CORTEX

Security and Monitoring Systems

Security Commander for Windows

v5.xx

Server. User manual.

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General information.

Security Commander for Windows – is a software product intended for setting up a security and fire alarm monitoring system in the operating environment **Windows**. The system consists of a server and workstations, and provides the following main functions:

- processing of messages arriving simultaneously from several receivers (**CMS**) (up to 15);
- ability to process messages by several operators;
- a system for distributing messages between operators;
- visualization of the received information in a form convenient for the operator;
- message tracing (signal level, relay routes, etc.);
- configurable program interface;
- configurable language environment;
- clear presentation of information about the current state of the sites;
- archiving of the received information and operator actions;
- extensive capabilities for working with databases and archives;
- periodic monitoring of the state of the databases;
- periodic saving of a copy of the databases;
- database encryption with a double password;
- quick and convenient access to information about each site;
- ability to attach graphic and/or video information to the site card;
- ability to create a library of standard site configurations;
- ability to quickly display the site on the map;
- main and backup work schedule for each site;
- taking holidays into account in the work schedule and the ability to program them;
- real-time monitoring of unrestored alarms;
- periodic reminder to the operator about unrestored alarms;
- automatic monitoring of tests from transmitters and control panels;
- automatic monitoring of the online connection of devices operating over **IP**;
- generating and printing reports;
- a system for searching sites by a number of parameters;
- a filter system for displaying sites;
- sorting sites by status, group, class, event type;
- ability to send event messages to **E-mail**, mobile phone, pager;
- ability to send periodic reports to **E-mail**;
- ability for the operator to send messages to the persons responsible for the site;
- six levels of access to the program functions;
- monitoring of the operation of the receiver systems (**CMS**);
- time synchronization between the computer and the receivers (**CMS**);
- monitoring of communication with the receivers (**CMS**);
- ability of two-way information exchange with site devices operating over **IP** (signal reception, command transmission);
- ability to pass site information to the response team;
- a reminder system for scheduled **Maintenance** sites.

This manual is intended to familiarize users with the basic principles of the program's operation.

The program is designed to run under the operating system **Windows**.

The computer configuration must ensure stable operation of the operating system.

The computers on which the server and the operator workstations will be installed must be designed for round-the-clock operation.

In computers it is recommended to use **SSD** drive to speed up the program.

The installation package consists of two independent parts: the server and the workstation.

Server. Installing and starting the program.

To install the server program on a computer, run the installation file and follow the installation instructions. The file name looks like **WinSC_V5_0_2_109_Serv64_L.exe**, where V5_0_2_109 – is the program version number.

After installing the server, the dongle drivers must be installed Guardant, required for the program to work and to activate some of its functions. The driver installation package can be found in **<InstallDir>\tmp\Guardant\GrdDriversRU-x64.msi** or on the internet at https://www.guardant.com/support/download/drivers/. Run the installation file and follow the instructions. If the process completed successfully, on the dongle inserted into the **USB**-port of the computer, an indicator will light up.

Before starting the server, perform the following actions.

- Allow in Windows Firewall use **930** port by **TCP/IP** protocol (if for some reason the use of port 930 is impossible or undesirable, its value can be changed by editing it in the file **WinSC.ini** parameter **port=930** in the group **[cs]**).
- Add file **WinSC_serv.exe** to the list of allowed exceptions Windows Defender and the antivirus.
- Ensure the launch of the file **WinSC_serv.exe** as administrator; to do this, in **Properties (Properties)**, in the tab **Compatibility (Compatibility)** fill in the checkbox **Run as Administrator (Run this program as an administrator)**(see Fig.1).

