a device supplementing the range of IFS7000 series devices as it expands the potentials of systems established based on Fire Control Panel IFS7002.
The device is suitable in premises where:

- The person, that are expected to find and initially respond to the fire condition and/or fault condition alarm are situated on different place from the location of the fire control panel/s.
- Fire control panels, located in different buildings have to be monitored and controlled from one location.
- The fire control panel or panels are monitored from several locations simultaneously.

2. Function

The repeater IFS7002R is designed to optimize the performance of users. The repeater is a network made up of connected remote fire control panels IFS7002 and other repeaters IFS7002R.
Repeater IFS7002R:

- Receives and displays information about the status of remote fire control panel/panels.
- Formed a control action to remote areas of fire stations for their forced exit from the state "Fire".

3. Technical data

3.1 Performance

- Number of the control panels or/and repeaters connected to IFS7002R – up to 31.
- Indicating fire condition and/or fault condition from each zone or fire detector from the connected to it remote panels.
- Full range of commands available for sending to the remote fire control panels.
- Remote panels' parameters review and full access to the setup of these parameters.
- User-friendly menu dialogue for easy and convenient operation.
- Graphic LCD display for visualizing the remote fire control panels status.
- Dynamic keypad based on a Touch-screen panel.
- LEDs and sound indication for faults, fire and other operation modes.
- Built-in real time clock.
- Interfaces for communication with the fire control panels IFS7002 – CAN 2.0B connected to it.
- Interfaces for communication with PC – RS-232 directly or LAN via a converter RS232 – LAN Ethernet.
- Possibility for connection of PC keyboard for setting up and programming.

3.2. Indications of registered events

3.2.1. Light indication	- LED
3.2.2. Text message	- LCD display, 320 x 240 points, backlit
3.2.3. Sound signaling	- built-in sounder

3.3. Power supply

3.3.1. From the fire control panel connected with the repeater IFS7002R

Voltage	- (23±7)V DC
Maximum current value	- 180 mA

3.3.2. From external power supply (in compliance with EN54-4)

Voltage	- (12 - 30)V DC
Maximum current value	- 310 mA

3.4. Dimensions - 290x219x46mm

3.5. Weight - 1 kg

4. Contents of delivery

- Repeater IFS7002R - 1 pc
- CD with Instruction manual and Instruction for staff - 1 pc
- Packing - 1 pc

5. General information

Management is done by panel buttons, displayed on touch screen. Depending to the selection menu, screen or function, different buttons are active.
An important condition for the durability of touch screen panel is required for compliance with it.
The purpose of the stylus (pos.1, fig.1) is comfortable and save with touch screen panel.
With the stylus is pressed lightly in the button depicted. The self-adhesive pad of the carrier(поз.2, фиг.1) allows for easy fixation at the proper place.

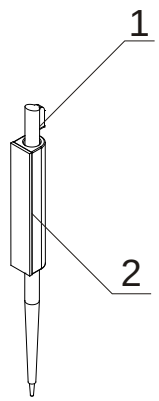


Fig.1

5.1. Access levels

Four levels of access to the variable indications and control functions of IFS7002R are available.

5.1.1. Access level 1

All persons who would presumably find out and react to alarm upon fault condition or fire condition have access to level 1.
The following actions are accessible:

- Displaying suppressed messages for Fire condition, Fault condition, Disabled components and Zones in test.
- Entering inspection time period.
- Forced proceeding from phase Fire condition stage I to Fire condition stage II.
- Suppressing the local sounder.
- Displaying text messages from inputs.
- Displaying program data for the repeater.
- Displaying the status of the addressable devices in the loops of the fire control panels connected to it.

Al light indicators of the repeater are visible.

5.1.2. Access level 2

The personnel in charge of the fire protection have access to level 2; they shall be authorized and trained to operate the repeater and the fire detecting system in the following conditions:

- Duty Mode
- Fire condition
- Fault condition
- Disabled component
- Information and adjustment

To enter Access level 2 use your password.
The following features of the repeater are accessible:

- All features accessible at Level 1.
- Switching off the outputs, activated upon fire condition.
- Exit of Fire condition.
- System functions of the repeater.

5.1.3. Access level 3

Accessible for personnel trained and authorized to:

- Reconfiguration of specific data – of the protected site, saved in the repeater or the fire control panels connected to it.
- Maintenance the established fire detecting system.

To enter Access level 3 use your password.

5.1.4. Access level 4

Accessible for personnel trained and authorized by the Producer to repair the repeater and to modify its software. Special means are required to enter this level.

5.2. Conditions and indications

When the repeater IFS7002R is switched on it runs an initial verification of CAN network parameters. It checks the entered fire control panels and their condition.
The repeater IFS7002R operates in seven basic modes: Duty Mode, Fire Condition, Fault Condition, Disabled Component Mode, Test Mode, Information and Control Mode and SetUp Mode:

Table 1

Condition	Description
Duty Mode	Condition in which the connected remote stations dist.panel not in any of the other six states and have a relationship with him (see item 6.).
Fire Mode	Condition in a burn in the fire area from a remote fire control panel connected to the repeater (see item 7.).
Fault Mode	Condition where the fault is in one of the connected remote fire control panels or dropping the connection to a remote panel (see item 8.)
Disabled Component Mode	Remote Panel enters Disabled component after hand surgery to disable - a fire alarm zone, addressable device, addressable controllable output or any of the connecting fire control panels.
Test Mode	Condition, after manual operation to place zone from remote fire control panel in "Test".
Information and Control Mode	Repeater enters Information and Control Mode of the main menu of Duty Mode, Fire condition, Fault Mode (without fatal error), Test and Disabled component (see item 9). In this condition, displays information about the remote panel and connected fire panels and control data are entered.
SetUp Mode	The repeater enters setup activation submenu "Setup" from the Information and Control Mode (see item 10). These may set configuration repeater parameters.

In any moment the repeater can be in any of the above conditions/modes, or in a random combination of Fire condition, Fault condition, Disabled component, Test mode and Information and Control mode. Duty Mode, SetUp Mode and Remote Control Mode can not be combined with another mode:

- The repeater enters Duty Mode after all other conditions are exited.
- When the repeater enters SetUp Mode or Remote Control Mode it exits all other conditions.

The conditions of the repeater and their corresponding indication are shown in Table 2.

Table 2

Conditions of the repeater	Indication
All conditions – the repeater is power supplied	 Indicator *Power supply* – continuous green light
Fire condition	 Common indicator *Fire condition* – flashing red light
Fault condition All faults except for *Battery low*	 Common indicator *Fault condition* – continuous yellow light
Fault condition – System error	 Indicator *System error* - continuous yellow light
Fault condition - Fault in mains supply	 Indicator *Fault in mains supply* - continuous yellow light
Disabled component - Disabled zone, addressable device or monitored output	 Indicator *Disabled component* - continuous yellow light

Conditions of the repeater	Indication
Test condition	T Indicator Test - continuous yellow light
Fire condition	Local sounder – discontinuous signal: 0.5 s sound, followed by 0.5s break
Fault condition - All faults except for *Battery Low*	Local sounder – discontinuous signal: 1 s sound, followed by 1 s break
Fault condition - Low battery	Local sounder – discontinuous signal: 1 s sound, followed by 3 s break

5.3. Buttons for control and indication

Table 3 presents the basic means of control.
Appendix 1 shows the front panel of the repeater IFS7002R.

Table 3

Means of control	Condition of the repeater	Access level	Operation
Button *Reset Fire*	Fire condition	Level 2	To exit the Fire condition
Button *Fire condition stage II*	Fire condition, phase *Fire condition stage I*	Levels 1 and 2	To force transition to phase *Fire condition stage II*
Button *Outputs* (no suppressed outputs) or (suppressed outputs)	Fire condition	Level 2	- Upon activated outputs for fire condition – to suppress the outputs - If no outputs for fire condition are activated – to activate all suppressed outputs
Button *Inspection*	Fire condition, phase *Fire condition stage I*	Levels 1 and 2	To add time period for inspection
Button *Stop Alarm*	Fire condition and Fault condition (with the exception of Fatal Fault Condition)	Levels 1 and 2	To suppress the local sounder
Button *Menu*	Duty mode, Fire condition, Fault condition (with the exception of Fatal Fault Condition) Test mode and Disabled component	Level 1	To enter Information and Control mode

Means of control	Condition of the repeater	Access level	Operation
Button *Enter* 	Information and Control Mode	Level 1	To enter the selected menu
	Information and Control Mode	Level 2	- To enter the selected menu; - To execute the selected command; - To save a modified parameter
	SetUp Mode	Level 3	
Button *Down* 	Information and Control Mode	Levels 1 and 2	To display the next element of the menu
	SetUp Mode	Level 3	
Button *Up* 	Information and Control Mode	Levels 1 and 2	To display the previous element of the menu
	SetUp Mode	Level 3	
Button *Exit* 	Information and Control Mode	Levels 1 and 2	To exit Information and Control Mode
	SetUp Mode	Level 3	To exit SetUp Mode and reset the system
Button *Cancel* 	Information and Control Mode	Levels 1 and 2	- To exit a function without saving changes in the parameter; the command will not be executed; - To exit the current menu and to move to an upper hierarchy menu
	SetUp Mode	Level 3	
Button *Change* 	Information and Control Mode	Levels 1 and 2	To change the element to its next permissible value
	SetUp Mode	Level 3	
Button *Move down* 	Fire condition and Information and Control Mode	Levels 1 and 2	Next element (if any are available) from the left window
	SetUp Mode	Level 3	
Button *Move up* 	Fire condition and Information and Control Mode	Levels 1 and 2	Previous element (if any are available) from the left window
	SetUp Mode	Level 3	
Button *Page down* 	Information and Control Mode	Level 1	Next page from the left window
Button *Page up* 	Information and Control Mode	Level 1	Previous page from the left window
Button *To the right* 	Information and Control Mode	Levels 1 and 2	- To move the cursor one position to the right; - Next element (if any are available) from the left window

Means of control	Condition of the repeater	Access level	Operation
	SetUp Mode	Level 3	To move the cursor one position to the right;
Button *To the left* ◀	Information and Control Mode	Levels 1 and 2	- To move the cursor one position to the left; - Next element (if any are available) from the left window
	SetUp Mode	Level 3	To move the cursor one position to the left
Button *Clear* C	Information and Control Mode	Levels 1 and 2	To delete a character pointed by the cursor (if no character is pointed, the first character to the left of the cursor will be deleted)
	SetUp Mode	Level 3	
Buttons with digits, characters and symbols	Information and Control Mode	Levels 1 and 2	To insert a symbol to the left of the cursor
	SetUp Mode	Level 3	

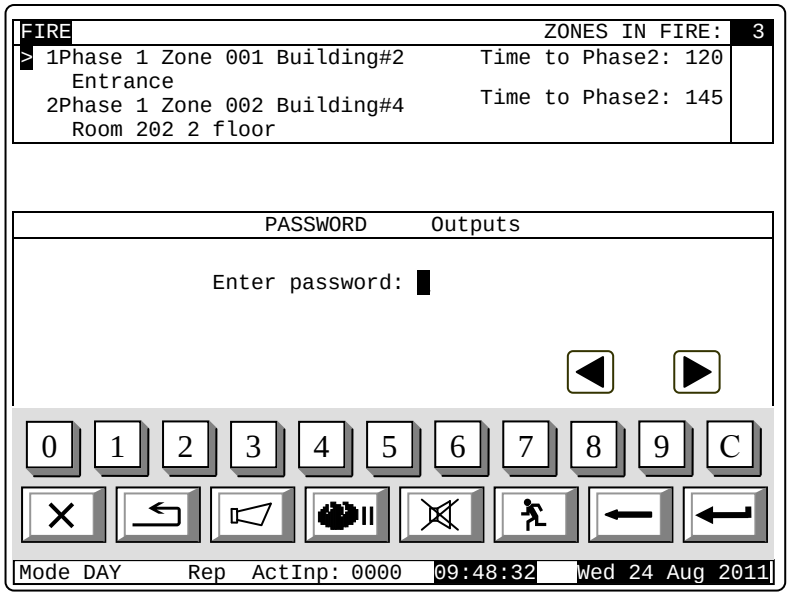
5.4. Menu navigation

5.4.1. Buttons

Panel menus are organized in “tree structure”.

- Accessing the menu - button (”Menu”).
- Move between menu items:
  - Buttons (“Up”) and (“Down”), when the menu is displayed as a window overlooking the lower left corner of the screen.
  - Buttons (“Move Up”) and (“Move Down”), when the menu is displayed in the middle of the screen.
  - Buttons (”Page Down”) and (”Page Up”) – next or previous page from the left window.
- To enter the selected menu – lower level (”Enter”).
- Return to previous menu - higher level (“Cancel”).
- Exit to the original state - button (“Exit”) or button (“Cancel”) to exit from the main (top) menu.

5.4.2. Enter a password for levels 2 and 3



1. Password is entered with the numeric keys - 0 ÷ 9.
2. Maximum password length – 10 digits.
3. Entering a number after tenth position – not valid.
4. Confirm the entered password – button [↵].
5. Exit from screen - buttons [✕] ("Exit") or [←] ("Cancel").
6. If the entered password is incorrect, the cursor "▮" is positioned in the first position of the password re-entry.
7. If the entered password is correct, enter the menus and functions with the access level 2 and 3.
8. Number is inserted into the cursor position „▮".
9. Buttons [◀] and [▶] move the cursor to the input numbers without changing them.
10. Wrong number is erased in the following order:
    - Cursor „▮" moves over erroneous number with buttons [◀] and [▶].
    - Erroneous digit is deleted by pressing button [C].
    - If no number under the cursor „▮", button [C] delete number in front the cursor.
11. Insert digit omitted:
    - The cursor „▮" moves to the position where you will insert digit with buttons [◀] and [▶].
    - Enter forgotten digit (old digits shift one position right).

6. Duty Mode

6.1 Description

The repeater is in Duty Mode, when it is not in any of the rest eight possible conditions (There are no Fault condition, Fire conditions, Test conditions or disabled components in the system and there is a connection with all fire control panels, with which it communicates).

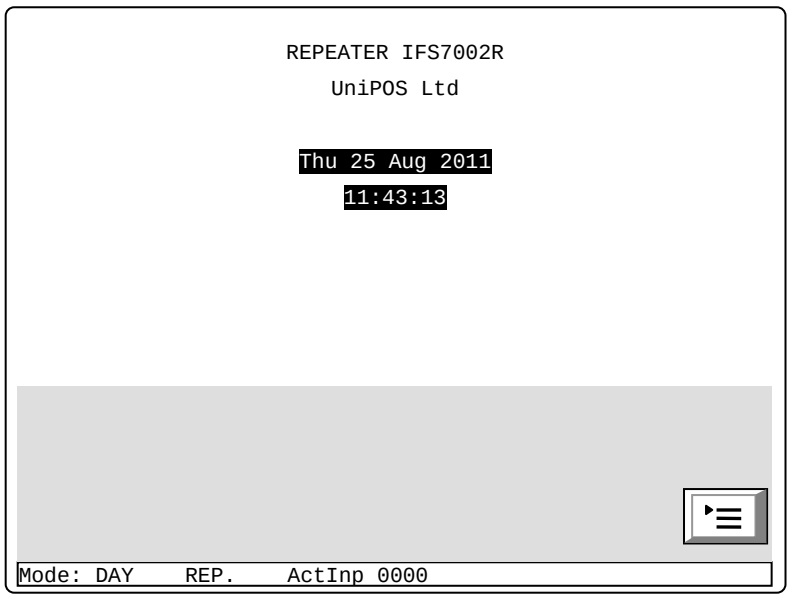
6.2. Indication

6.2.1. LED and sound indication

In Duty Mode the green LED indicator is activated [✓] (Power supply). The local sounder is off.

6.2.2. Text message

The display shows the logo of the company-producer, information on the current local time and the mode of operation of the fire control panel (DAY or NIGHT), the mode of control (Rep – control of the repeater or RemX – control of a remote panel, where X is the remote panel's address.
In REP mode the displays shows information from all fire control panels connected with the repeater.
In RemX mode it is shown only information about fire control panel „X".



6.3. Using the keypad

Button	Access Level	Action	More information
"Menu"	All	To enter Information and Control mode (item.9)	Login menu "Lists": - Faults - Repeater configuration - Repeater parameters - Choice Rep/Remove Panel

7. Fire condition

7.1. Description

The repeater enters Fire condition after a fire detector has been activated in one of zones of the Fire control panel/panels connected with it.
The repeater can be in Fire condition:

- One or more zones from one remote fire control panel.
- One or more zones from different remote fire control panels.

To exit this condition press button (“Reset Fire”) (Access Level 2 or higher).
The repeater remains in Fire condition until all Fire conditions in each of the fire control panels connected with it is reset.

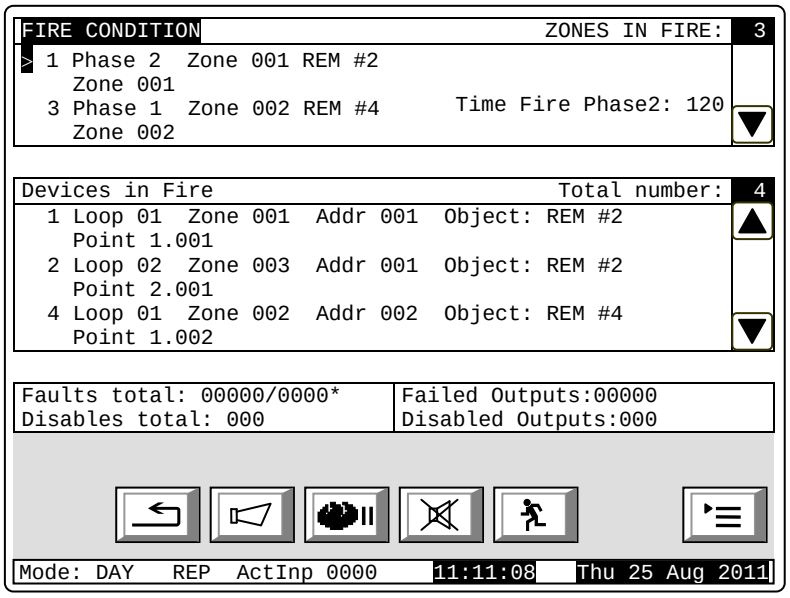
7.2. Indication

7.2.1. LED and sound indication

In this condition the common light indicator illuminates in red flashing light (Fire condition).
The local sounder produces discontinuous signal (0,5s sound, 0,5s break), if the device has not been suppressed by button (Stop Alarm).

7.2.2. Text messages

For this condition the display is divided into three text panels, shown on fig.1



- The first panel displays information on zones and on the fire control panels in fire condition. A flashing heading with the text FIRE and the total number of zones in fire condition appear [1].

The panel is subdivided into two text fields, each providing two lines. The first line displays information on the first zone and the fire control panel in fire condition, the second line provides information on the last zone and the fire control panel for the repeater is in fire condition.

The text fields provide the following information:

- The sequence number of the indicated fire condition (pos.2, fig.2).
- The phase of Fire condition detected by the fire control panel in this particular zone (pos.3, fig.2).
- The zone number (pos.4, fig.2).
- The address of the fire control panel in fire condition (pos.5, fig.2).
- The remaining time in seconds before the fire control panel proceeds to phase Fire condition stage II (indicated only in Fire condition stage I) (pos.6, fig.2).
- Text message for the respective zone (pos.7, fig.2).

If the fire control panel has entered Fire condition in more than two zones, the rest of the text messages for fire condition are suppressed. They can be displayed in the first (upper) field by pressing the buttons on the right side ▲ and ▼.

- The second panel provides information on devices in fire condition.

In the head part is displayed the total number of devices in fire condition (pos.8, fig.2).
The panel itself is subdivided into three text fields, each providing two lines. The upper two-line field displays information on the first device that has detected fire condition; the middle two-line field displays information on the second device in fire condition, the bottom two-line field – information on the last device.
The text fields provide the following information:

- The sequence number of the device in fire condition (pos.9, fig.2).
- The fire alarm loop where the device is integrated to (pos.10, fig.2).
- The zone number (pos.11, fig.2).
- The device address in the fire alarm loop (pos.12, fig.2).
- The remote fire control panel address that is in Fire condition (pos.13, fig.2).
- Text message for the respective device (pos.14, fig.2).

The second line of each field displays text messages relevant to this particular device.
If more than three devices are activated due to fire condition, the rest of the messages are suppressed. However, they can be displayed in the first two upper fields, by pressing the buttons on the right side.

- The third panel (the bottom one) displays information on the numbers of faults and disables – total number and for the outputs (monitored outputs and addressable output devices). (pos.15, fig.1).