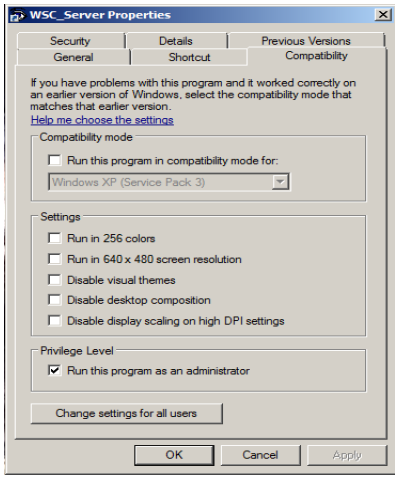


Fig. 1. Run as Administrator.

- Set a period as the decimal separator (by default it is usually – comma). To do this, open **Control Panel**, select **Region and Language** (tab **Formats**) and press the button **Additional settings**. Set the value **Decimal symbol** – a period (see Fig.2).

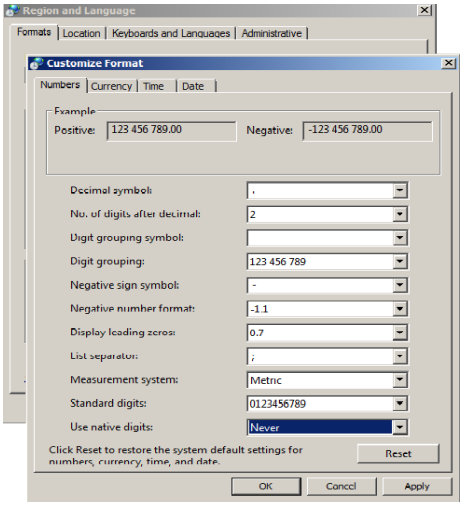


Fig. 2. Setting the Decimal symbol value.

If message distribution services are to be used, the server must be launched with parameters. This can be done in two ways: by editing the shortcuts (shortcut)used to launch the server, or by editing the file

WinSC.ini. To edit the shortcut, open its properties window **(Properties)**, tab **Shortcut**. The launch parameters are written in the field **Target** separated by a space, as shown in Fig.3.

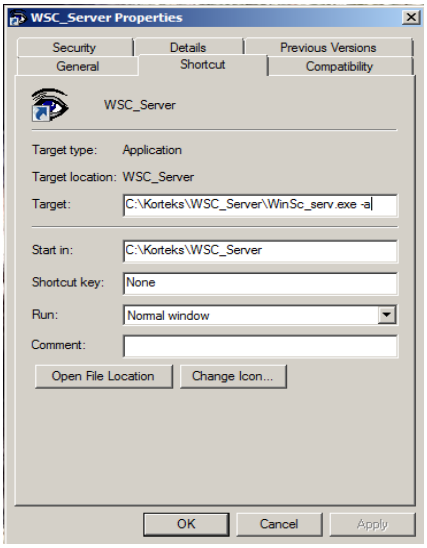


Fig. 3. Launch parameters.

When describing the parameters via shortcuts, each shortcut will launch the server with the set of parameters written in that shortcut. If the shortcut is not used (for example when launching from **Windows Explorer**), the server will be launched without parameters or with the parameters described in the configuration file **WinSC.ini**.

To describe the server launch parameters via the file **WinSC.ini**, in this file, in the group **[Options]** edit the parameter **paramstr**, which looks like:

paramstr= -a -m -s

The server will always be launched with the described parameters. When the launch is done via a shortcut containing at least one parameter, the parameters described in the shortcut apply.

The server supports the following parameters:

- <**+**>. This parameter lets you run several applications on one computer **WinSC**, for example: the server and a workstation. The parameter must always be first in the list.
- <**-a**>. Initiates program start without authorization, with the rights of **Operator**.
- <**-m**>. Initiates message distribution via e-mail (**E-mail**). This parameter also causes the automatic launch of the application **Msnd**.
- <**-s**>. Initiates message distribution via the console **CU-GSM-2** (**SMS**). This parameter also causes the automatic launch of the application **SMSTcp**.
- <**-g**>. Initiates message distribution via the transmitter **PGC-232** directly to a text pager. This parameter also causes the automatic launch of the application **Pager**.
- <**-r**>. Initiates a full database repair process before the program starts.
- <**-tr**>. Initiates a reset of all test message monitoring timers in the program. Recommended only after a long break in the server operation or after loading a database backup.