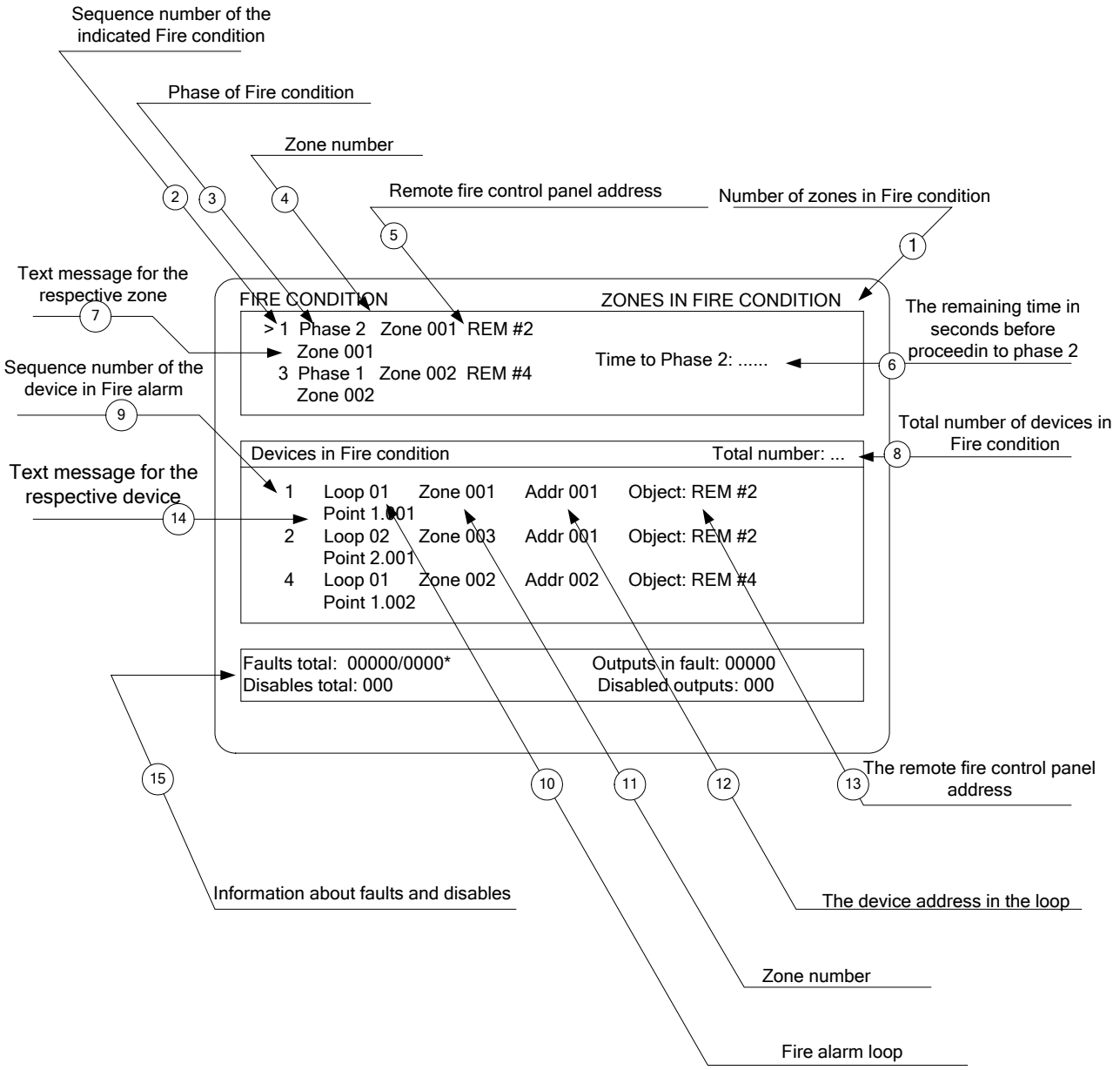


Fig.2

7.3. Using the keypad

Button	Access Level	Actions	Description
“Inspections”	All	Acts on is indicated in the box above the display “Fire”. Increases the time between "Fire I degree" and "Fire II degree" of the set time zone reconnaissance.	The operation can be performed only once for each zone in Fire condition stage I. The button is removed: - After activation of a concrete zone. - All zones entering in Fire condition stage II.
“Stop Alarm”	All	Press it once to turn off the local sounder of the repeater however the button remains active on the display.	The button is removed: - when pressed twice; - when the fire control panels connected to the repeater exit

		Press it twice to suppress the activated local sounders of the connected fire control panels.	Fire condition. Button is active again when registering new fire or fault in connected fire control panels.
 „Fire Condition stage II”	All	Press the button to force transition from phase Fire condition stage I to phase Fire condition stage II.	The button act once. The button is removed after activation.
 ,  “Outputs”	2, 3 and 4	Suppress/enable activation of the outputs for Fire condition. Password is required for Level 2 (item 5.4.2) • Where activated outputs for Fire condition are available – these outputs will be suppressed. • Where activated outputs for Fire condition are not available – the suppressed outputs will be activated.	Addressable outputs, activated by the inputs, can not be suppressed. The buttons have opposite function (suppressing/enabling) and in this aspect only one of them is always shown on the display. Suppressed outputs for Fire condition are triggered when: - entering in Fire condition in a new zone; - transition from Fire condition stage I to Fire condition stage II. If the panel is in “Information and Control Mode” and meanwhile there is a fire event, the button  will display the information for the fire event.
 “Reset Fire”	2, 3 and 4	Reset the remote fire control panel.	Acts on is indicated in the box above the display “Fire”. Resetting the fire is made in connected panels and zones. The repeater remains in Fire condition until all Fire conditions in each of the fire control panels connected with it is reset.
 and  “Move Down” and “Move Up”	All	Use buttons to select the fire control panel that will exit the Fire condition. Show repressed messages in fire zones. Visualization is a field of characters for the first window > on the LCD. Show messages suppressed for devices in a fire. Visualization is in the first two fields of the second window on the LCD.	Buttons are active only in the presence of suppressed messages, ie: - Serial number of the fires are not consistent; - Serial numbers of devices in the fire were not consistent.
 “Menu”	2, 3 and 4	Press the button to enter Information and Control mode. The mode uses the second and the third panel of the screen for Fire condition.	
 “Exit”	2, 3 and 4	When Fire condition is in combination with Information and Control mode, press the button and	

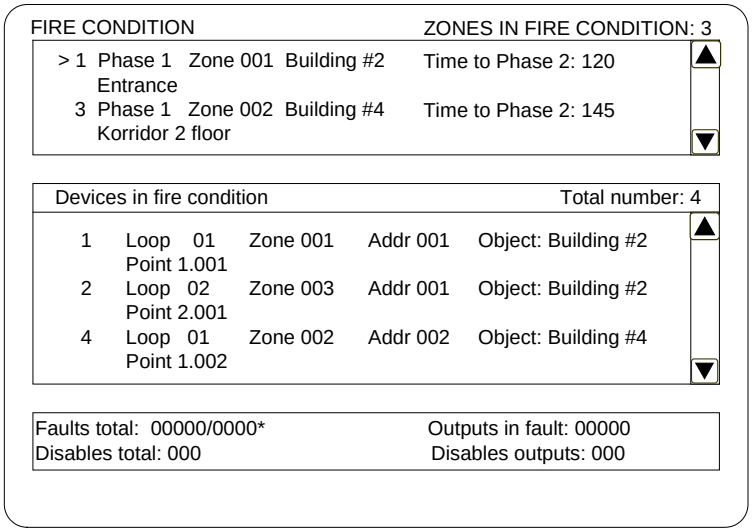
		the repeater exits Information and Control mode and on the display appear all three panels of the screen for Fire condition..	

7.4. Example

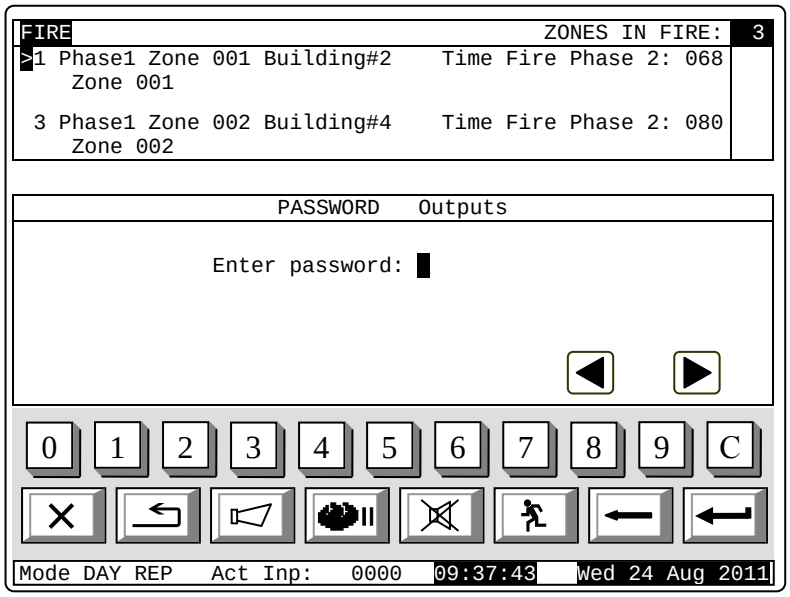
In a network built of 2 repeaters IFS7002R and 5 fire control panelsIFS7002 (Appendix4) have been reported as a response detectors.
In a fire condition are different zones of the plants in the "Building#2" and "Building#4".
Remote panels IFS7002R, located in the objects "Security" and "Transport gate" are in Fire condition stage I.

The indication has the following:

- Indicator  *("Fire") lights blinking red light.*
- The local sounder produces an intermittent signal (0,5 s sound, 0,5 s pause).
- Text information:
• Total number of fires - 3;
• First registered in entrance of Building#2. Phase-fire first. Time left to fire into stage II - 120 seconds
• Last registered in a corridor 2nd floor of Building # 4. Phase of fire - first. Remaining time to fire stage II - 145 seconds.

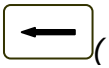


• Suppressed message for a fire, occurred between 1 and 3 (numbers visualized fires are not consistent, ie there is a fire with number 2, whose release is suppressed).
• Total number of devices in the fire – 4.
• Positions 1, 2 and 4 describe the specific device in a fire (address, outline, area, etc.).
• Depressed message device in the fire, between devices with serial numbers 2 and 4 (visualized unit numbers are not consecutive. The display can be seen the first two and last able fire alarm);
The third text window: information introduced disables and faults - in this case there are no disables and no faults.
Possible actions are:
- If the access level 1:
• View suppressed messages for fire - buttons  *("Move Up") and*  *("Move Down").*
• View suppressed messages for device in fire - buttons  *("Move Up") and*  *("Move Down").*
• Add time intelligence headquarters visualized marker for selection against > *- button*  *("Inspection").*
• Suppression of local sounder - button  *("Stop Alarm").*
- At Access level 2, after entering a password:
• All actions by the access level 1.
• Force removal of connected fire control panel capable of "Fire." Reset only fire panel, visualized marker for selection „>" - button  *("Reset Fire") (fire in Building#2 – Entrance).*
The repeater remains in Fire condition until all Fire conditions in each of the fire control panels connected with it is reset .



• Forced transition to Fire stage II - button  *("Fire stage II").*

• Suppress/enable activation of the outputs for Fire condition  *and*  *("Outputs"). In case no suppressed outputs. Button*  *is active. If outputs are suppressed, will be active button*  *.*

• Exit - buttons  *("Exit") or*  *("Cancel"). If the fire condition is combined with Information and Control Mode, priority is Fire condition. It always is visualized.*

- At Access level 3 and 4, after entering a password:

• All actions by the access level 1 and 2.

8. Fault Condition

8.1. Description

The repeater enters Fault Condition when any of the events below have been registered:

- Fault in remote panel:
  - Fatal system error.
  - Fault in a processor programme.
  - Fault in the communication with the fire control panel.
  - Fault in the real time clock.
  - Fault in the external memory.
- In connected to it a fire control panel:
  - Fault in the communication with the fire control panel.
  - Fault in the real time clock.
  - Fault in the external memory.
  - Fault in a fire control panel.
  - Fault in a module.
  - Fault in a loop – a short circuit or a break.
  - Loop not initialized.
  - Higher number of devices in the fire alarm loop.
  - Fault in a zone – upon detection of fault condition in a device, integrated in the zone.
  - Removed device.

- Fault condition in a device.
- Activated isolator of a device.
- Activated isolator at the Power loop of a device.
- Contaminated fire detector (for optical –smoke detectors).
- Communication error.
- Device not initialized (detected new device in a loop).
- Exchanged devices.
- Different identification number of a device.
- Different device type.
- Different device class.
- Fault in a monitored output – short circuit or break.
- Fault in the mains supply.
- Fault in the backup batteries supply.
- Short circuited ground wire.
- Fault in the loops supply.
- Fault in external devices supply.
- Low power supply – low backup battery during fault in the mains supply.

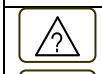
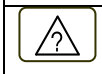
Fault condition is indicated by LEDs indicators and a text message on the LCD display.

8.2. Indication

8.2.1. LED and sound indication

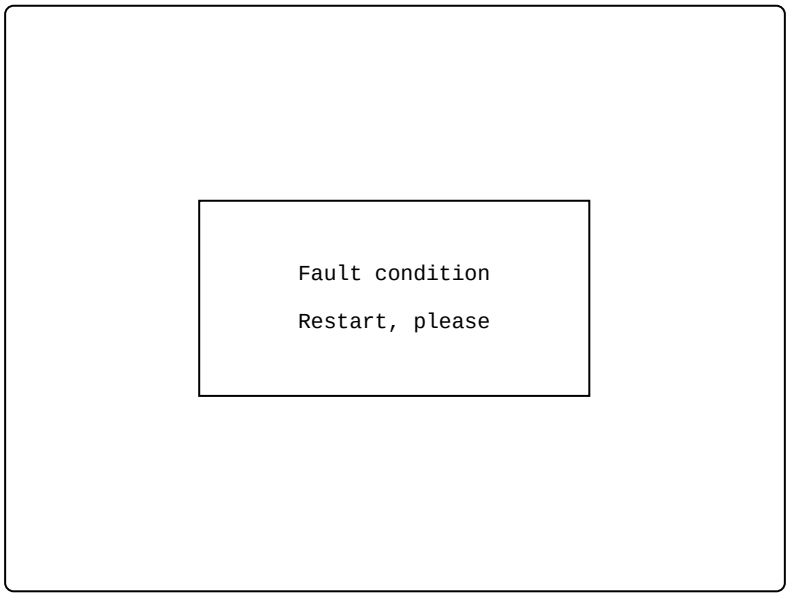
LED display is a combination of three indicators, illuminated with a constant yellow light:

-  "Fault condition"
-  "System error"
-  "Fault in main supply"

LEDs indication	Sound indication	Fault
 "Fault" and  "System error"	Continuous signal	Fatal system error
 "Fault"  "Fault in main supply"	Discontinuous signal (1s sound, 1s break)	Fault in main supply
 "Fault"	Discontinuous signal (1s sound, 3s break)	Fault low supply
 "Fault"	Discontinuous signal (1s sound, 1s break)	All other faults

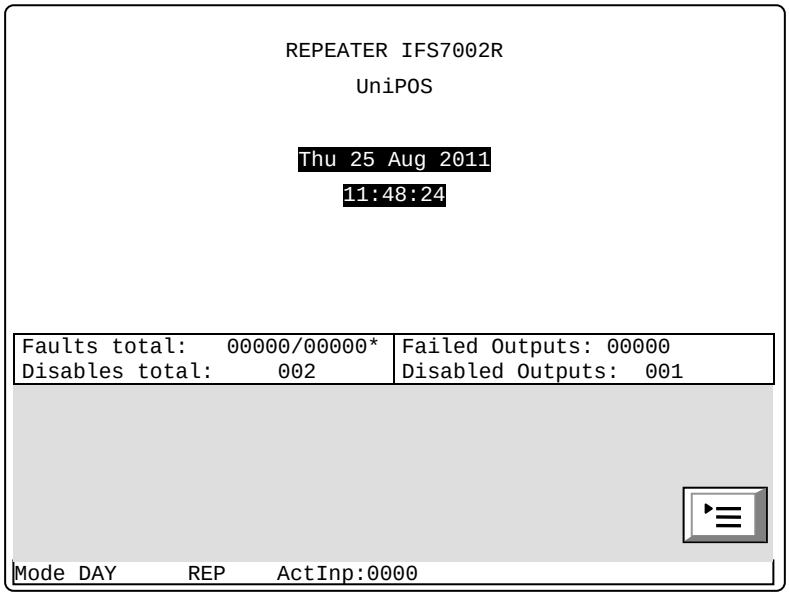
8.2.2. Text messages

- Upon fatal system errors the following information screen is displayed (the first line of the text messages is information intended for the service staff):



The screen suppresses all other text indications and can not be suppressed.

- For all other fault conditions a table, containing information on the number of fault events (and the number of disabled devices) is displayed. The first line of the tables' left column displays the total number of fault conditions; the first line of the table's right column displays only the number of faults in outputs (monitored outputs and addressable output devices):



To display the text message for each fault condition, enter Information and Control Mode (see section 9.2.1).

8.3. Using the keypad

None of the buttons is active upon fatal fault condition.
For all other fault conditions 2 buttons are being supported.

Button	Access Level	Action	Description
 "Stop Alarm"	All	Press the button once to switch the local sounder of the repeater. The button on the screen is active too. Press the button again to switch off the local sounder of the connected fire control panels to the repeater and the button disappears from the display.	The button is removed when: -Twice pressing. -Elimination of faults. Button is active again when registering new fire or fault in connected fire control panels.
 "Menu"	All	Press the button to enter Information and Control Mode.	

Where the fire control panel operates in combination of other conditions, their buttons are active too.

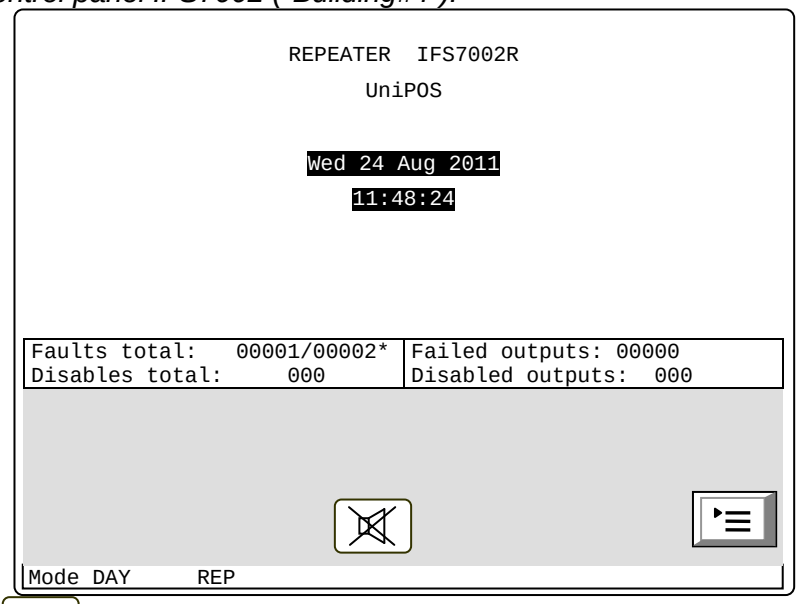
8.4. Example

In a network built of 2 repeaters IFS7002R and 5 fire control panels IFS7002 (Appendix4) are registered following faults:

- Fault in repeater IFS7002R ("Security") - Failure in communication with the remote fire control panel.

- Failure in zone of connected fire control panel IFS7002 ("Building#4").

The indication has the following:



- Indicator  *("Fault")lights a constant yellow light*

- The local sounders produces an intermittent signal (0,5 s sound, 0,5 s pause).

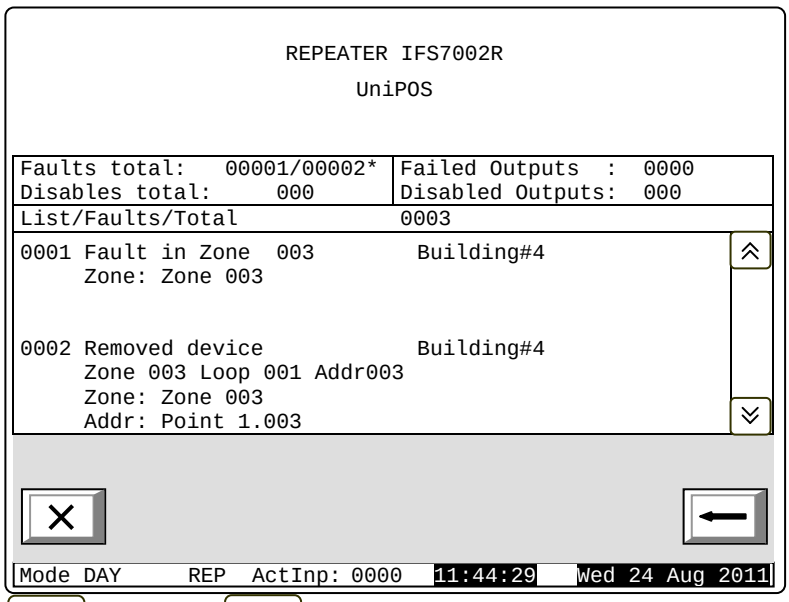
- Text information:

- *Faults total:*
  - *one in the repeater*
  - *two in the connected fire control panel/s*
- *Disables total - no*
- *Failed outputs - no*
- *Disabled outputs – no*

- Active buttons -  *("Stop Alarm") and*  *("Menu")*

- *Suppression of local sounder on the repeater - button*  *("Stop Alarm") – single pressing. Local sounder in Building#4 remains on.*
- *Double pressing button*  *("Stop Alarm") excludes local sounder in Building#4.*
- *Press the button*  *("Menu") to enter Information and Control Mode. In this state, active buttons to display additional information needed to faults the repeater and connected it to the remote fire control panel/panels. All levels of access can be viewed lists damage occurred. In this state displays specific information about panels and devices to malfunction. Active are keys for the menus.*

Menu "List / Faults / Total" (Appendix 2) provides specific information about any damage. They are displayed in order of their occurrence.
The screen shows information about this example:
Faults total – 3.
The first fault is in Zone 003 of Building #4.
The second fault is removed device, address…, zone… and fire control panel (actually, as it keeps device is in a zone, the damage it appears as a fault zone).
To see the damage using third button [»] *("Page Down") to go to the next page. On each screen showing two error messages.*



Exit from menu "List/Faults/Total" - button [X] *("Exit") or* [←] *("Cancel").*

9. Information and Control Mode

9.1. Description

Information and Control Mode provides:

- Display information about the repeater and the fire control panels connected to it.
- Enter control data.

To enter Information and Control Mode, press button [☰] ("Menu") on the screen for Duty Mode, Fire condition, Fault condition (with the exception of the screen for fatal error), Test Mode and Disabled component.
The screens visualized on the display are organized in a tree structure, containing subordinate menus (Appendix 2a).
Repeater is in this state until:

- Manual operation for exit - button [X] or [←].
- Entering the repeater in the Fire condition.

9.2. Indication

9.2.1. No specific LEDs or sound indication is provided for Information and Control mode.
9.2.2. Text messages
Working in Information and Control mode requires visual representation of various menues, screen and functions. The exact text indication is described in section 9.4.

9.3. Using the keypad

Available buttons:

Button	Access Level	Action
[☰] "Menu"	Level 1	To enter Information and Control mode
[↵] "Enter"	Level 1	To enter a selected menu
	Level 2	- To enter a selected submenu

Button	Access Level	Action
	Level 3	- To execute a selected command - Store the modified parameter
“Down”	Levels 1 and 2	To display the next menu item
	Level 3	
“Up”	Levels 1 and 2	To display the previous menu item
	Level 3	
“Exit”	Levels 1 and 2	To exit Information and Control mode
	Level 3	To exit Information and Control mode and Reset the system
“Cancel”	Levels 1 and 2	- To exit a function without saving the changed parameters (or command execution without) - To exit current submenu and go to higher level menu
	Level 3	
“Change”	Levels 1 and 2	To change an element to its next permissible
	Level 3	
“Move Down”	Levels 1 and 2	Next elements (if any are available) from the left window
	Level 3	
“Move Up”	Levels 1 and 2	Previous element (if any are available) from the left window
	Level 3	
“Page Down”	Level 1	Next page from the left window
“Page Up”	Level 1	Previous page from the left window
“To the right”	Levels 1 and 2	- To move the cursor one position to the right - Next element (if any are available) of the left window
	Level 3	To move the cursor one position to the right
“To the left”	Levels 1 and 2	- To move the cursor one position to the left - Previous element (if any are available) of the left window
	Level 3	To move the cursor one position to the left

Button	Access Level	Action
C "Clear"	Levels 1 and 2	To delete a character pointed by the cursor (if characters is pointed, the first character to the left of the cursor will be deleted)
	Level 3	
Buttons with digits, characters and symbols	Levels 1 and 2	To insert a character/symbol to the left of the cursor
	Level 3	

Where the repeater operates:

- In combination of Information and Control mode and Fault condition, button  ("Stop Alarm") is active too.
- In combination of Information and Control mode and Fire condition, the buttons  ("Stop Alarm"),  ("Outputs") and  ("Inspection") are active, and at Access Level 2 is active button  ("Reset Fire").

9.4. Menu Lists

When you enter Information and Control Mode, transition to the first menu is being carried out. The first menu contains three subordinate menus, requiring separate access levels:

- Lists – Access Level 1.
- System functions – Access Level 2.
- SetUp – Access Level 3.

This instruction manual describes the menus related to the control and setup of the repeater.
When choosing a fire control panel to be setup, the menus and functions comply with the ones described in the Instruction manual of the fire control panel (see "Instruction manual IFS7002").
In the current instruction manual, with withe grey font are coloured menues and functions, which are active in setup mode of remote/s panel/s from the repeater.
SetUps of remote fire control panels that cannot be done from the repeater panel are:

- SetUp/Loops/Loop 1/ Device parameters;
- SetUp/Loops/Loop 1/ Check;
- SetUp/Loops/Loop 1/Manual addressing;
- SetUp/Initialization/Re-addressing;
- SetUp/Initialization/Check;
- SetUp/Checks/Monitored outputs;
- SetUp/Checks/Fire control panel relay outputs;
- SetUp/Checks/Address outputs;
- System functions/Zones in test;
- Lists/Messages from inputs;

9.4.1. Menu "Lists"

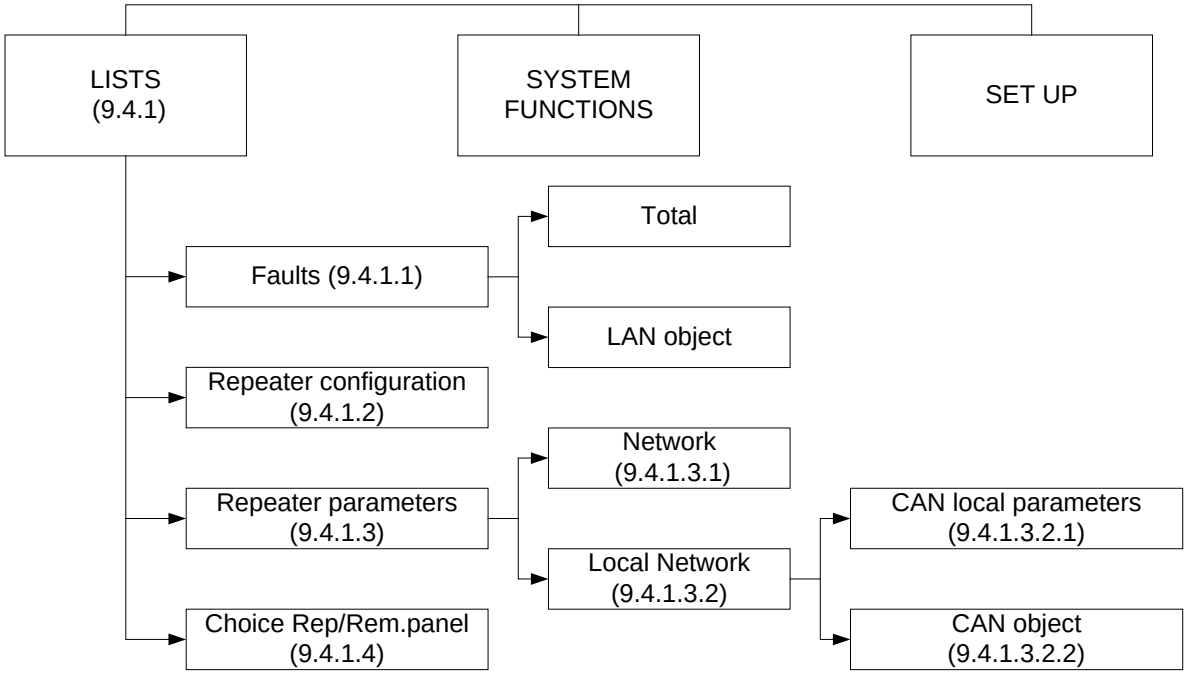
The menu displays detailed information about:

- Faults in the repeater and connected objects.
- Repeater configuration.
- Network parameters.
- Selected mode.

Menu *Lists* contains the following subordinate menus and information screens:

- Menu "Faults"
- Menu "Disables"

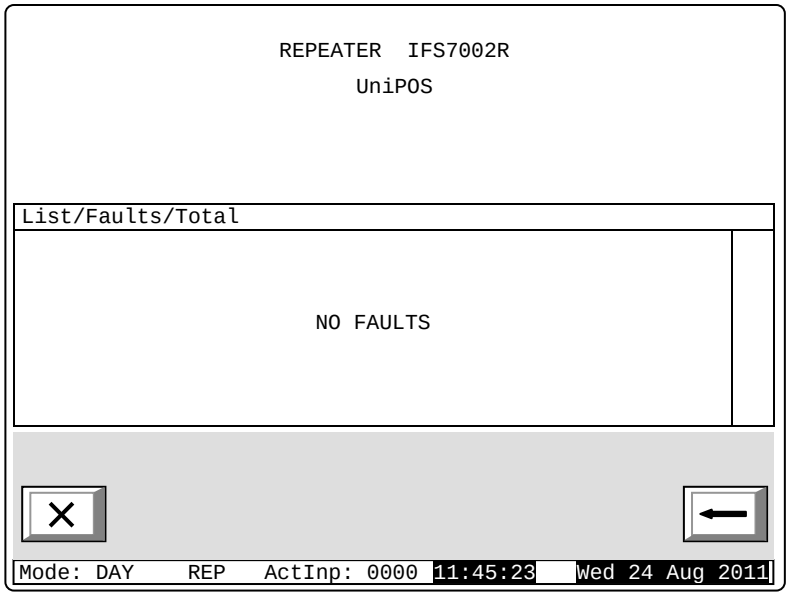
- Menu “Tests”
- Menu “Messages from the inputs”
- Menu “Activated outputs”
- Screen “Repeater configuration”
- Menu “Repeater parameters”
- Menu “Loops”
- Menu “Zones”
- Menu “Devices status”
- Menu “Inputs”
- Menu “Archive”
- Menu “Choice Rep/Rem control panel”



9.4.1.1. Menu “Faults”
Use the menu to display detailed information for faults in the repeater and the fire control panels connected to it.
Menu *Faults* contains the following subordinate menus:

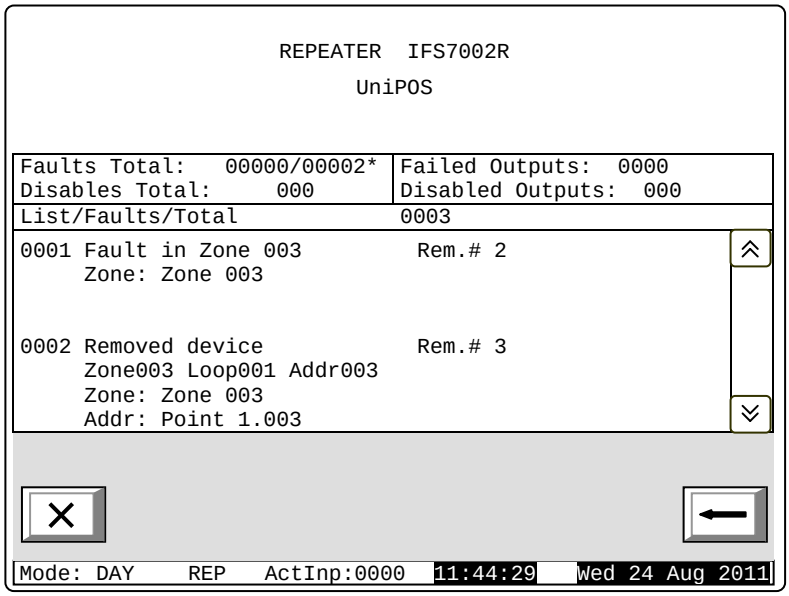
- Menu “Total” – displays information for all fault conditions
- Menu “LAN objects” – to display individual information for the selected remote fire control

• The menu “All” is with two variants:
When there are no faults (or faults from the searched type) if you choose menu “All” on the display appears:



When there are faults , if you choose menu „All“ on the dispaly appears fault informations about all remote panels. Each message can be displayed in a few lines – from 1 to 4. It brings out the following information:

- Text for the type of the fault (this information is mandatory).
- Information for the device (zone, loop, address if it is an addressable device).
- The fire control panel, where the event has occurred.
- Text message for the zone – visualized if the fault condition is in an addressable fire detector.



- Text message for the device – visualized if the fault condition is in an addressable device.

Buttons and situated in the right panel section scroll the pages up and down – next page or previous page (if any are available). One page contains two messages for fault condition.

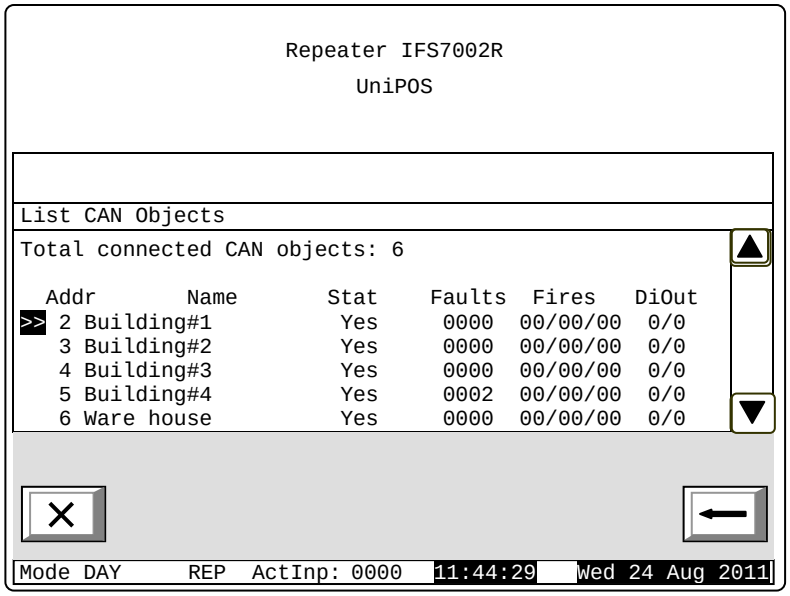
• Menu “LAN objects” gives possibility for choice of connected object, which faults to be appeared on the display.

The screen shows the connected objects and prides information:

- CAN Address
- Object Name
- Status
- Faults
- Fires
- Disabled outputs

The symbol ">>" is on posiiton of the first remote objects.

With buttons ▼ ("Move Down") and ▲ ("Move Up") select the concrete remote panel, which faults will shown on the display.

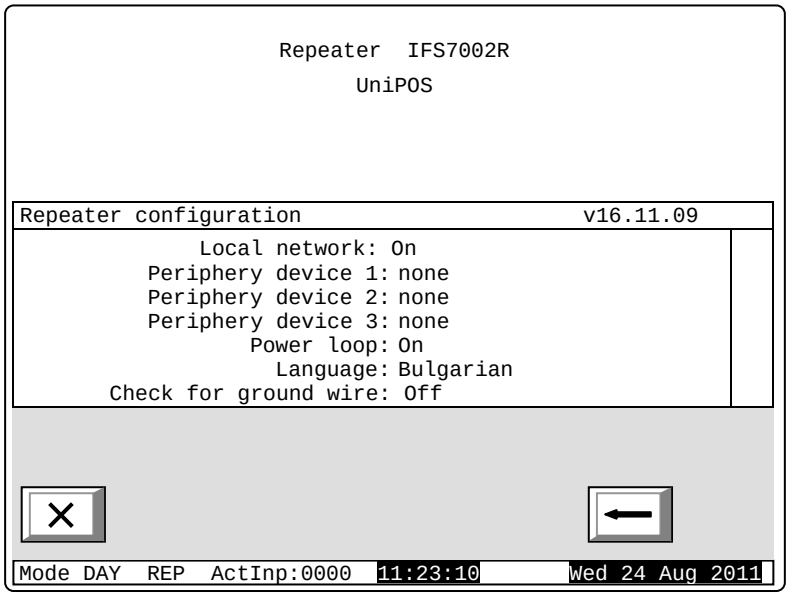


9.4.1.2. Screen "Repeater configuration"

The screen displays information associated with:

- The repeater local network condition (On or Off).
- The selected language of the text messages.
- Check for ground wire (this option is not active for the repeater).

The software version of the repeater is displayed in the right part of the heading line, for example "v16.11.09".



9.4.1.3. Menu "Repeater parameters"

Use the menu if the repeater is connected to PC or to view the parameters of the established CAN network.

The menu contains two subordinate menus:

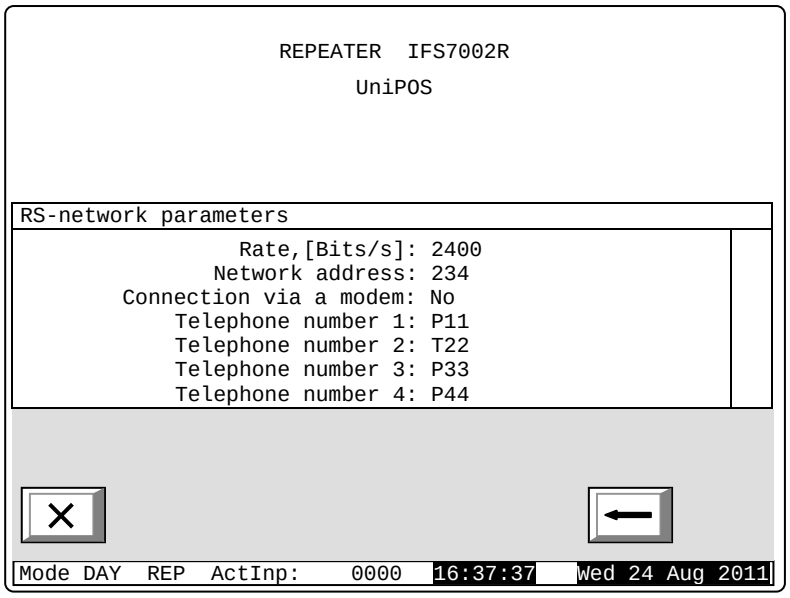
- Menu "Network"
- Menu "Local Network"

9.4.1.3.1. Menu “Network”

This menu provides information on the parameters of RS232- netwroks:

- Rate, [bits/s] – data exchange rate.
- Address in network.
- Connection via modem – information if the communication is executed by means of a modem. “Yes” or “No” is show on the display respectively.
- Phone number – four 15-digit phone numbers can be saved.

  Use button ↔ to select before the respective number, as an alternative, the letter:
  - “P” – for impulse dialing
  - “T” – for tonal dialing



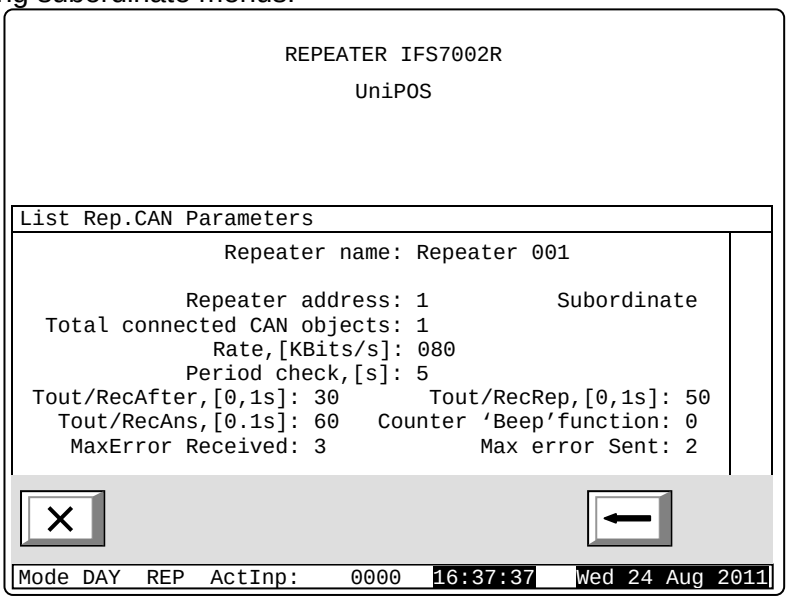
9.4.1.3.2. Menu “Local Network”

This menu provides information about the connection of the repeater in a local network with fire control panels and other repeaters.

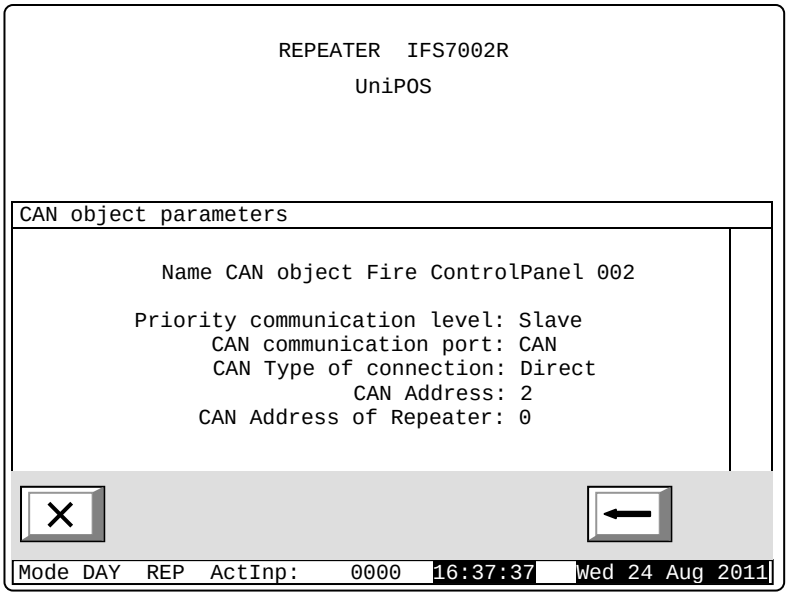
Menu “Local Network” contains the following subordinate menus:

9.4.1.3.2.1. Menu “CAN Local Parameters” displays information about CAN setups of the repeater.

The parameters are set in the SetUp menu.

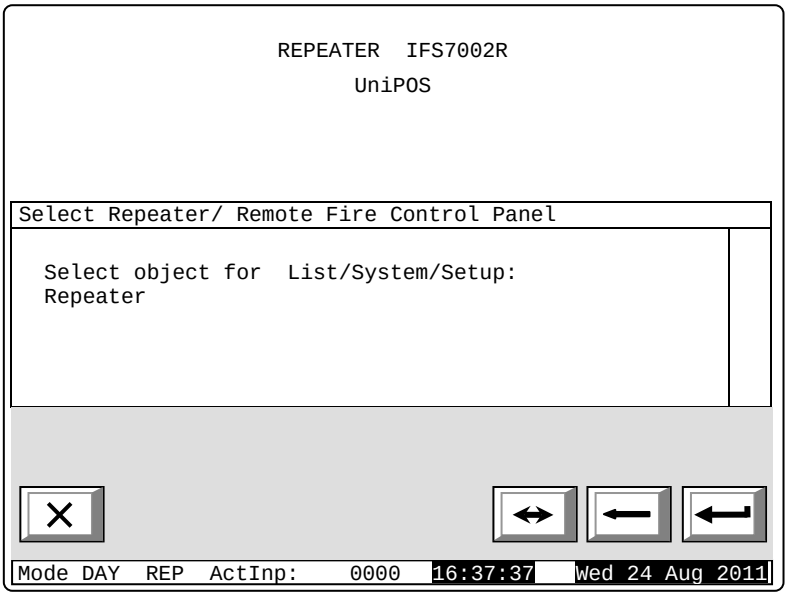


9.4.1.3.2.2.Menu “CAN Objects” – allows CAN parameters of the fire control panels connected to the repeater to be reviewed.



9.4.1.4. Menu “Select Rep/Rem Fire Control Panel”
The menu provides the option to select the fire control panel to be setup or which parameters, events or status will be reviewed.

The button ↔ alternatively change the object for preview (example*: “Security”, “Building#1”,”Building#2” and etc.)* till counting of all network connected panels. During object preview change, in the left bottom part of the display shows note message “Data no saved”. The changes which were made will be accepted via pressing of button, ↵ after that the message “Data no saved” is cleared.



9.4.2. Menu “System Function”
The menu contains the following subordinate menus and functions:

- Disables
- Zones in test
- Set Clock
- Set Mode
- Check LEDs and Buzzer

Access to the subordinate menus is allowed at Access Level 2.

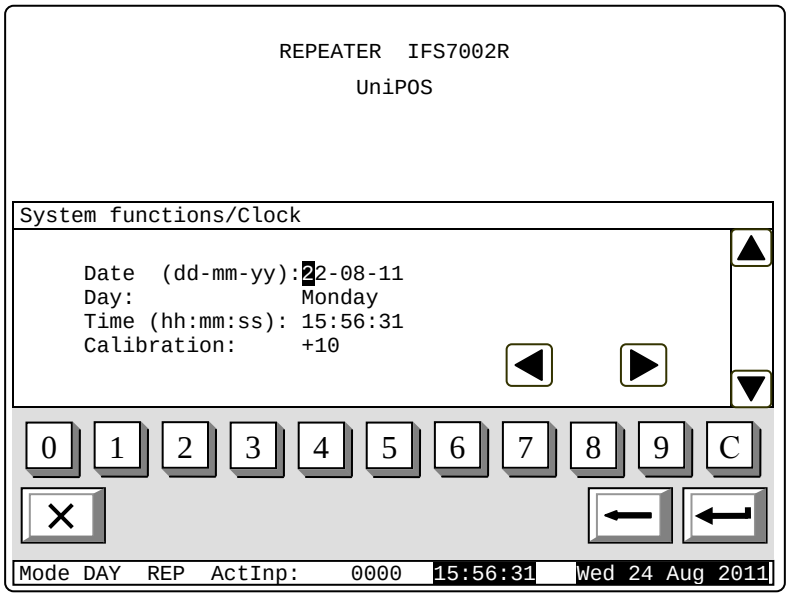
If wrong password is entered, when you press button ↵ the digits will be deleted and the cursor will move back to the first position. If one of the 10 passwords for Access Level 2 or Access Level 3 is entered, when you press button ↵ the menu will become active.

9.4.2.1. Function “Set Clock”

The function is used to set the real time clock of the repeater to the correct time. Enter the function to display the screen:

- Calendar date
- Day of the week
- The time
- The calibration index as per the moment when the function was activated

The cursor is located over the first position in the first line (Date).



Active buttons are:

Button	Action
▼ “Move Down” and ▲ “Move Up”	Move between the lines on the screen.
Buttons with digits	Entering a number in the cursor position.
◀ “To the left” and ▶ “To the right”	To move the cursor one position to the left (right).
← “Cancel”	To exit a function without saving the changed parameters and go to higher level menu.
✕ “Exit”	To exit from screen and System functions.
C “Clear”	To delete a character pointed by the cursor.
↵ “Enter”	To save parameters.

Possible actions are:

• Correct the date:
- The cursor „ ” is located over the first position in the first line.
- Input the first symbol *(exp: “2” from date “21-08-11”).*
- Press the button ▶ and cursor moves one position right *(exp:21-08-11).*
- Input the second symbol *(exp: “1” from date “21”*) and etc. until entering correct date.
- If you have a incorrect digit, use the buttons ◀ and ▶. They move the cursor to the incorrect character and enter the correct digit.

• Correct the day of the week:
- Press the button ▼ and cursor moves one line down (second line).
- Press the button ◀ or ▶ to display previous or next day of the week. Moving from Monday to previous day will set the day to Sunday; moving from Sunday to next day will set the day to Monday

• Real time correction procedure is done to correct the date.

• Correction of coefficient callibration:
- The minimum or maximum value: from -30 to +30 units.
- Each positive device accelerates the clock at the rate of 10,7s per month.
- Each negative device delays the clock at the rate of 5,35s per month.
- For correction use button ◀ and ▶.
- The maximum rate is e +5,5min per month or -2,75min per month.

While changing the values in the bottom left section appears the reminder *Data not saved*.

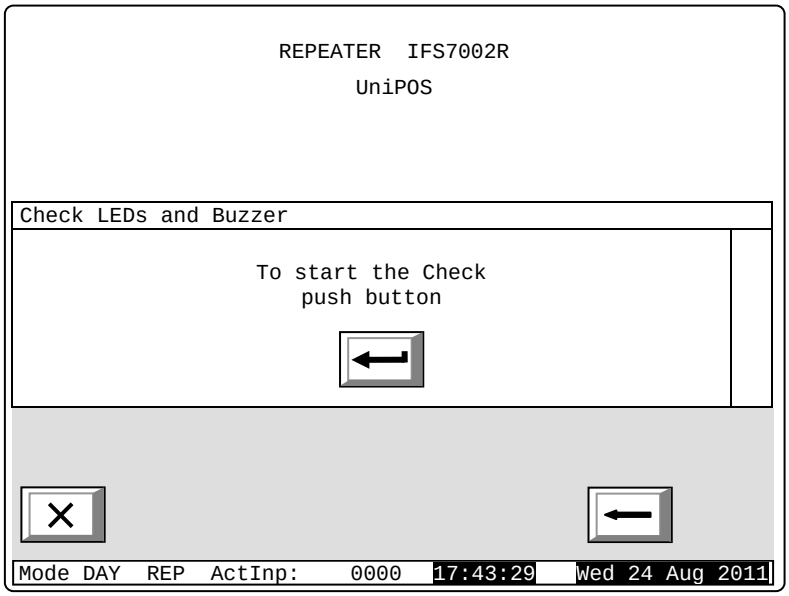
• Exit the screen without saving changes and transition to the previous menu - button .