Before starting the server, the servers for receiving messages from radio transmitters must also be installed and configured (**RPT_Serv**) and **IP** transmitters (**TLF_Serv**). Their installation and configuration are described in detail in the manuals of the corresponding applications.

If messages are to be distributed by e-mail, **SMS** and/or to a pager, the corresponding applications must be placed in the main program directory and configured.

The program is started by double-clicking the icon **WSC** on the desktop or via the Start menu in the corresponding program group.

At the first launch of the server, the interface language selection window appears (see Fig.4).

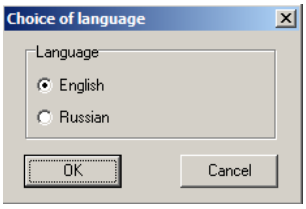


Fig. 4. Language

The program does not support the use of **Unicode**, therefore only two languages can be selected: English and the one specified in the regional settings Windows, as **Language for non-Unicode programs** (Language for programs without support of **Unicode**)(see Fig.5).

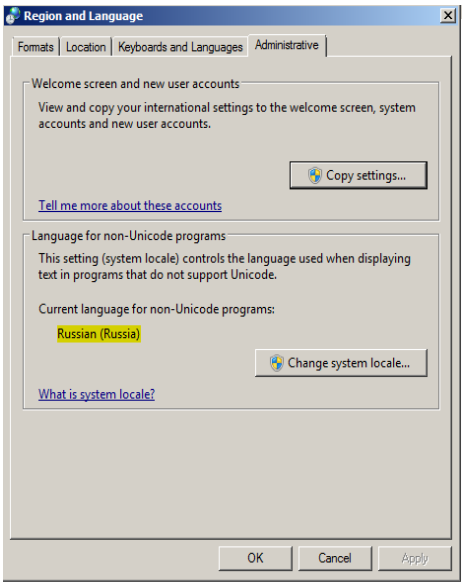


Fig. 5. Regional settings.

If the second language selection is inactive, it means the language selected in the regional settings is not supported by the program. By default the program supports 3 languages: English, Latvian, Russian. Language support is provided through the file **<Language>.ini**, where <Language> - name of the language, identical to the one used in **Regional settings Windows**. For the program to support a new language, one of the existing files must be translated into it, given a name as described above, and placed in the main program directory. To change the already selected interface language, from the file **WinSC.ini** delete the parameter **LANGUAGE=** from the group **[LOCALE]**, and restart the program.

The server loads without authorization, but with a minimal set of rights. To make any settings, the user must be changed. To do this, press the button on the top control panel of the program **End session** and, in the confirmation window that appears, press **OK**. In the authorization window, enter the user identifier (Login) and password. After installation, only one user is registered in the program – the Administrator, who has unconditional access rights.

Login – **sys,** Password – **sys.**

Login of the Administrator is fixed and cannot be changed, while it is recommended to change the password, since it is used in encrypting the database.

Server. Interface.

The program interface has a large number of configurable parameters, which allows each user to individually make it as convenient as possible to work with.

Appearance of the main program window (Monitoring) is shown in Fig.6.