• Exit the screen without saving changes and transition to the Duty Mode - button .

• Changes take effect when you press button , then the reminder *Data not saved* is cleared.

9.4.2.2. Function *Check LEDs and Buzzer*

The function allows checking the LEDs and the local sounder. Enter the function to display the following screen:



Active buttons are:

- Button (“Enter”)
- Button (“Cancel”)
- Button (“Exit”)

Using the keypad:

• Start check - button (“Enter”)
- The repeater’s LEDs illuminate.
- The local sounder produces a continuous sound.
- The text message on the display changes: “*To stop the Check push button* ”.

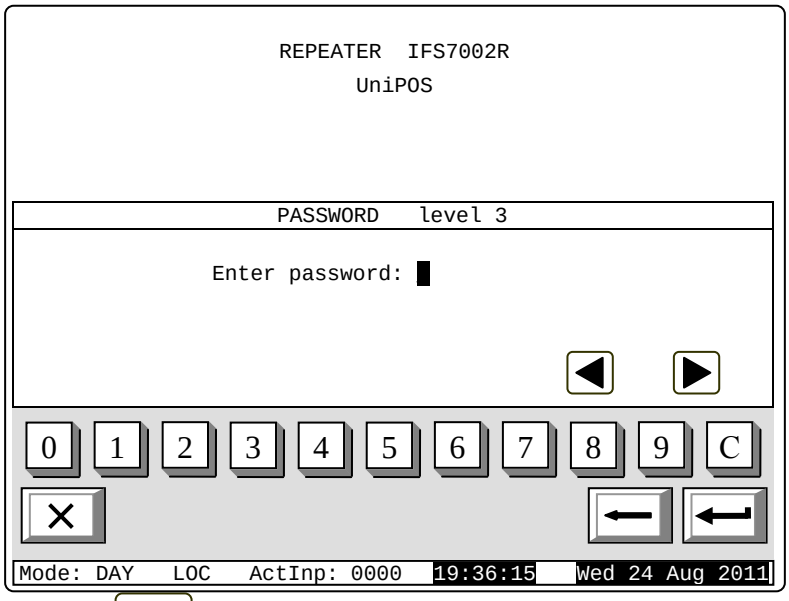
• Press the buttons or to exit or press once again to discontinue the check-up operation.
- The LEDs restore their initial state.
- The local sounder restore their initial state.

• Exit – buttons or .

Note: LED (“System Error") and the local sounder are activated or deactivated a few seconds later than the rest of the LEDs.

9.4.3. Menu Set Up

Access to Set Up menu is allowed at Access Level 3; accordingly as soon as you enter the menu, a password screen appears:



- Password is entered with the numeric keys - 0 ÷ 9.
- Maximum password length – 10 digits.
- Entering a number after tenth position – not valid.
- Confirm the entered password – button [↵] ("Enter").
- Exit from screen - buttons [X] ("Exit") or [←] ("Cancel").
- If the entered password is incorrect, the cursor "▮" is positioned in the first position of the password re-entry.
- If the entered password is correct, enter the menus and functions with the access level 2 and 3.
- Number is inserted into the cursor position "▮".
- Buttons [◀] and [▶] move the cursor to the input numbers without changing them.
- Wrong number is erased in the following order:
  - Cursor „▮" moves over erroneous number with buttons [◀] and [▶].
  - Erroneous digit is deleted by pressing button [C].
  - If no number under the cursor „▮", button [C] delete number in front the cursor.
- Insert digit omitted:
  - The cursor "▮" move to the position, where will be insurted the missing digit, with buttons [◀] ("Left") and [▶] ("Right").
  - Insert the missed digit (the olds, inserted digits will move with one position in right.

The inserted access level password for level 3 shoulb be confirmed with button [↵] ("Enter").

- If the password is wrong – the inserted digits will deletes and the marker goes on the initial position for new insertion.
- If the password is correct – the panels goes in Setup mode.

In case an external keyboard has been connected before entering the SetUp Menu, the set up of the fire control panel can be done via the keyboard.

10. Set Up Mode

10.1. Description

Set Up mode is used for setting the configuration parameters of the repeater.
Access to the Set Up screen is provided through Information and Control Mode (see item.9.4.3).
When the repeater enters Set Up mode:

- It exits all other conditions.

- It discontinues the service of the fire control panels connected to it.
- The repeater can be controlled via the keypad provided for the purpose.

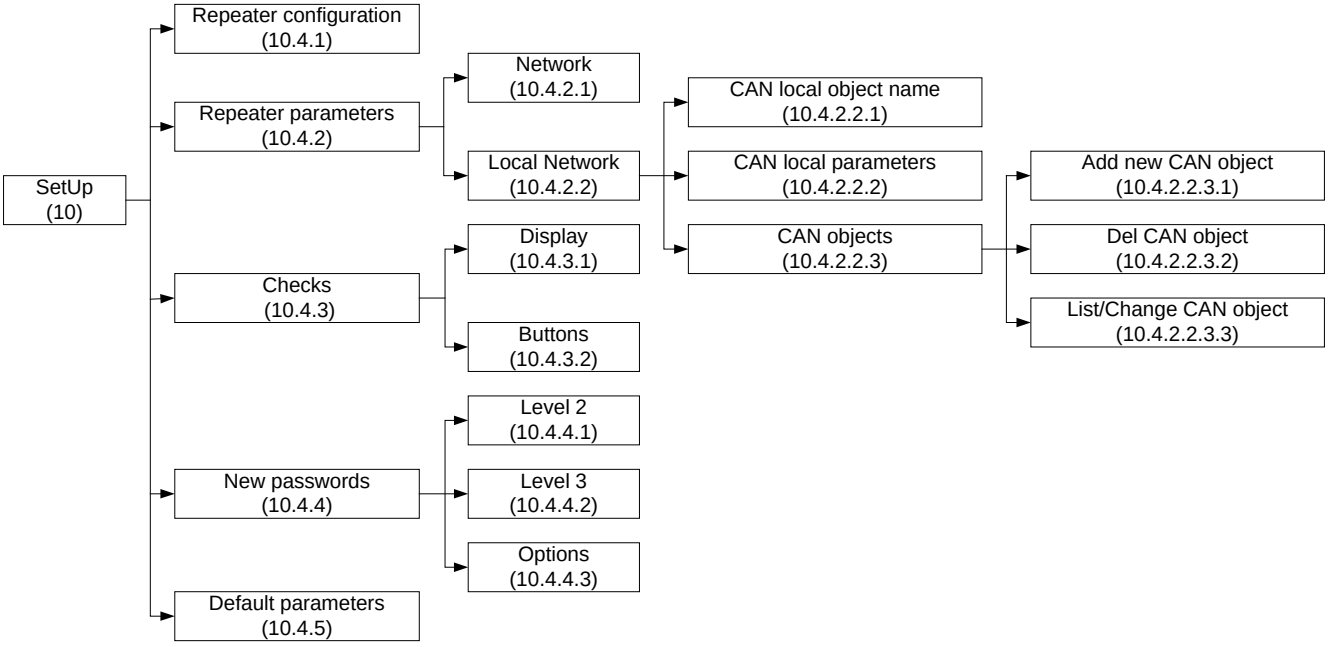
The displayed screens have a tree structure of subordinate menus (Appendix 2b).

To exit the condition use button (“Exit”) or press repeatedly button (“Cancel”) until you reach the main menu.

Upon exit of Set Up mode, reset of the repeater is performed.

Menu Set Up contains the following subordinate menus and functions:

- Repeater configuration
- Repeater parameters
- Loops
- Zones
- Inputs
- Initialization
- Checks
- New Password
- Default parameters
- Clear Archive



10.2. Indication

In Set Up mode only the green LED indicator (“Power supply”) is illuminated.

The local sounder is off.

Text messages are specific to each screen. The screens are shown in item10.4 herein.

10.3. Keypad

In the repeater provided possibility to connect an external keyboard PS2 (item10.3.2). Here you need acess level 3 or 4. On the display remains active buttons (“Enter”), (“Cancel”) and (“Exit”), allowing return to the main menu when you turn off the keyboard.

When you work in SetUp condition without using an external keyboard, panel is active standard buttons for moving, selection, confirmation and canceling:

- Transition to a lower hierarchy menu is performed via button (“Menu”).
- To move between menu items:

- The buttons  (“Up”) and  (“Down”), when the menu appears as ascending window from the left bottom corner of the screen.
- The buttons  (“Move Up”) and  (“Move down”) – when the menu appears on a panel in the middle of the screen.
- The buttons  (“Page Down”) and  (“Page Up”) – previous and next page from the left window.

• Transition to a lower hierarchy menu use button  (“Enter”).

• To revert to a previous/ upper hierarchy menu use button  (“Cancel”).

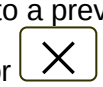
• To exit the condition use button  (“Exit”) or press repeatedly button  (“Cancel”) until you reach the main menu.

The screens provided for parameter changes and command execution (command screens) are of the lowest hierarchy.

When screen for parameter changing is started, follow buttons are active:

• Marker, shows the current parameter (the parameter for correction).
The pointer may be visualized as:
- A cursor “>”, indicating the position where:
  - ♦ a symbol will be inserted – if there is a symbol under the cursor and a text at the cursor’s right side, they will be moved one position to the right;
  - ♦ symbol will be deleted – if there is a symbol under the cursor, it will be deleted; the text at the right side will be moved one position to the left; if there is no symbol under the cursor, the symbol to the left will be deleted.
- An arrow “>>”, pointing over the parameter.
- A text in inverse colors.

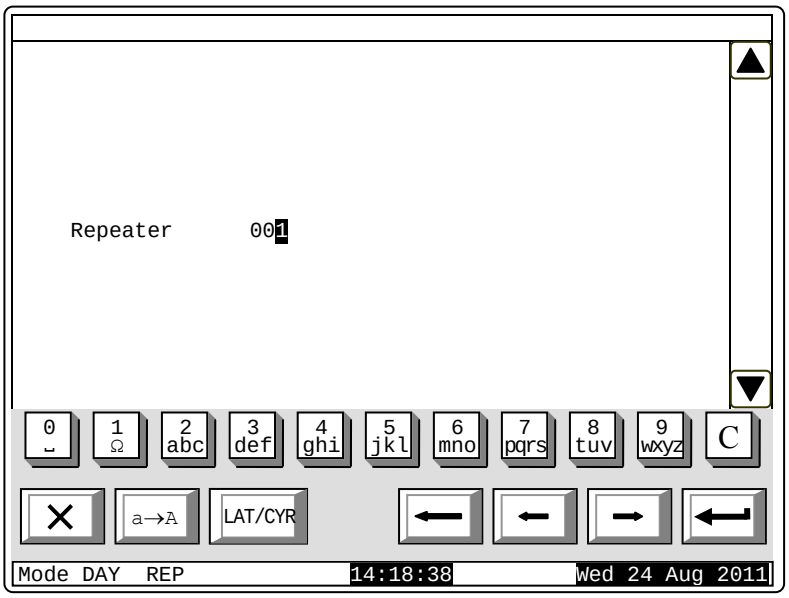
• To move between the parameters use buttons  (next parameter) and  (previous parameter).

• To revert to a previous/ upper hierarchy menu without saved the parameters use button  (“Cancel”) or  (“Exit”).

• To save the changes press button  (“Enter”) and the reminder “Data not saved” is cleared.

10.3.1. Built-in keypad

If no external keyboard is integrated in the control panel use the buttons shown on the display for the specific menu:



To edit the text use the buttons having symbols. More than one symbol is assigned to the buttons from 1 to 9. When the button is pressed they are changed alternatively as the symbol is inserted in the position of the cursor ▮, and the previous text is moved one position to the right. The cursor remains for 1 s over the same position; if you press it again, the symbol will be changed by the next one marked on the button (the symbol Ω marked on the second button means, that the figure 1 is in combination with punctuation marks). 1 s after the last pressing the cursor moves to the next position to the right.
If you press another button during this 1 second, the cursor first moves one position to the right and then the new symbol is inserted.
The maximum length of the message is 40 symbols. If you press a button after a 40-symbol message is already entered, the text will not be accepted and the symbol will not be inserted (the cursor moves one position to the right if the end of the text message is not reached yet).

Press button [C] to delete:

- The symbol under the cursor, if any.
- The symbol to the left of the cursor, if there is no symbol under it.

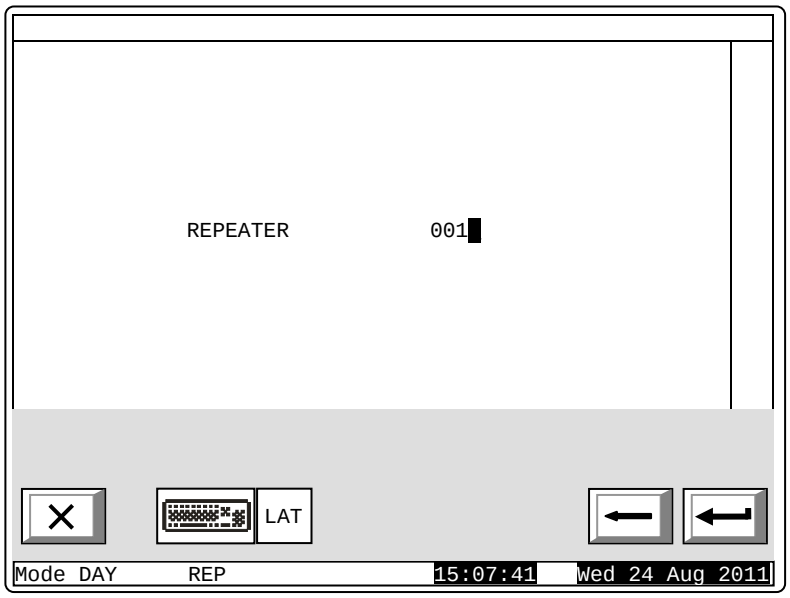
Press button [←] or [→] to move the cursor one position to the left or to the right.

Button [a→A] changes the case from lowercase to uppercase, button [A→a] changes the uppercase to lowercase.

Button [LAT/CYR] changes the Latin font to Cyrillic font; button [CYR/LAT] changes the Cyrillic font to Latin font.

10.3.2. External keyboard

If an external keyboard is included to the fire control panel the following screen appears:



To edit the text use the buttons having symbols – when you press a button, the symbol appears over the position of the cursor, and the previous text and the cursor move one position to the right

The maximum length of the message is 40 symbols. If you press a button after a 40-symbol message is already entered, the text will not be accepted and the symbol will not be inserted.

Press Button Delete on the external keyboard to delete:

- The symbol under the cursor, if any.
- The symbol to the left of the cursor, if there is no symbol under it.

Press button [→] or [←] to move the cursor one position to the right or to the left without making any changes.

Use the additional digit keypad to:

- Insert digits – when the LED “Num” is illuminated.
- Move the cursor via buttons “4 / ←” and “6 / →” (analogically to buttons [←] and [←]) – when the LED “Num” is extinguished.
- Delete a symbol via button “Del” (analogically to button “Delete”) – when the LED “Num” is extinguished.

The mode of operation of the additional keypad, indicated by the LED “Num” can be changed via button “Num Lock”.

Button “Caps Lock” alternatively changes the case from lowercase to uppercase (LED “Caps” or “A” illuminate to indicate uppercase).

Button “Ctrl” alternatively changes Latin fonts to Cyrillic fonts; the active font is indicated in the bottom section of the display – indicators [LAT] and [CYR].

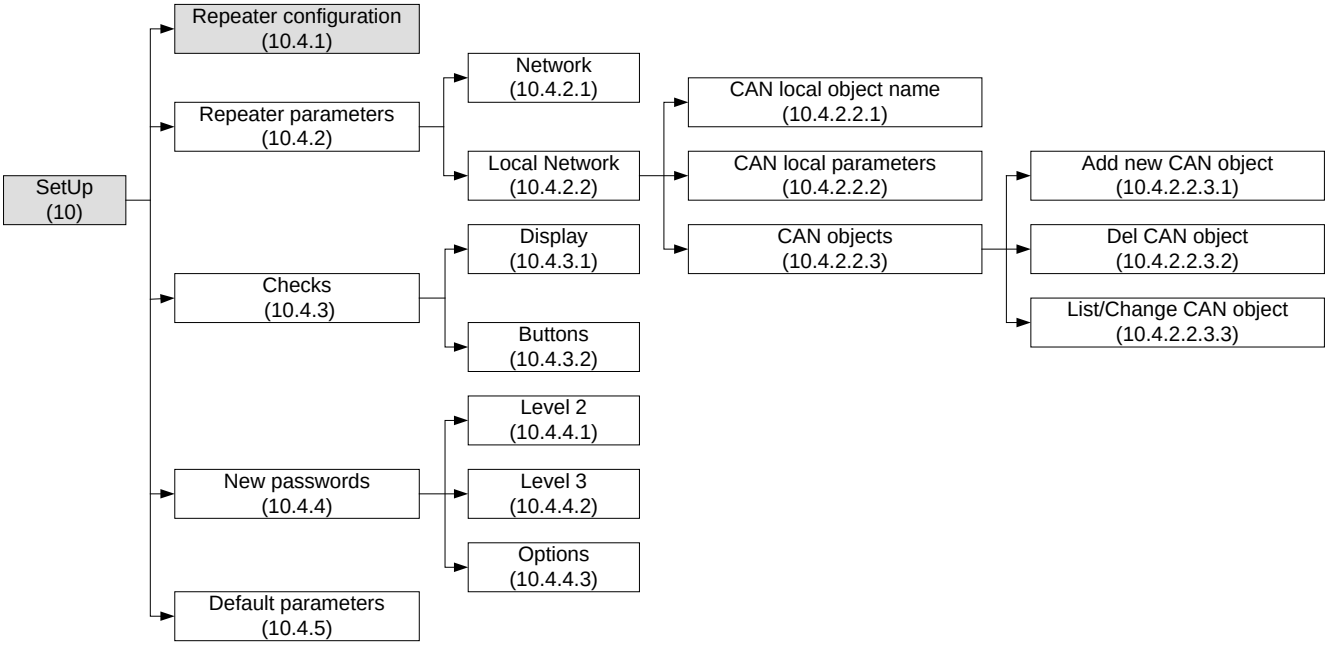
To save a text message press button [↵] on the built-in keypad or press button [↵] (“Enter”) on the external keypad.

To exit the screen and revert to upper hierarchy menu use button [←] on the built-in keypad or button [←] (“Back Space”) on the external keypad.

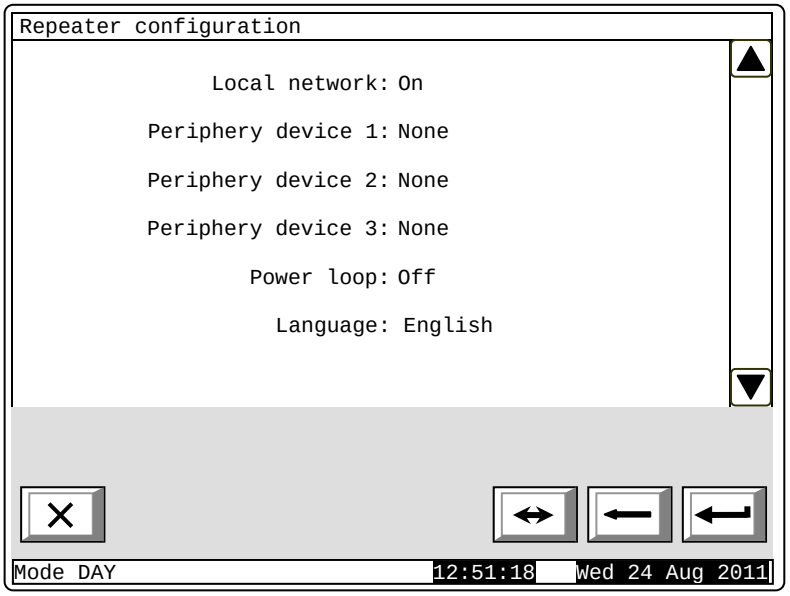
To exit Set Up use button [×] on the built-in keypad or button “Esc” on the external keypad.

10.4. Work in the menus

10.4.1. Menu Repeater Configuration



The menu has the following layout:



The value of the first active parameter is displayed in inverse colors (white letters on black background). Buttons ▼ and ▲ at the right panel side allow the user to move between the active parameters only.

To edit the parameters use button ↔ – each time you press it the parameter value changes to the next acceptable value.

Setup parameters in this screen are:

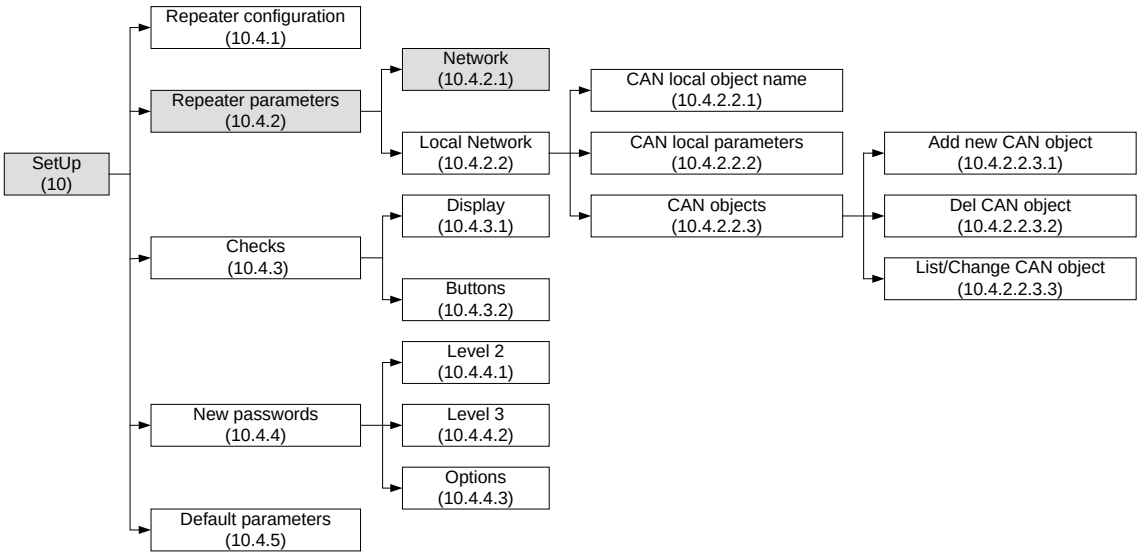
Parameter	Value	Description
Local network	On/Off	*Local Network* parameter has to be “On” in order to communicate with the fire control panels connected to it.
Periphery device 1 Periphery device 2 Periphery device 3 Periphery device 4	None	Use it when setting up fire control panels connected to the repeater.
Power Loop	On/Off	Use it when setting up fire control panels connected to the repeater.
Language	Български/English	Specifies the language, in which are displayed menus, functions, messages and screens.

10.4.2. Menu Repeater Parameters
Use the menu to:

- Set up RS network for connection with PC.
- Set up repeater CAN parameters for connection with the fire control panels connected to it.

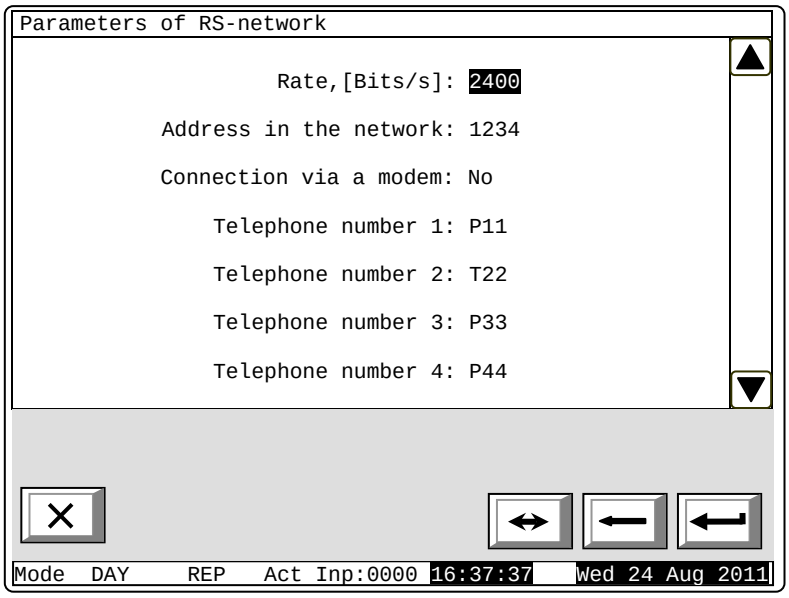
10.4.2.1. Menu Network

Use this menu to set up the parameters of RS232-network.



The parameter selected to be edited is displayed in inversive colours. Edit the parameters with button ↔.

If buttons with digits are available, change the parameters with them. Use buttons ▲ and ▼ to select the parameter to be set up:



Parameter	Value	Description
Rate	1200/2400/4800/9600 bits/s	Speed data exchange.
Address in network	1234 (default) Four digit number	Unique network address.
Connecting via modem	No/Yes	Sets if the communication is via modem
Telephone number 1 Telephone number 2 Telephone number 3 Telephone number 4	15-digit telephone numbers	Use button ↔ before the respective number for: • the letter “P” – impulse dialing • the letter “T” – tonal dialing. The number is entered my means of the digit buttons that appear on the display.

Upon changing a parameter, a message appears in the bottom left part reminding that a change has been made and that the new parameters should be saved.

10.4.2.2. Menu “Local Network”

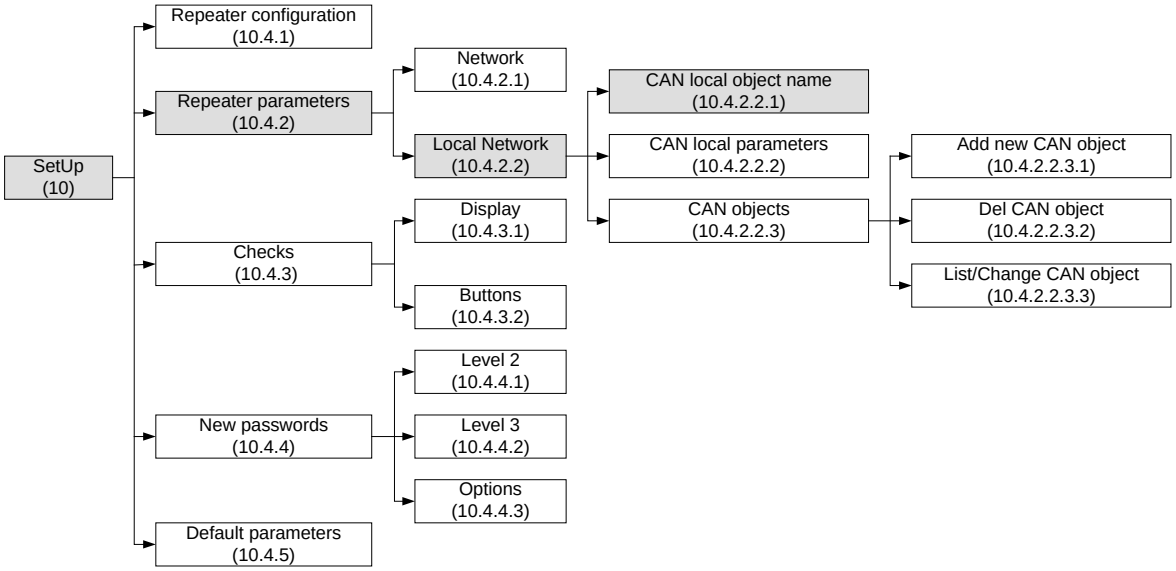
Use this menu to set up CAN parameters of the repeater and CAN parameters of the fire control panels connected to it that should be entered in the repeater.
The setting is needed to unique determine the parameters of the connected objects.
For communication in local network is necessary:

- Defining the CAN parameters of the repeater.
- Defining the CAN parameters of the connected remote fire control panels and repeaters.

It includes the following submenus:

- Menu “CAN local object Name”
- Menu “CAN Local parameters”
- Menu “CAN Objects”

10.4.2.2.1. Menu *CAN Name*

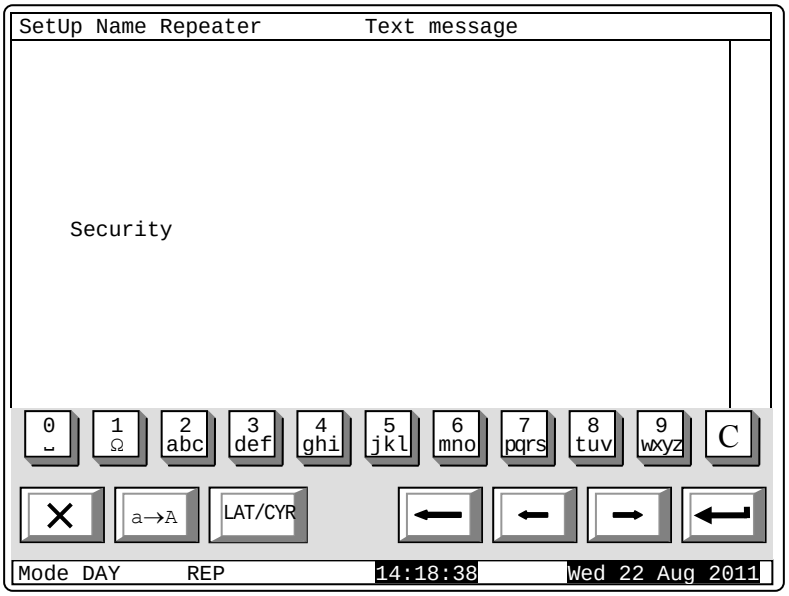


Enter the name of the local object (the repeater) in this menu.

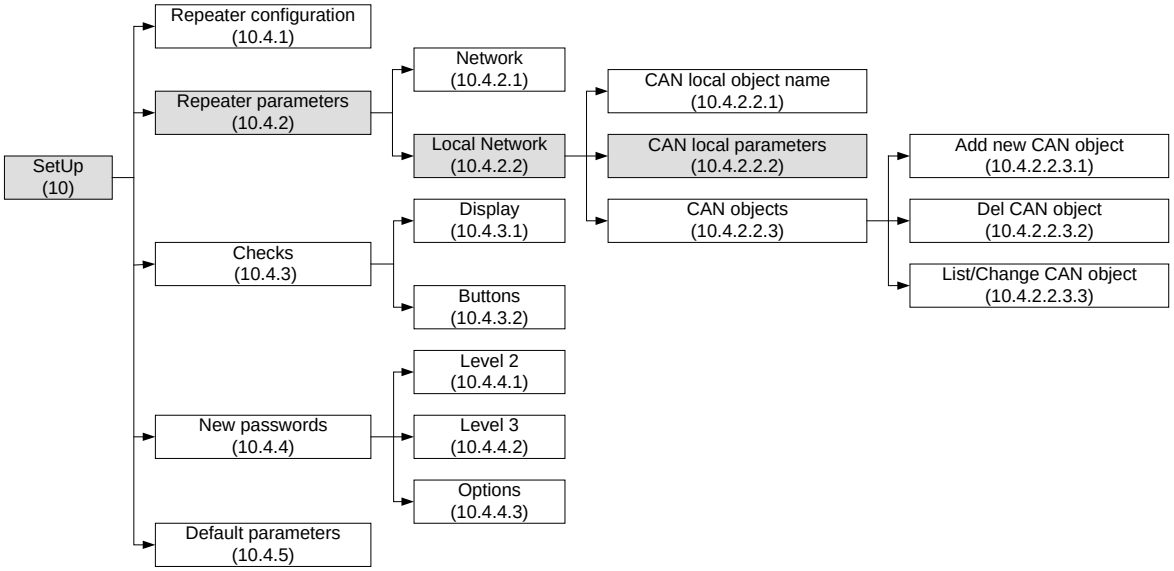
The name of the local object is a random string that might contain both letters and digits (maximum 20 characters). The rules for text entry in section are valid here too.

After returning to the main menu the local parameters could be configured.

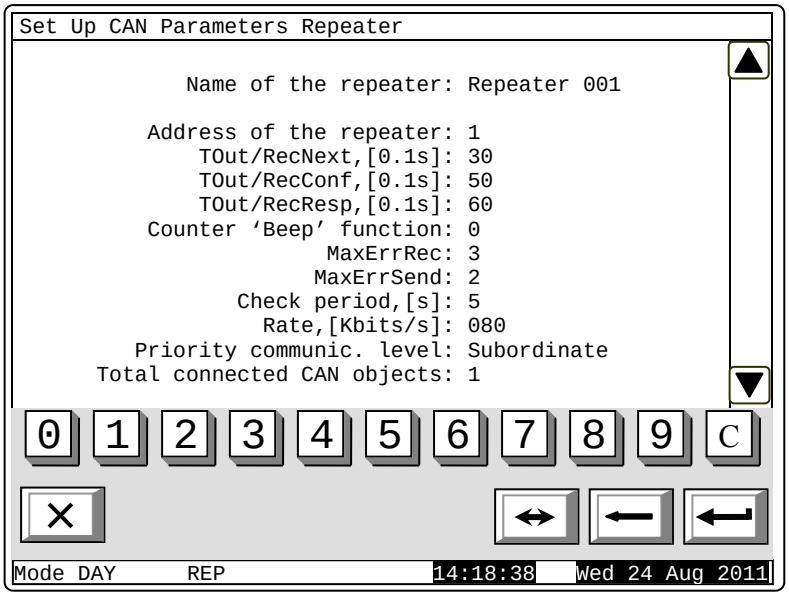
Example: *The name of the repeater in Appendix 4 is “Security”. It will be defined as “Master”.*



10.4.2.2.2. Menu *CAN Local parameters*



The screen serves for entry of CAN parameters, as on the first line the name of the repeater is visualized.
The following parameters are entered:



Parameter	Range of the receiving values	Default value of the parameter	Description
Address of the repeater	0 ÷ 127		Unique address of the repeater within the established network
Tout/RecNext,[0.1s]	1 ÷ 120	30 x 0.1s=3s	Maximum waiting time for receiving the next telegram (part) when receiving long messages.
Tout/RecConf,[0.1s]	1 ÷ 120	50 x 0.1s=5s	Maximum waiting time for receiving confirmation after a telegram – command/data message not requiring a response has been sent.
Tout/RecResp,[0.1s]	1 ÷ 120	60 x 0.1s=6s	Maximum waiting time for receiving a response after a telegram requiring a response has been sent.
Counter 'Beep' function	0 ÷ 100	0s	Short signaling of the sounder for the

			successful check of the repeater connection with the subsequent fire control panel connected to it: - If the value is 0 - no “Beep” is released - If the value is N>0, each N^{th} successful check is signaled by “beep”. For example, if it is entered N=1, each check-performed at each “Period of check, [s]” seconds will be signaled.
MaxErrRec	1 ÷ 20	3	Number of CAN-communication errors when receiving telegrams from fire control panels. After this number is reached the respective fire control panel is regarded as suspended (temporarily) from CAN network and a signal is released for a Fault condition of the type “Connection failure with remote fire control panel with address…”
MaxErrSend	1 ÷ 20	3	Number of CAN-communication errors when sending telegrams to fire control panels. After this number is reached the respective fire control panel is regarded as suspended (temporarily) from CAN network and a signal is released for a Fault condition of the type “Connection failure with remote fire control panel with address…”
Check period, [s]	1 ÷ 250s	5s	A time period is entered. After it elapses the repeater scans the status of the CAN-communication with the connected fire control panels – including the suspended ones form the network at the moment.
Rate, [KBits/s]	640, 320, 213, 160, 128, 106, 91, 80, 71, 64, 58, 53, 49, 45, 42, 40, 35, 32, 29, 26, 24, 22, 21,20, 17, 16, 14, 13, 11, 10 [KBits/s]	80	The communication rate in the network;
Priority communic.level	“Main” “Subordinate”	subordinate	The location of the repeater that is being set up is specified within the structure of the local CAN network that is being established. One of the repeaters or the fire control panels IFS 7002 within the network should be specified to be Master, and all remaining repeaters and fire control panels – “Subordinate” (Slave). The master repeater or fire

			control panel must be connected with all remaining repeaters and fire control panels within the system – either directly or via a retransmitting station.

Example: *In the network in в Appendix 4, the remote panel parameters "Security" are as follow:*

- *Name – "Security" (item 10.4.2.2.1).*
- *CAN address – "1" (The address is unigue for the local network. The address value there is no connection with the priority. The parameter should be in the range between 0 ÷ 127).*
- *Priority communication level – "Master" (Sets communication level of the repeater in the structure of local network. Onlu one object in the network can be defined as "Master". All rest objects should be defined as "Slave").*
- *Total connected CAN objects – "6" (Sets the number of assigned objects. In our examp there are 6 – Bulding #1, Building #2, Building #3, Building #4, Warehouse, Transport gate. The data for the assigned CAN objects will be added in the settings of the main remote panel in section 10.4.2).*

The connection of many objects (fire control panels and repeaters) in a network supposes the identification between them. Thus they should have a unique sign. In the networks it is usually a number. It is formed by decoding of several parameters – name and address. The object name is generally required for the "human interface" – the user to be able to distinguish easily the devices connected in the network. The other obligatory parameter is the address. It is the factual parameter used by the software for data exchange in the network. Each device should be assigned a name and an address during the configuration.

In IFS 7000 series the devices share a common address space. The maximum number of repeaters and fire control panels UniPOS connected in CAN network is 32. The name is of importance only for the user and an object having a local name might be assigned another name suitable for user when it is added to the list of local objects.

After the local network parameters have been configured it has to be selected:

- The devices that the local object will operate with.
- What options the user wants to configure for data exchange.

Use the menu for adding an object for this purpose. Fire control panels and repeaters have to be physically connected in advance in the CAN network so that the option could be used. For their proper operation and data exchange the local parameters of these objects have also to be accurately configured before that.

The next menu provides the possibility for adding a CAN object, with which the repeater will exchange data or perform control.

10.4.2.2.3. Menu "CAN Objects"

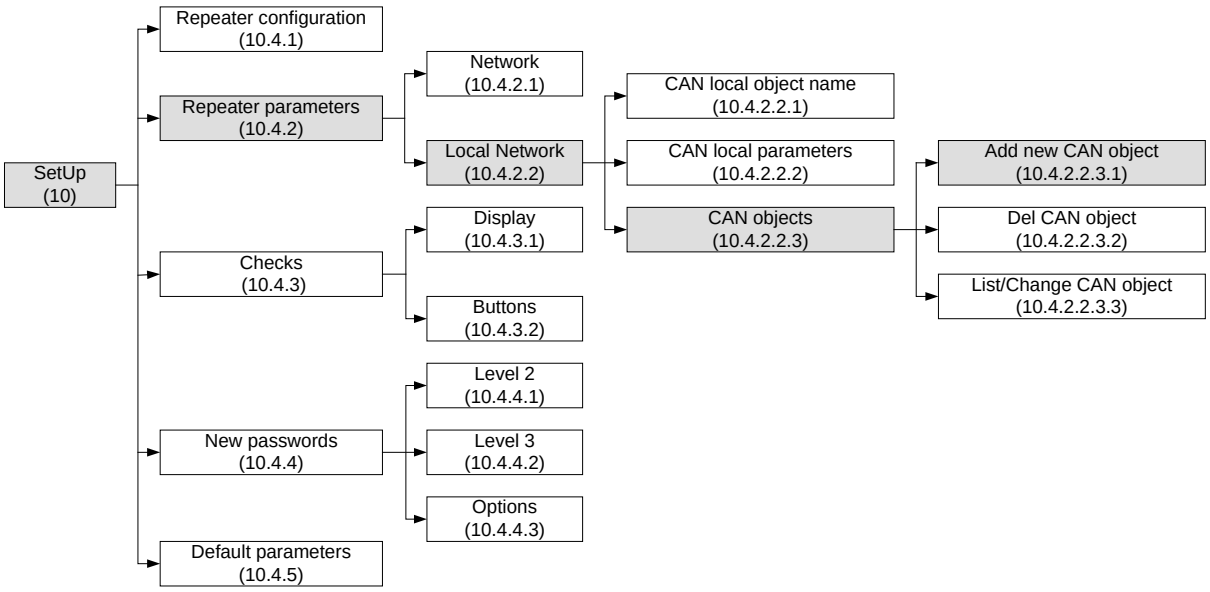
The menu serve for describing of the connected to the panel remote panels (CAN objects).

It is divided in the following submenus:

- Menu "Review/Change CAN Objects"
- Menu "Add New CAN Object"
- Menu "Delete CAN Object"

10.4.2.2.3.1. Menu *Add New CAN Object*

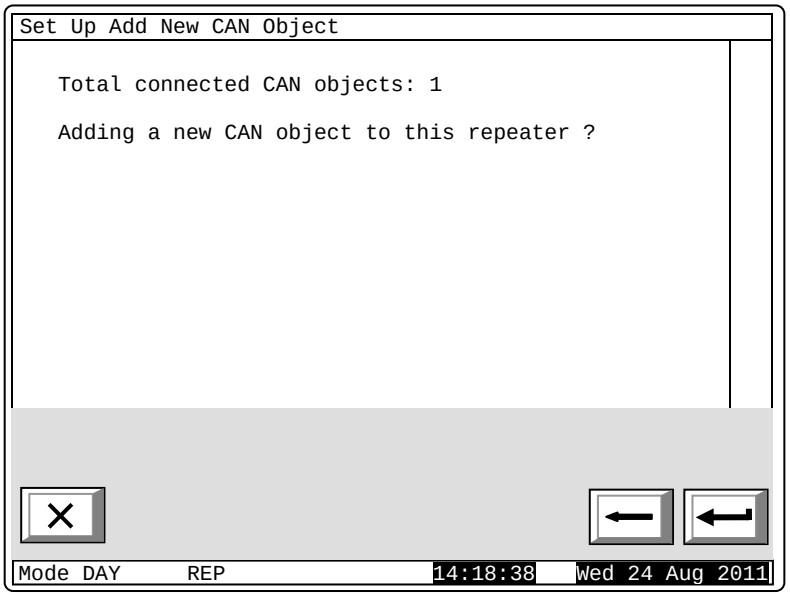
Use this menu to add new fire control panels and repeaters (CAN objects) to this repeater.



Enter the name of the added CAN object in submenu Name CAN Object. (***Example:*** *"Building#1"*).

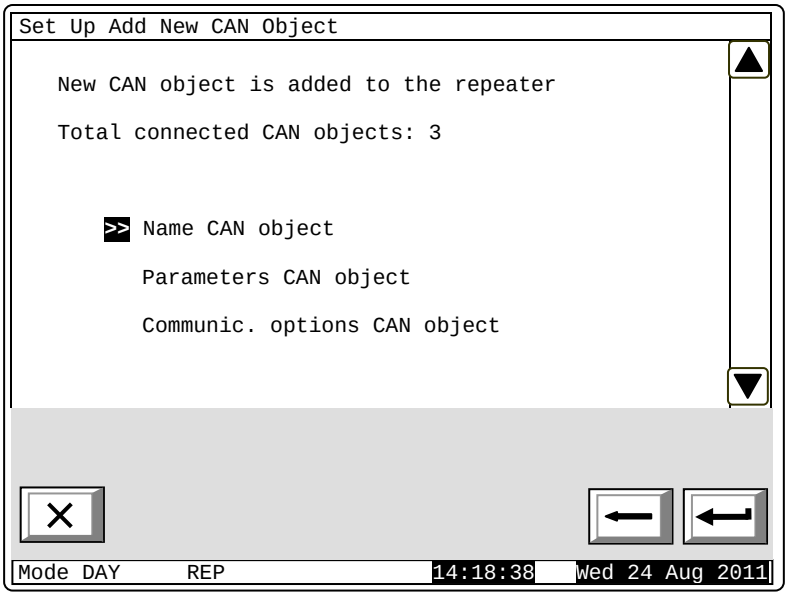
Upon entering this menu the user is provided the option to add a new CAN object to the repeater that is being set up.
The following options are possible:

- To exit the menu without adding by means of the buttons ← "Cancel" or ✕ "Exit".
- To confirm with button ↵. A new CAN object is added automatically to the repeater and a window appear for entry of its parameters and settings;



Example: *For the local network in Appendix4 each one of the panels Building#1, Building#2, Building#3, Building#4, Where house and repeater Transport Gate are assigned CAN objects.*

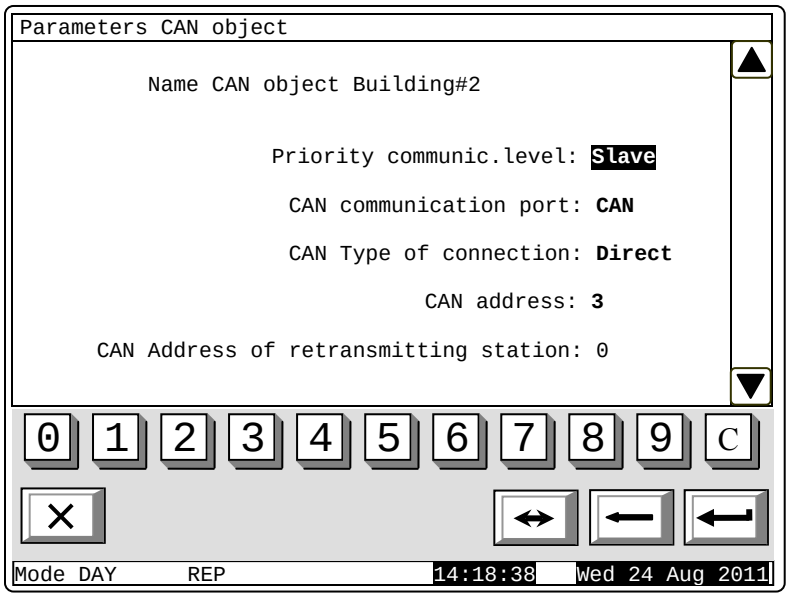
- Enter the name of the added CAN object in submenu Name CAN Object (***Example:*** *"Building#1"*).



- Screen "Parameters CAN object"

Enter the new CAN object parameters in this menu:

- The field "Priority communic.level" specifies the place of the described remote object (repeater/fire control panel) within the structure of the network Master or Slave.
- The type of the connection points the way of connection. If the connection is **direct** – the objects are connected to the same CAN in the field address of the repeater. The default value is 0. In the case of connection that connects objects from CAN1 to CAN2 enter the address of the fire control panel that has to perform it. In this event the type of connection in the field CAN has to be changed. Communication port: **Via a retransmitting station**.