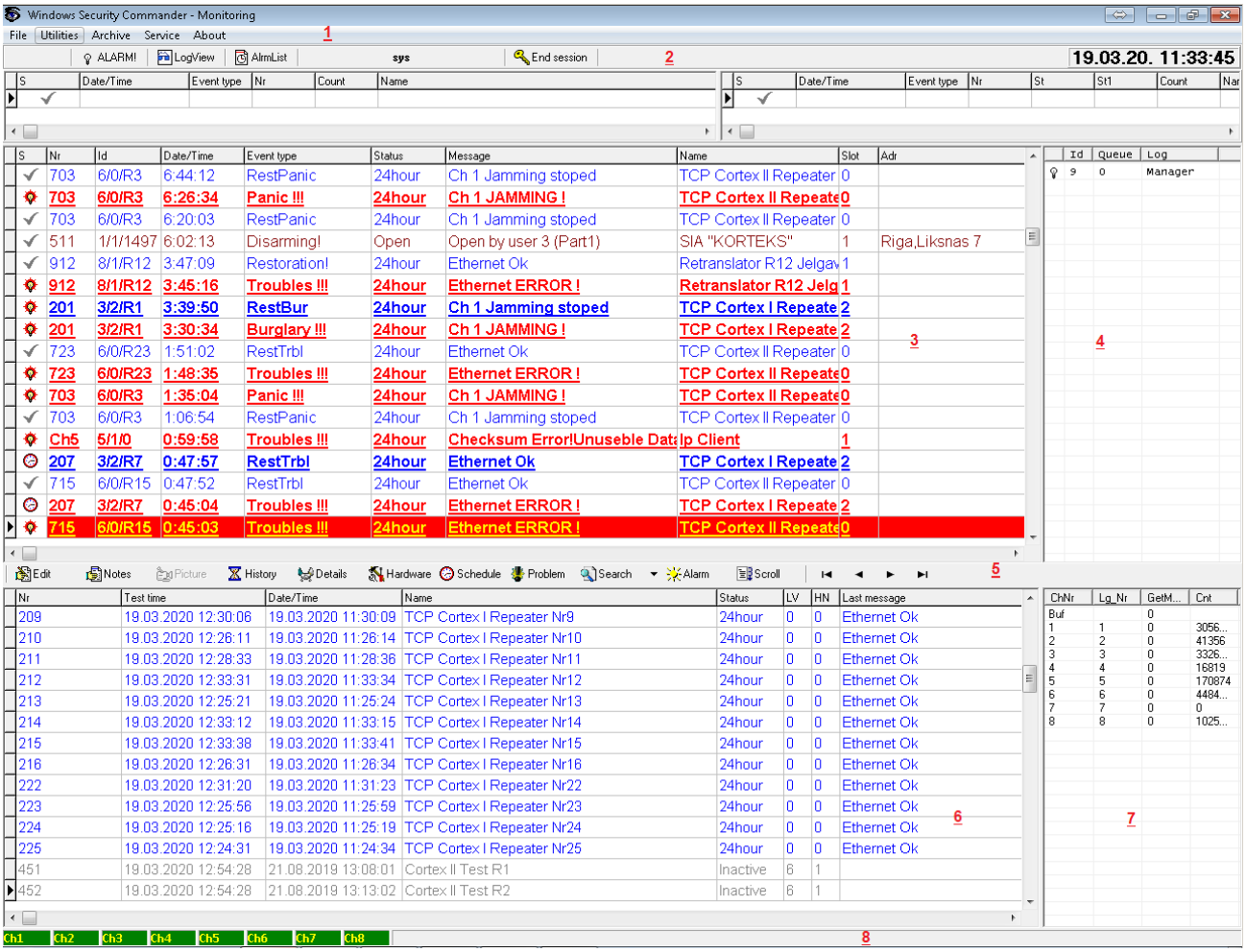


Fig. 6. Main program window Monitoring.

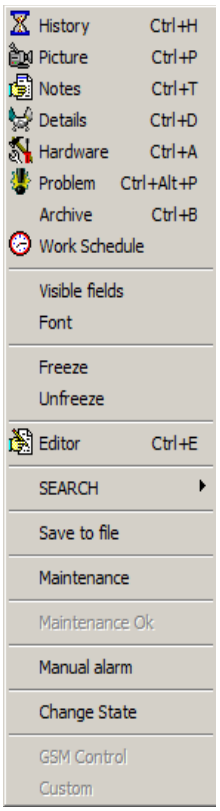
1. Main program menu.
2. Control panel.
3. Event window.
4. Workstation connections window.
5. Information panel.
6. Site window.
7. Receiver connections window.
8. Status panel

All information about the operation of the system is available from this window: the state of the sites, incoming messages, the status of the receivers and workstations.