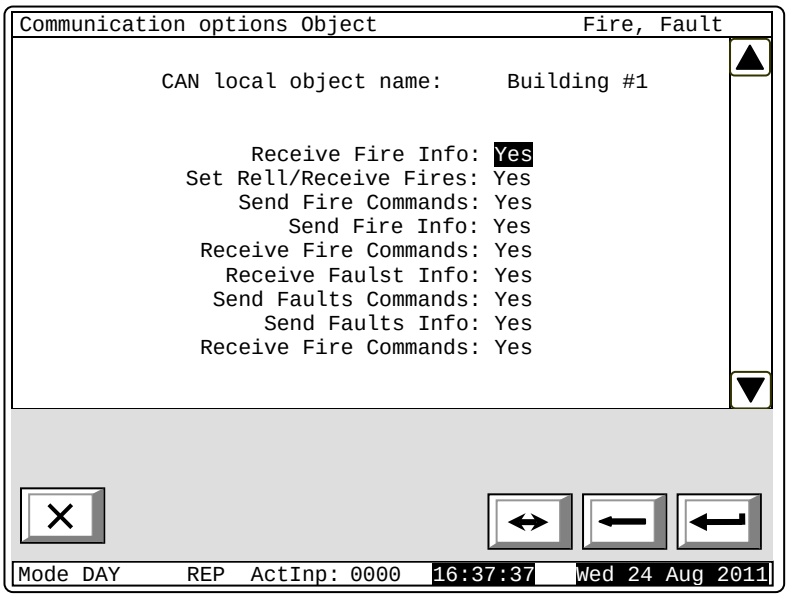
- Enter the address of the retransmitting station – as CAN – address of the object – retransmitting station in the network If the connection is executed via a retransmitting station. This object – retransmitting station should be also described as connected in the CAN network to the repeater.

- Screen "Communication options CAN object" includes menu, which gives possibility for setup of the functionality of remote fire control panel and factical datas, which the panel (adjusted CAN object) and repeater exchange.

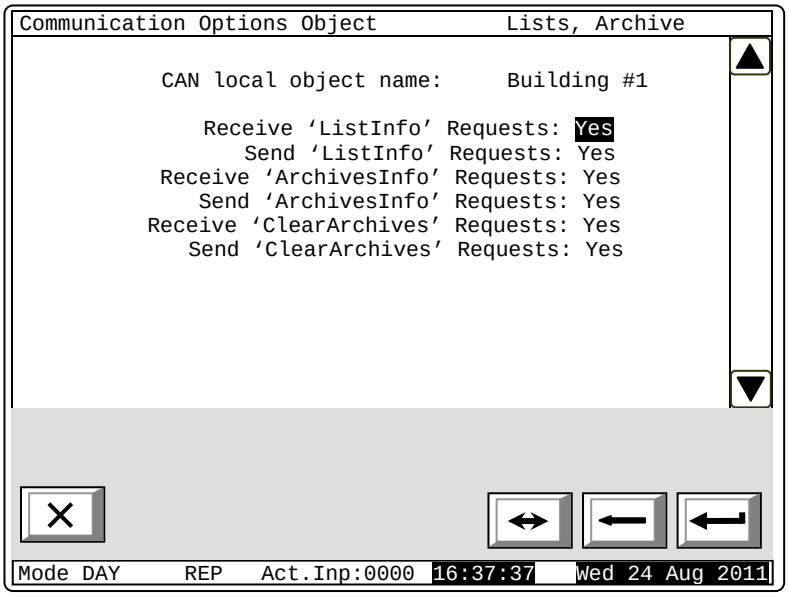
The parameters correction is done via button  . For exit button  ("Cancel") or  ("Exit").

This menu is with there screens, which parameters can be changed alternatevly to "Yes" or "No".

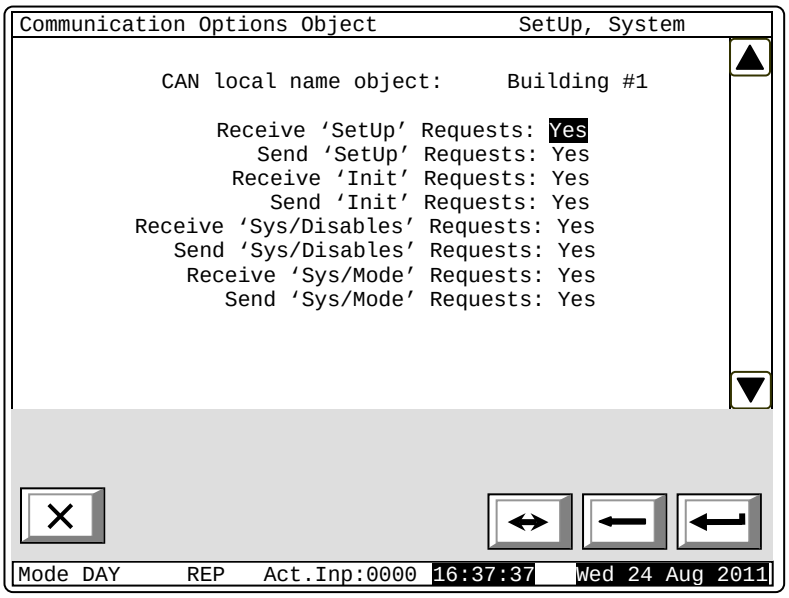
- Fires, Faults



- Lists, Archive

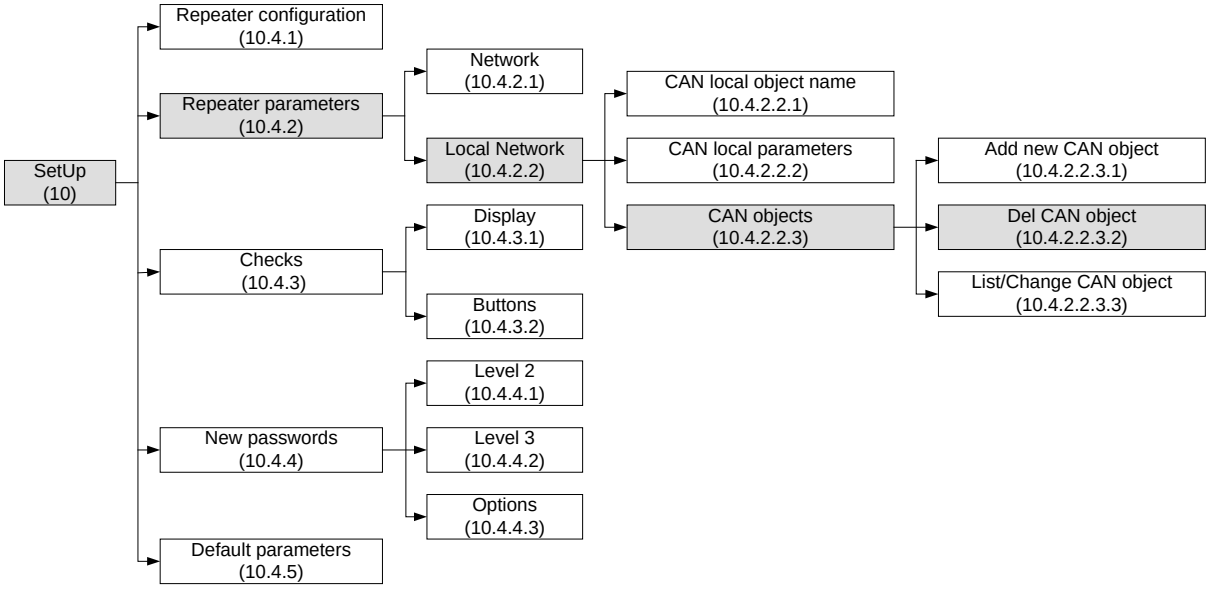


- Setup, System



10.4.2.2.3.2. Menu *Delete CAN Object*

Use this menu to delete CAN objects connected to the repeater.



Use this menu to delete CAN objects connected to the repeater.

When the menu is selected a window appears containing a list of the CAN objects connected to the repeater:

- Delete the object with the pointer >> opposite it.
- Confirm delete of the marked object with button ↵. After pressing it the marked object is automatically deleted.

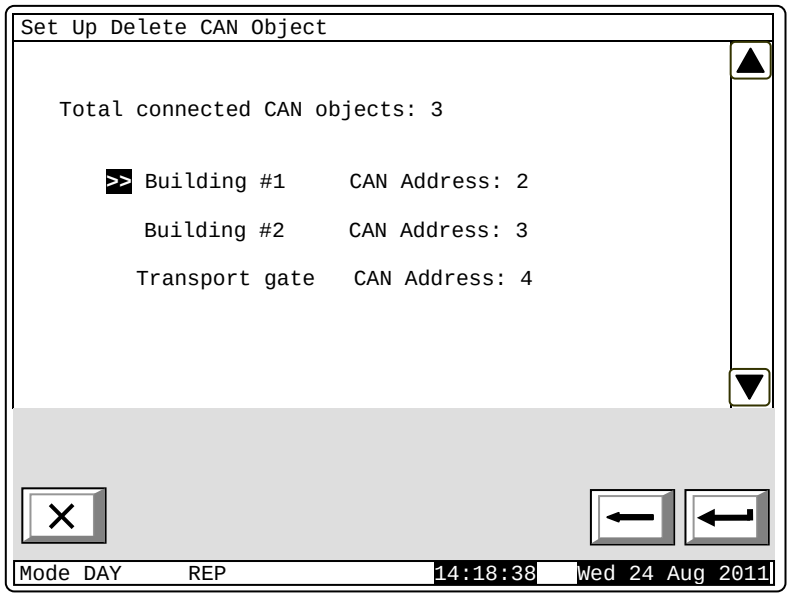
Example: *In the local network to the remote panel "Security" are connected 3 objects:*

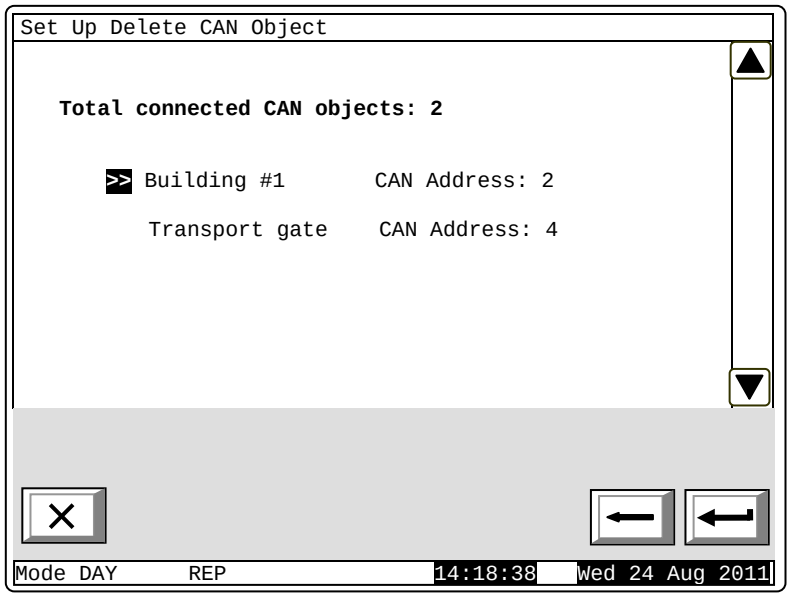
- *Building#1 - CAN address 2*
- *Building#2 - CAN address 3*
- *Transport gate – CAN address 4.*

If its must be deleted "Building#2". Via buttons for moving, should place the marker on "Building#2" and press button ↵ for confirmation of the deleting and "Building#2" automaticly removes from the assigned CAN objects.

The objects on the display are 2:

- *Building#1 – CAN address 2*
- *Transport gate – CAN address 4*

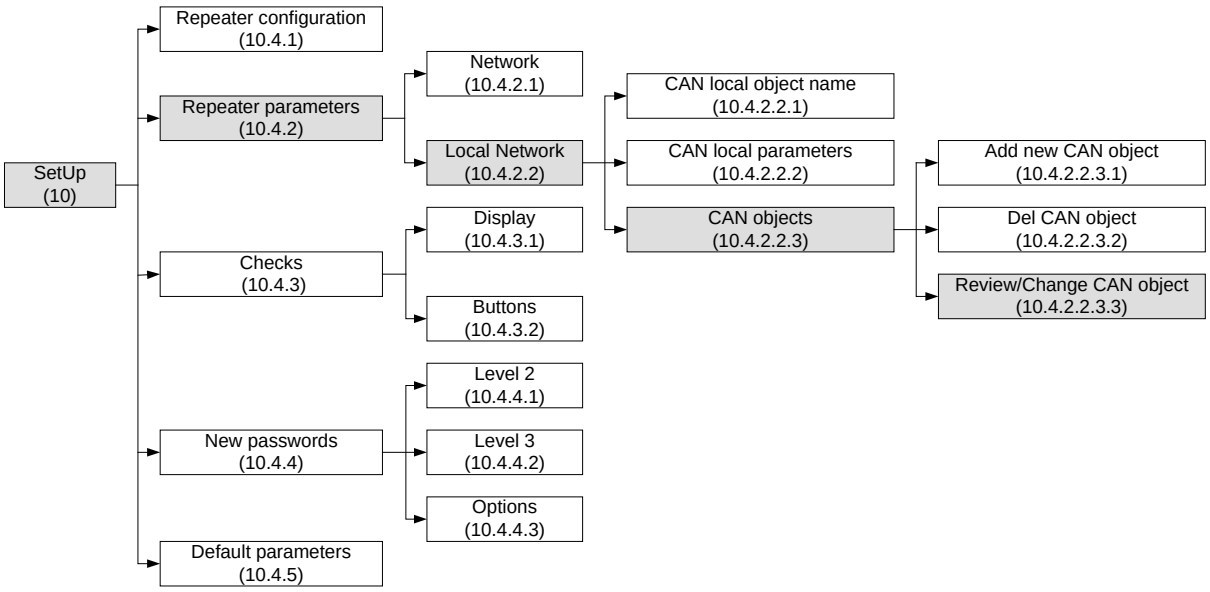




10.4.2.2.3.3. Menu "Review/Change CAN Objects"

Use this menu to review and edit the parameters of the CAN objects connected to the repeater. First, select the CAN object which parameters will be reviewed and edited.

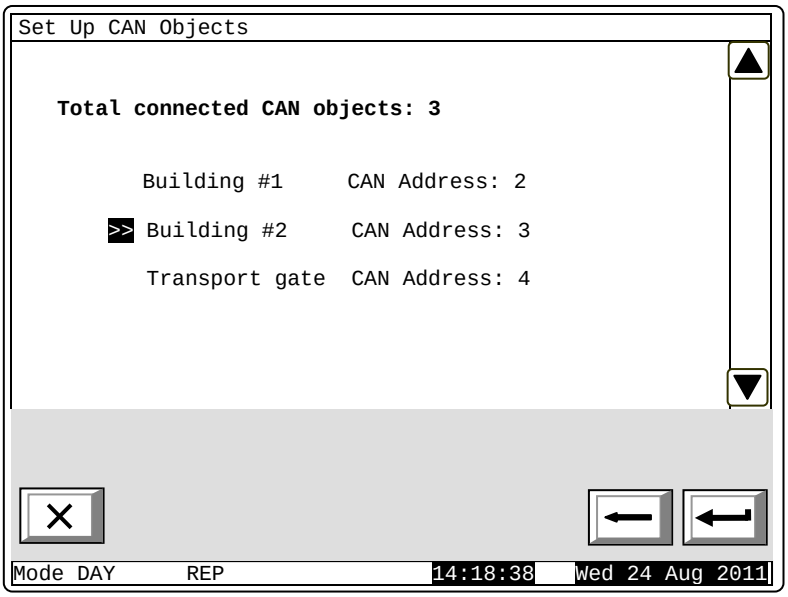
Use the buttons ▲, ▼, ↵, ✕ and cursor >> , marking the selected CAN object for review or change.



Example: *In the local network to the "Master" repeater "Security" are assigned 3 objects:*

- *Building#1- CAN address 2*
- *Building#2- CAN address 3*
- *Transport gate - CAN address 4*

Necessary changes of the panel parameters in "Building#2".
Via moving buttons the marker should be placed on "Building#2" and press button  *for confirm of the selection. The menues for correction of «Building#2» will be appeared, identically as described in section 10.4.2.2.3.1. – Add of new CAN object.*



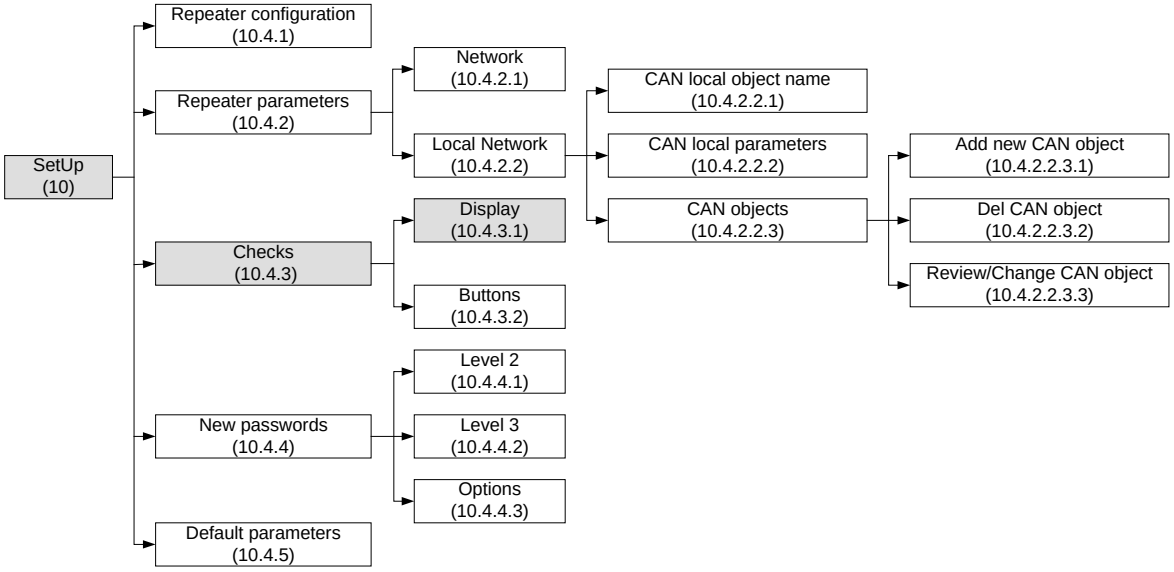
10.4.3. Menu Checks

The menu allows the user to set up the display and the buttons. It contains the following submenus and functions:

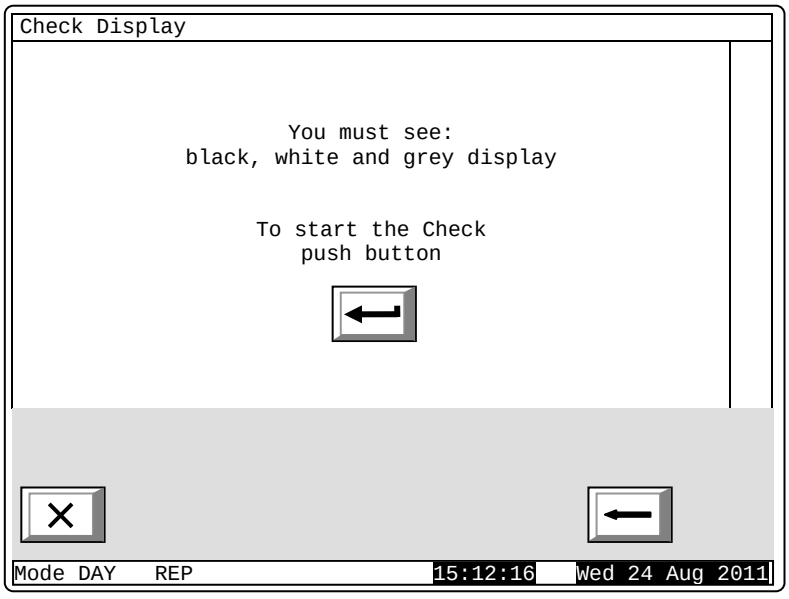
- Menu “Monitored outputs”
- Menu “Relay outputs”
- Menu “Addressable outputs”
- Function “Display”
- Menu “Buttons”

10.4.3.1. Function *Display*

Use the function to check the LCD display of the control panel.



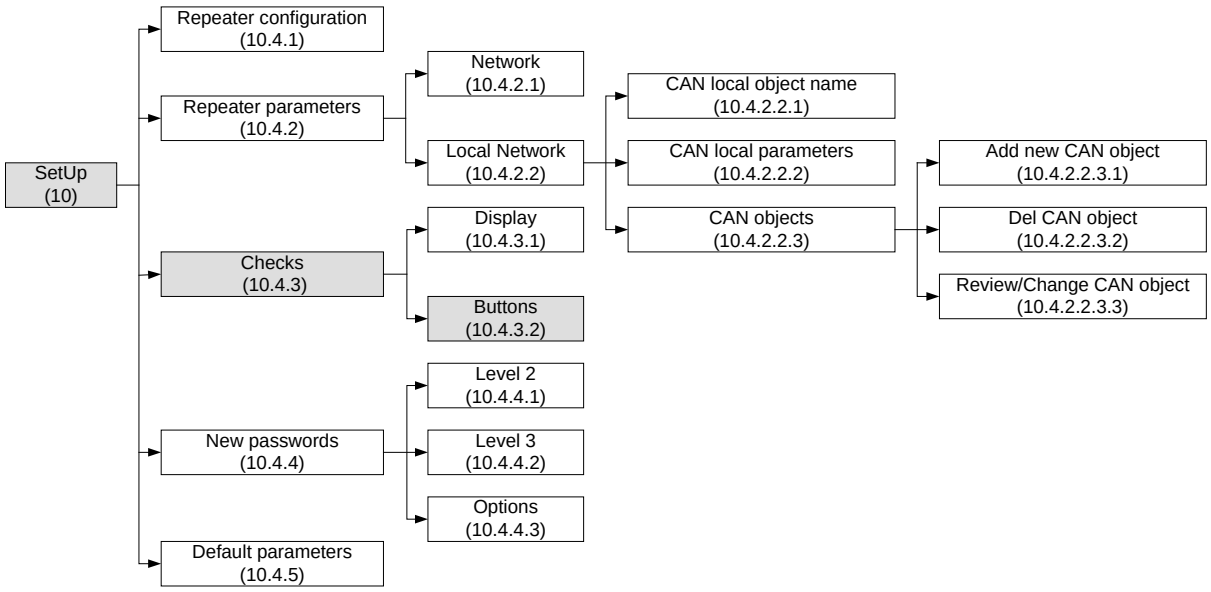
When you enter the function the following screen appears:



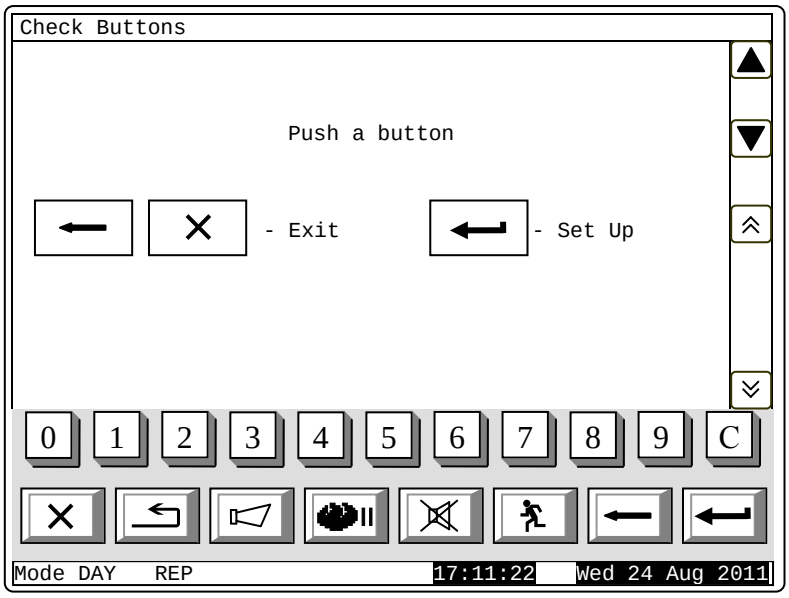
When you press button  that is in the middle of the display, the check is being started. The display changes its color from black to white and then to grey (on dots). Each color remains for about 4 s. After the check is completed, the initial screen appears again.

10.4.3.2. Menu *Buttons*

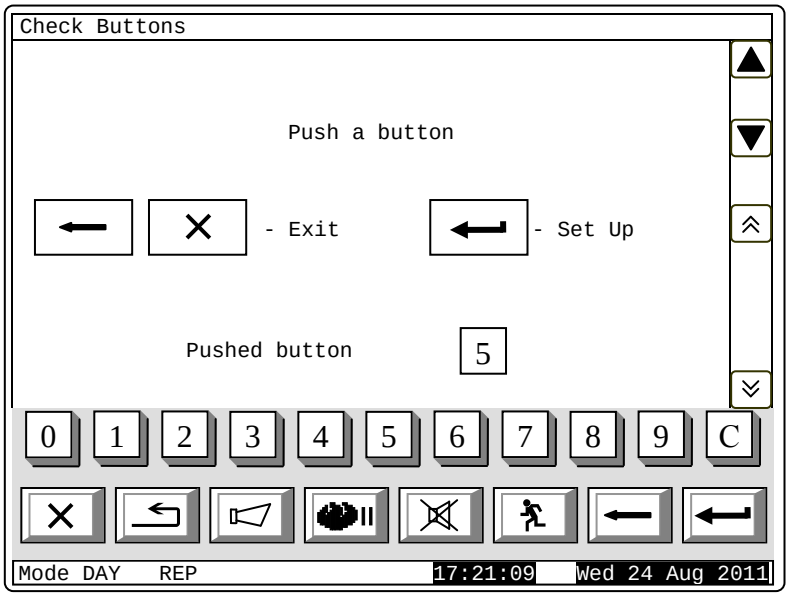
The menu is used for check-up and set up of the buttons situated on the LCD display of the repeater.



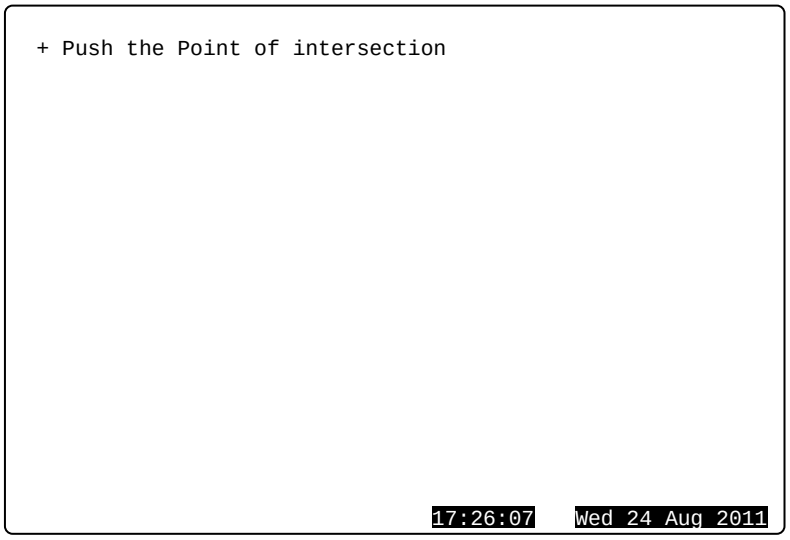
Enter the menu to display:



When a random button is pressed (except for buttons , and) a message and a graphic image of the presses button appear:
If the button visualized on the display does not correspond to the pushed one then the function buttons set up has to be activated.

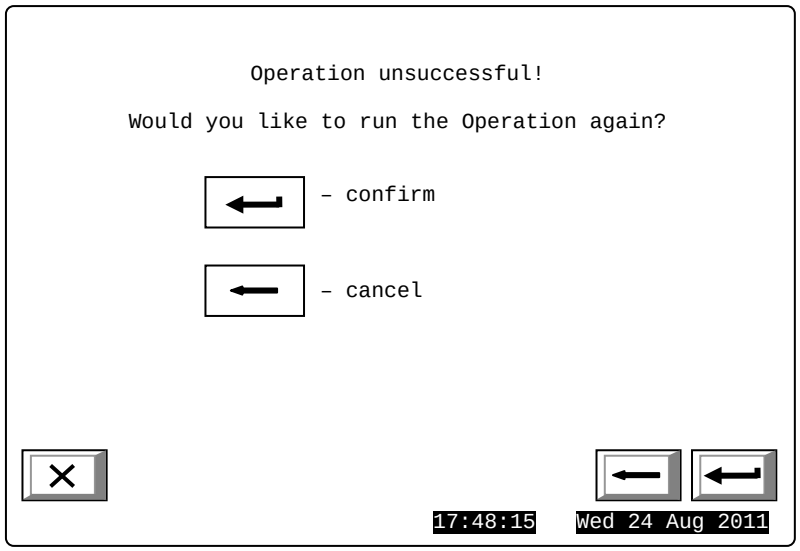


To start setting the buttons up, press button . Set up is being performed at two points on the display and is being checked at two points. Enter the function to display the first point of set up: Must be pressed intersection of the cross with your stylus. Similarly proceed with the second, third and fourth point.



The options for finishing the setting up are the following:

- If the check performed at the third point and the fourth point is checked and if it is successful the function is exited automatically.
- In case the performed check at point three is unsuccessful, the first adjustment point is displayed on the screen.
- In case the check at point three is successful, but at point four is not, then a screen with text message for fault condition is displayed.

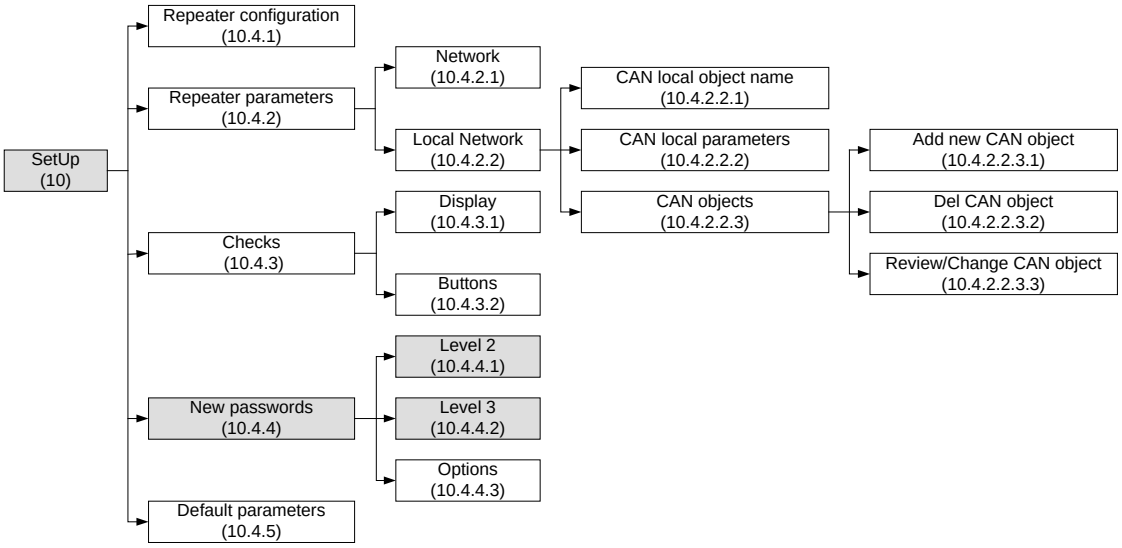


The check-up can be interrupted at any stage by pressing button or .

10.4.4. Menu New Passwords

The menu allows the user to compose and edit passwords for Access Level 2 and 3. It contains:

- Menu “Level 2”
- Menu “Level 3”
- Menu “Options”



10.4.4.1. Menu *Level 2*

The menu allows the user to enter and edit passwords for Access Level 2.

Enter the menu and a screen where you can edit the first password for Access Level 2 appears:

To enter or edit a password use the digit buttons – when you press a button, the digit is inserted over the position of the cursor, and the previous text and the cursor move one position to the right. Move the cursor to the left or to the right using buttons ◀ and ▶.

Press C to delete:

- The digit under the cursor, if any.
- The digit to the left of the cursor, if no digit is available under the cursor.

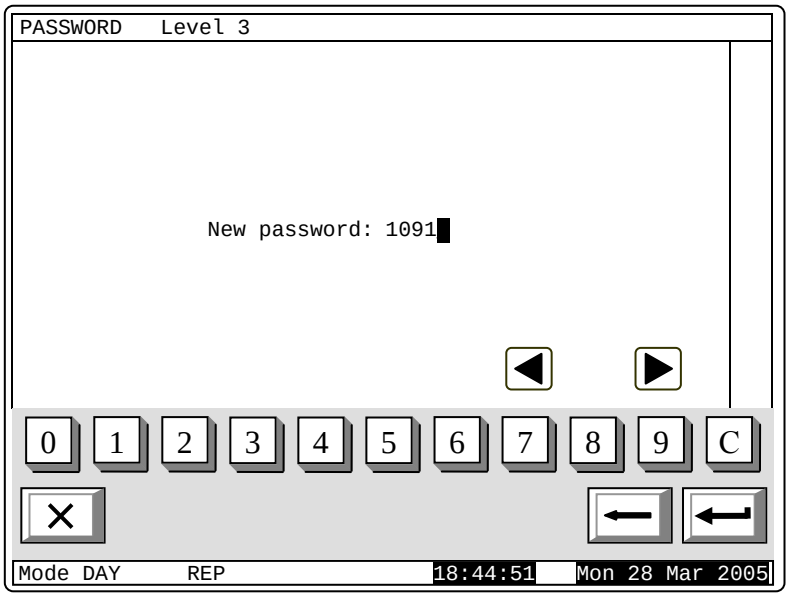
The maximum length of the password is 10 symbols. If you press a button after the 10-digit password is entered, the exceeding symbol will not be accepted.

When you press button ↵ the last entered password will be saved in the control panel.

When you press button ▼ or ▲ the previous or the next password will be displayed for edition. Any unsaved passwords will be lost.

10.4.4.2. Menu *Level 3*

The menu allows the user to enter and edit a password for Access Level 3:



To enter or edit a password use the digit buttons – when you press a button, the digit is inserted over the position of the cursor, and the previous text and the cursor move one position to the right.
Move the cursor to the left or to the right using buttons ◀ and ▶.

Press C to delete:

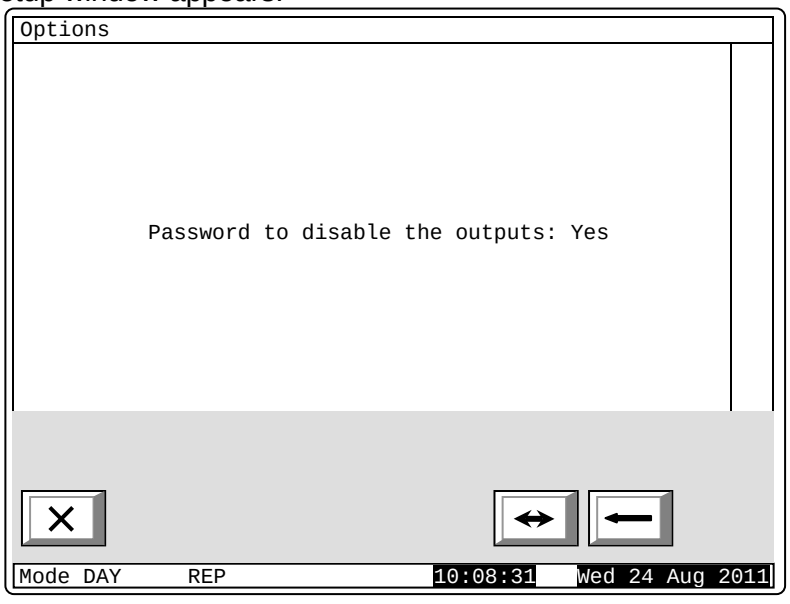
- The digit under the cursor, if any;
- The digit to the left of the cursor, if no digit is available under the cursor.

The maximum length of the password is 10 symbols. If you press a button after the 10-digit password is entered, the exceeding symbol will not be accepted.

When you press button ↵ the last entered password will be saved in the control panel.

10.4.4.3. Menu *Options*

In IFS7002R an option is provided possible to use button 📢 ("Outputs") at Access level 1.
Button is displayed when the repeater is in Fire condition and served to suppress/enable outputs in the connected Fire control panel.
Addressable outputs, activated by the inputs, can not be suppressed.
To use this option in the fire control panel enter menu "Setup/New passwords/Options".
Upon entering the menu the following setup window appears.



To edit the parameter press button ↔ – when pressed its value changes alternatively:

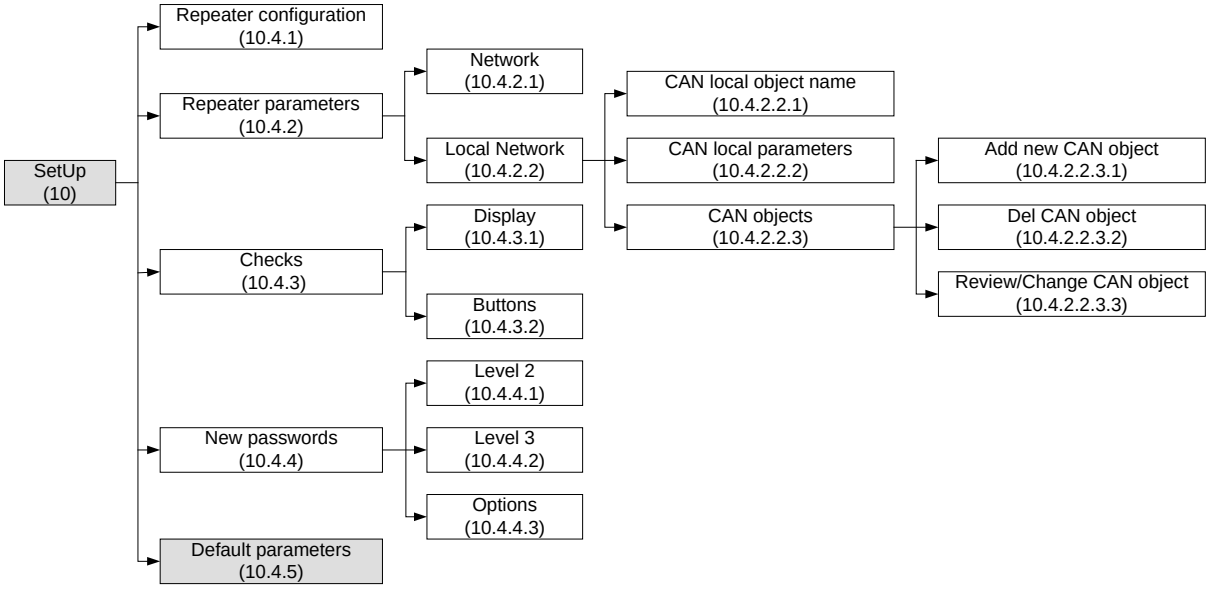
- Yes – a password for disabling/enabling the activated outputs in Fire condition is required.
- No – a password for disabling/enabling the activated outputs in Fire condition is not required.

Press button ↵ to save the selected parameter in the repeater.

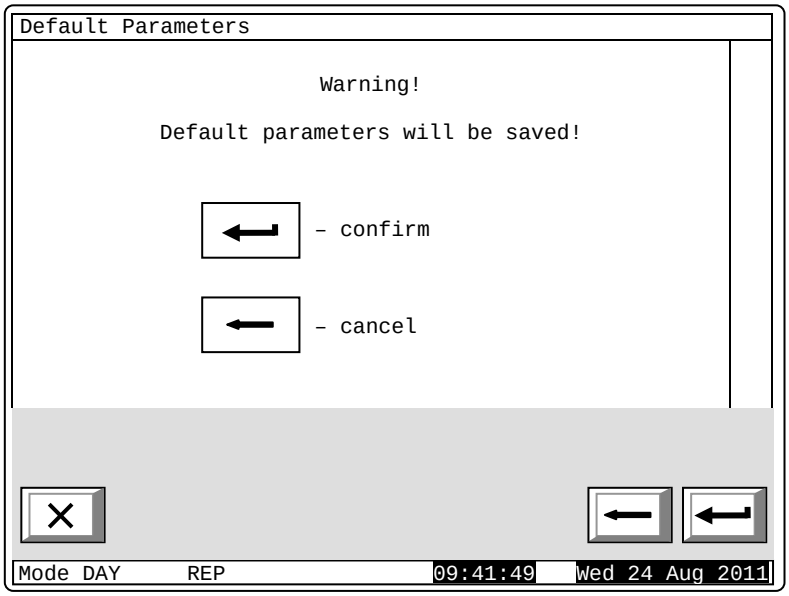
Attention!!!

The activation of this function (a password for suppressing/disabling the activated outputs in Fire condition not to be required.in IFS7002) is not in conformity with the European Standard EN54-2 and it must not be used in the countries where that standard is valid.

10.4.5. Function “Default parameters”
The function saves the default parameters of the repeater

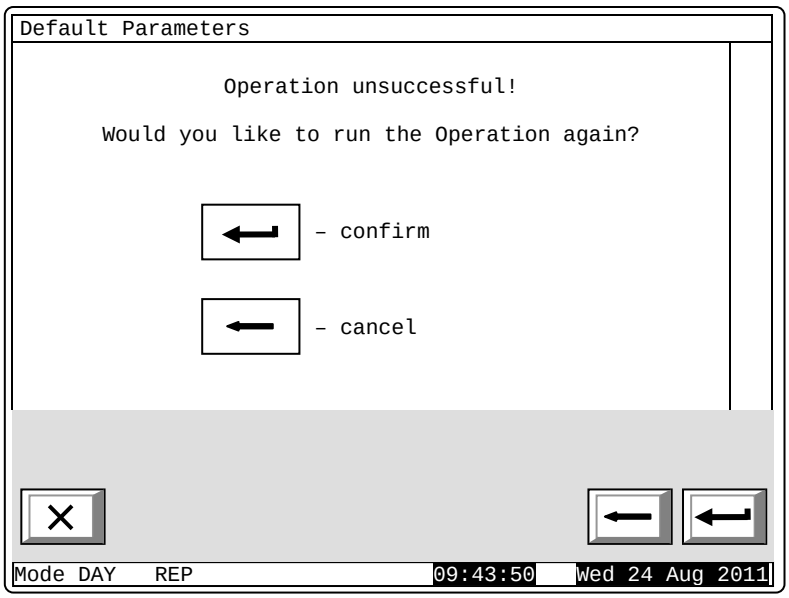


Upon activation a warning screen appears:



To save the record press button  , in the bottom line of the panel appears the message *Wait please…*

Upon unsuccessful operation appears the following screen:



When the records are successfully saved, the menu is exited automatically.
The following default parameters are being saved:

- Local network – none
- Language – English
- Mode – DAY

11. Saving the parameters

All set values for parameters or modes of operation are being saved in the energy independent memory and upon interruption of mains supply the values remain intact. After the repeater is switched on again, it starts operation in accordance with modes and values previously set.
Default parameters and modes of operation are factory set up.
User passwords are set to:

- Access Level 2 passwords:
  - Password 1 – 1111
  - Password 2 – 2222
  - Password 3 – 3333
  - Password 4 – 4444
  - Password 5 – 5555
  - Password 6 – 6666
  - Password 7 – 7777
  - Password 8 – 8888
  - Password 9 – 9999
  - Password 10 – 1010
- Access Level 3 Password:
  - Password 1 – 0000

12. Labor protection requirements

The installation and maintenance staff shall be well grounded in equipment's mechanism and operation, as well as in common technical safety regulations.
Connection to unearthed or to indirectly earthing mains supply is prohibited.
Troubleshoots are to be cleared after disconnecting the feeding cable from the mains supply.
The repeater is designed for installing in premises with a normal fire hazard, as per the Fire Precaution Technical Regulations in Building Construction.

13. Installation and arrangements

When installing the repeater and connecting it to fire control panels and repeaters integrated in the fire detecting system, avoid arranging wires in closed loops; it will reduce the resistance of the repeater to electromagnetic interferences.

13.1. To mount the repeater

- Unpack the repeater.
- Put the dowels for fixing the repeater on the determined places.
- Holes are drilled to bring the cable interface RS232 and CAN.
- Mounted on the space anchors for attaching the repeater.
- Repeater is attached to anchors in the four holes on the bottom of the box.
- Join to interface cables.

13.2. Connecting interface devices

13.2.1. Global network

Connection of PC to the repeater is made via serial interface RS232 using a standard 9-lead coupling (Appendix 3). Signals distribution is given in table.

Coupling's lead	Signal of RS232 Interface	Signal of RS485 Interface
2	RXD (input data)	Inverting input/output
3	TXD (output data)	Non inverting input/output
4	DTR	
5	GND (chassis ground)	

13.2.2. Local network

Connection of interface devices to a local network is made via the serial interface CAN 2.0B using the terminals CAN (Appendix 3). If the distance is longer it is recommended the connecting wire to be screened.

13.3. Power supply connection

Connect the feeding cables to terminal *POWER* (Appendix 3), observing the polarity:

- „+" – feeding +24V DC;
- „-" – feeding cable – 24V DC;
- „Ω"– safety ground wire.

The cable shall be of at least 0,5mm^2 section.

The other end of the feeding cable is connected to the mains power supply of any of the fire control panels connected to it or another suitable power supply source.

14. Repeater start up

14.1. Check the proper connection of power supply.
14.2. Check the proper connection of the CAN network.
14.3. Supply the panel, which the remote panel or power supply is supplied from.
14.4. Configure remote panel in the following order:
14.4.1. The remote panels provides with factory default parameters (section 10.4.5.).
14.4.2. If there is need, change (section 10.4.1)
- parameter "On/Off" for work in local network;
- language for appearing of menues and messages.

14.4.3. The RS232 should be set if the panel will be connected to PC (section 10.4.2.1).
14.4.4. Adjust the parameters of the local CAN network (section 10.4.2.2).
- panel name - CAN local object (section 10.4.2.2.1)
- panel parameters – address, communication priority leveland etc. (section 10.4.2.2.2)
- the assigned to the panel remote panel with their names, addresses, connection type and etc. (section 10.4.2.2.3). The procedure is applied to describe all objects connected in the local network.

14.4.5. Introduced passwords for Access Level 2 and 3 (section 10.6).

When out from Setup mode, the remote panel goes for short in System operations and after that in Duty mode – the panel is ready for object protection, if there were made the adjustments of the connected CAN objects from the arranged local network.

15. Conditions of operation, storage and transportation

15.1. Operation and storage

The repeater shall operate and be kept in closed premises, under the following conditions:

15.1.1. Temperature

- storage - from 5°C to 35°C
- transportation - from minus 10°C to 50°C
- operational - from minus 5°C to 40°C

15.1.2. Relative humidity

- storage - to 80%
- operational - to 93%

15.2. Transportation

The repeater shall be transported by vehicles, in factory packing, in the above stated environmental conditions and at sinusoidal vibrations with acceleration amplitude not more than 4,9m/s^2 in frequency range 10 to 150Hz.

16. Warranty

The producer guarantees compliance of the device with EN 54-2: 1997.
The warrant period is 18 months from the date of the purchase, providing that:

- the conditions of storage and transportation have been observed;
- the startup has been done by authorized personnel by the producer.
- the requirements for operation stated herein have been observed.

UniPOS wishes you a successful work!

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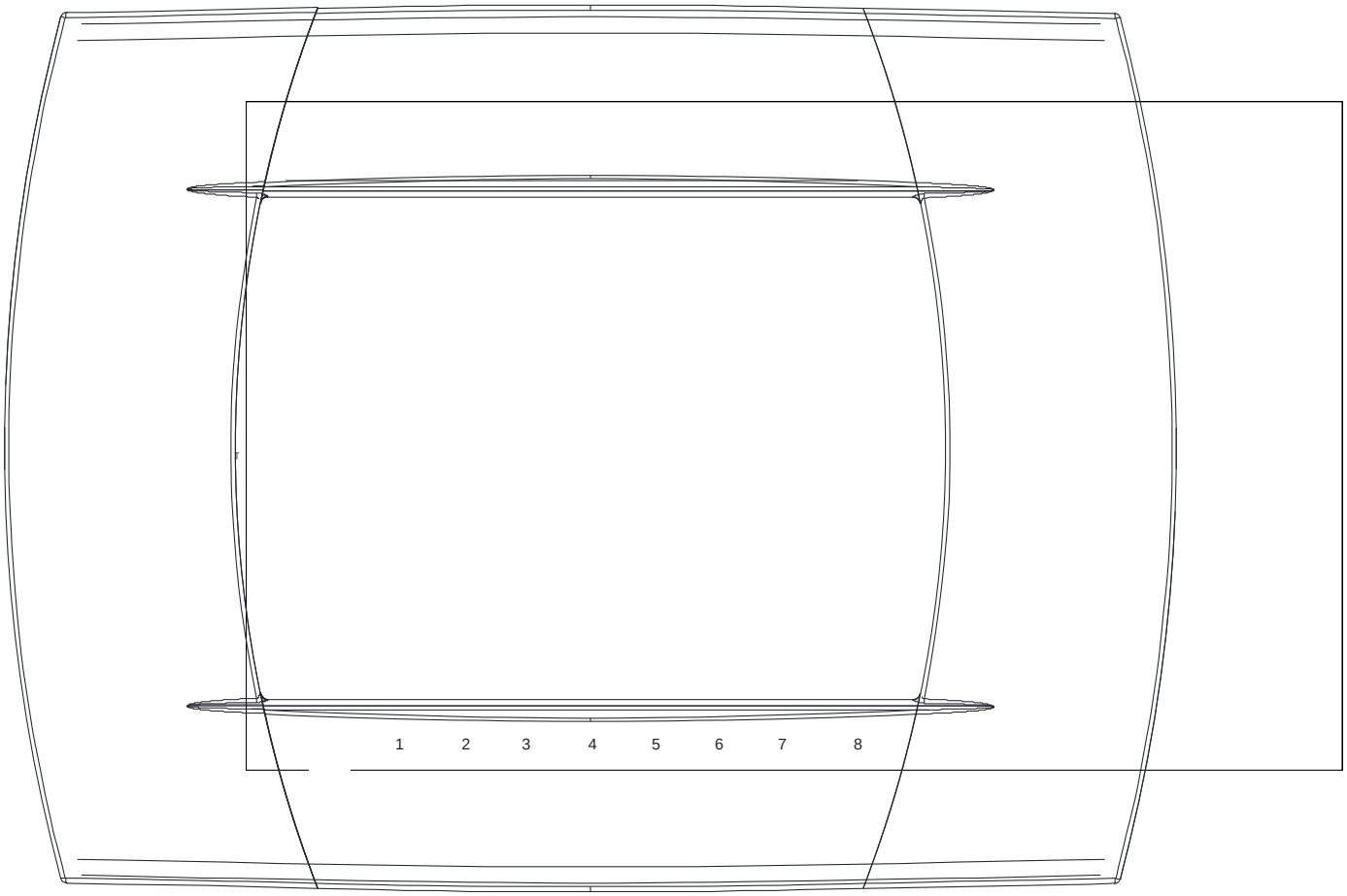
17. Appendixes

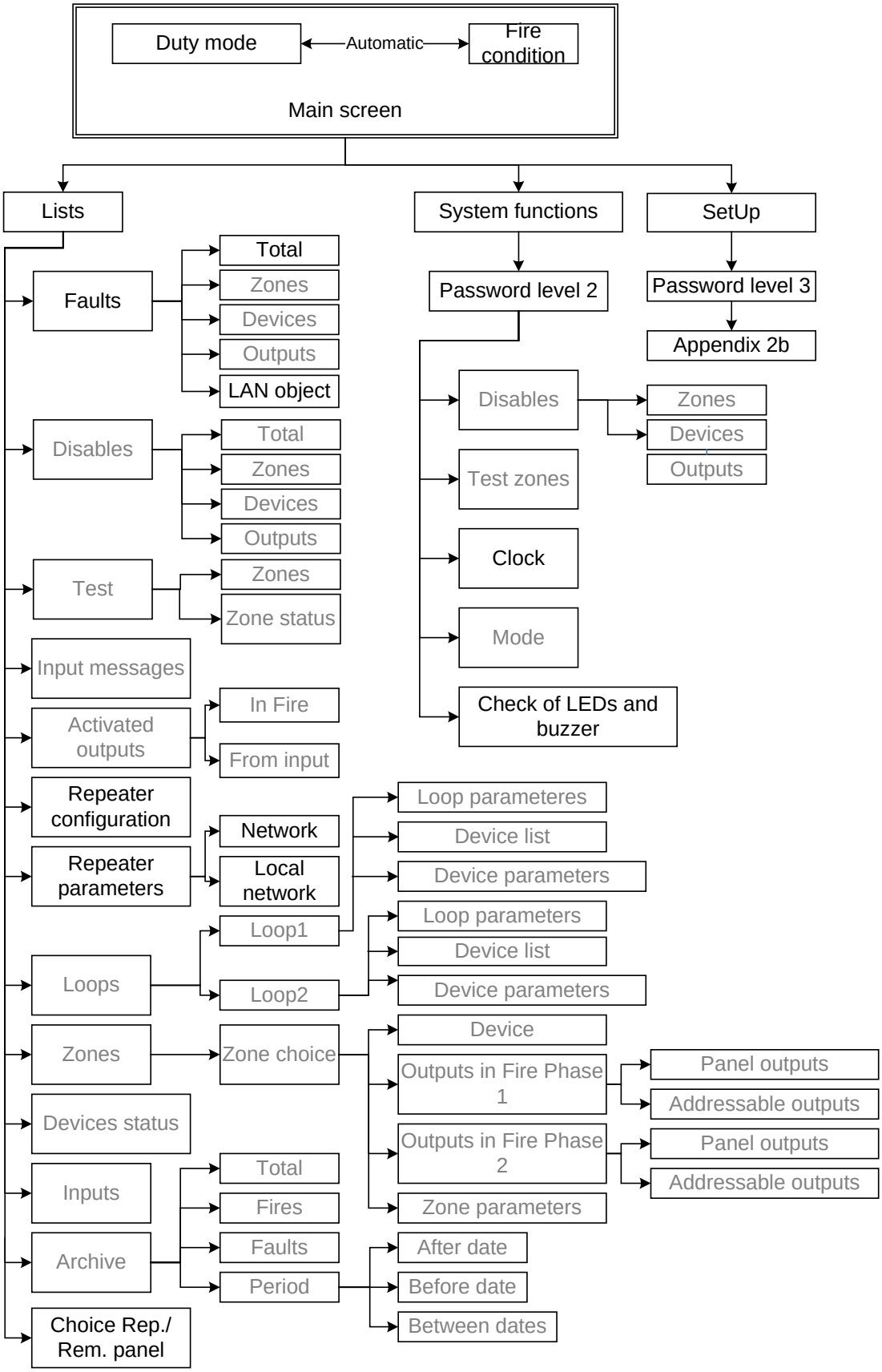
Appendix 1



1 Common indicator for fire condition
2 Common indicator for fault condition
3 Indicator for *System error*
4 Indicator for *Fault in power supply*
5 Indicator for *Disabled component*
6 Test indicator
7 Indicator for *Power supply*
8 LCD display

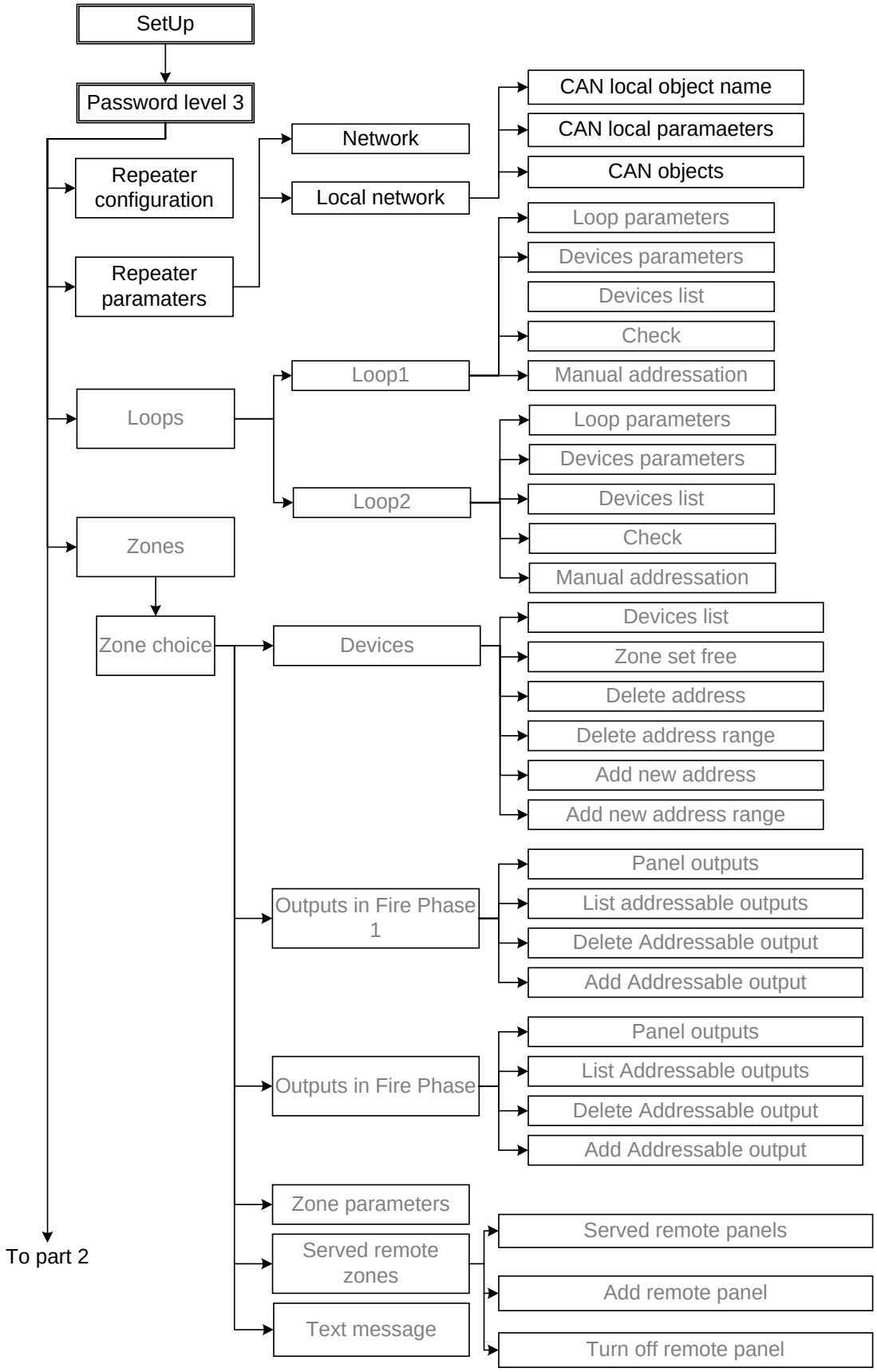
Front panel of repeater IFS7002R

Appendix 2



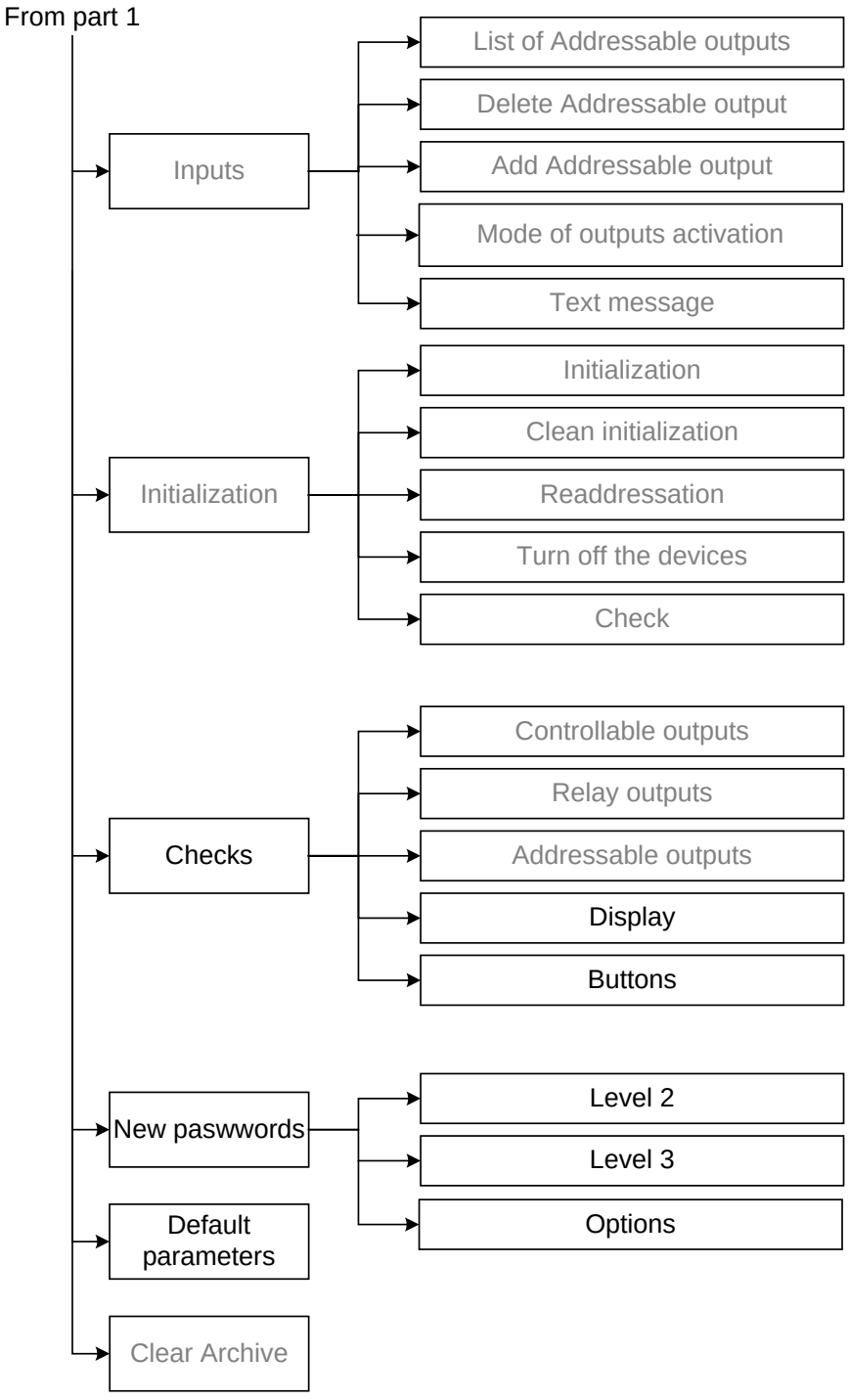
a) Main menu

Appendix 2 continued



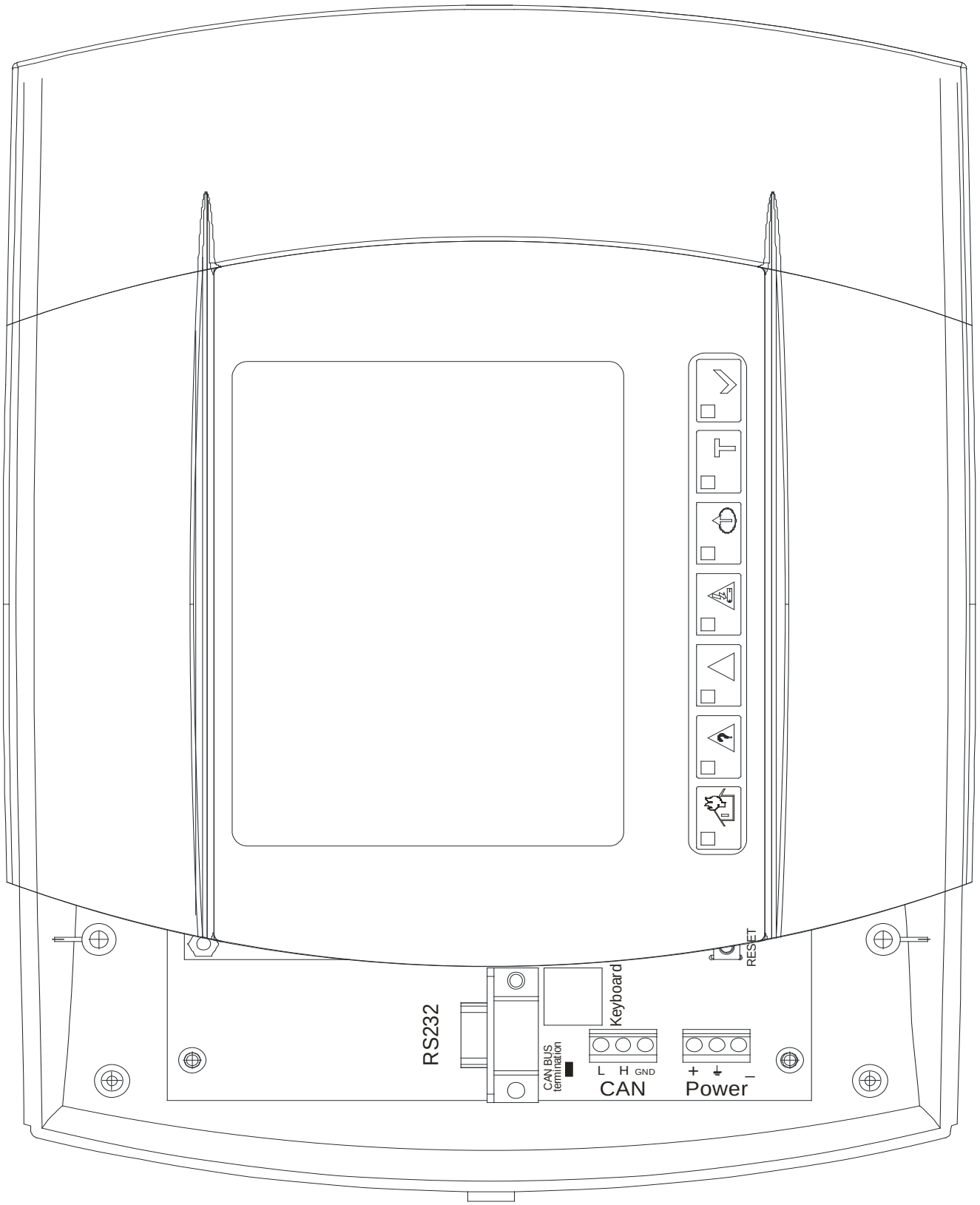
b) SetUp Menu (part 1)

Appendix 2 continued

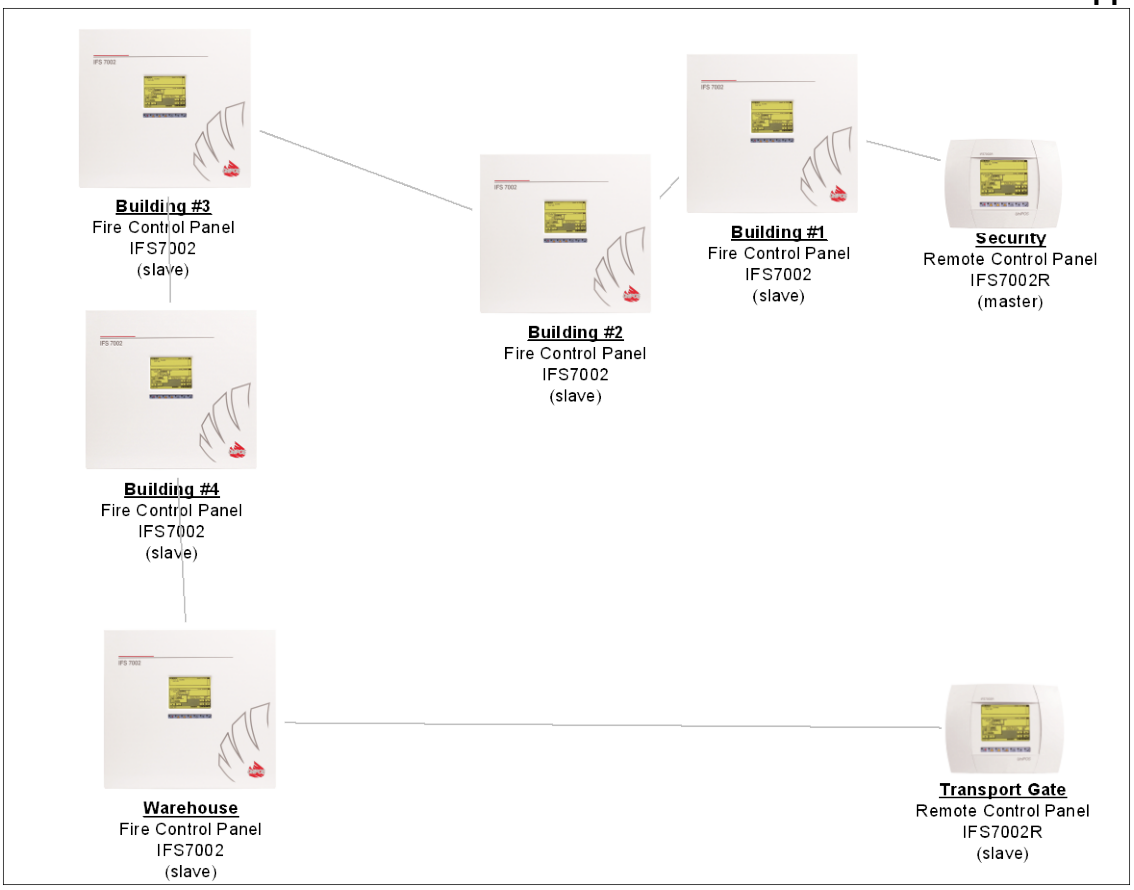


c) SetUp Menu (part 2)

Appendix 3



Appendix 4



1. Menu “Setup/Repeater configuration” (item 10.4.1)

Local network:	**On**
Periphery Device 1:	**On**
Periphery Device 2:	**On**
Periphery Device 3:	**On**
Power Loop:	**On**
Language:	**English**

2. Configuration panel parameters “Repeater parameters” (item 10.4.2).

2.1. Menu “Setup/Repeater parameters/Network” (item 10.4.2.1).

2.2. Menu “Setup/Repeater parameters/Local network” (item 10.4.2.2).

2.2.1. Enter the name in the menu “Setup/Repeater parameters/Local network/CAN local object name” – **Security**.

2.2.2. Configuration panel parameters in menu “Setup/Repeater parameters/Local network/CAN local parameters”:

Address of the repeater:	***1***
TOut/RecNext, [0.1s]:	***30 (default)***
TOut/RecConf, [0.1s]:	***50 (default)***
TOut/RecResp, [0.1s]:	***60 (default)***
Counter ‘Beep’ function:	***0 (default)***
MaxErrRec:	***3 (default)***
MaxErrSend:	***2 (default)***
Check period [s]:	***5 (default)***
Rate, [Kbits/s]:	***080***
Priority communic.level:	***Master***
Total connected CAN objects:	***6***

2.2.2. Add connected objects and describe their parameters in the menu “Setup/Repeater parameters/Local network/CAN objects/Add new CAN object”.

On the screen are show connected to the current CAN objects.