Site information window.

The window is a table containing information about all the registered in the database. For clarity, the sites in the table are displayed in different colors depending on the type of the last message. Black means there have been no informational messages since the site was entered or last edited. Sites removed from monitoring are displayed in gray.

The window has a number of user-configurable parameters. The parameters are configured via the context menu (opened with the right mouse button). The same menu is used to open extended information for the site under the cursor, to open the site editor, and to search for sites in the table. The appearance of the menu is shown in the figure. Additional information about a site is opened with the following commands:



- **History** – quick display of the last ten events for the selected site. The "hot key" is **Ctrl+H**.
- **Picture** – displays on screen the graphic information corresponding to the selected site. The "hot key" is **Ctrl+P**.
- **Notes** – displays the comments for the selected site on screen. The "hot key" is **Ctrl+T**.
- **Details** – displays extended information about the site and the responsible persons on screen. The "hot key" is **Ctrl+D**.
- **Hardware** – displays on screen information about the equipment installed at the site. The "hot key" is **Ctrl+A**.
- **Problem** – lets the user leave a note about a problem that occurred at the site. All notes are entered in a list where they can be processed and printed. The "hot key" is **Ctrl+Alt+P**.
- **Archive** – opens the filter for generating an archive query for this site (see the "Working with the Archive" section). The "hot key" is **Ctrl+B**.
- **Work Schedule** – displays the site work schedule on screen.

Note. In Latin letters are used in the "Hot Keys".

The window interface configuration commands include the following menu items:

- **Visible fields** – defines the fields displayed in the table. To display a field, check its name in the list offered when this menu item is selected. The following fields are available for display in the table:
  - **Date/Time** – time of arrival of the last message from the site
  - **Nr** – site number in the database
  - **Id** – source of the last informational message in the form: receiver number / slot (line) number / device address
  - **TxAdr** – address of the radio transmitter installed at the site in the form: receiver number / slot number / address
  - **Account** – number of the control panel installed at the site or **IP** transmitter in the form: receiver number / line number / number
  - **Status** – site status (armed / disarmed)
  - **OOLin** – status **IP** of the site (**Online** / **Offline** / **Unknown**)
  - **Event type** – type of the last message received from the site
  - **Name** – site name
  - **Description** – brief description of the site
  - **Last message** – last message from the site
  - **Adr** – site address specified in the field "**Address**" of the tab **Details** in the site card
  - **GSMPhn** – phone number **GSM** or **Online-Id IP** of the transmitter
  - **Lat** – geographic latitude of the site
  - **Long** – geographic longitude of the site
  - **Test time** – expected time of arrival of the next test message from the radio transmitter
  - **TlfTim** – expected time of arrival of the next test message from the control panel or **IP** transmitter
  - **TlfTim1** – expected time of arrival of the next specific test message from the control panel or **IP** of the transmitter

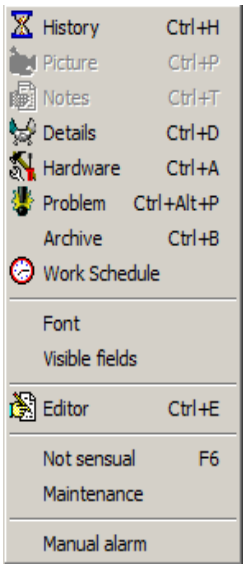
Note 1. Test messages are not displayed in the Site Window as the last message, but the arrival time of the last message is updated. This means that the arrival time of the last message (**Date/Time**), does not necessarily correspond to the message displayed in this window. For accurate information about the message arrival time, use **History** or the archive.

Note 2. The default order of the fields in the table corresponds to that specified in section **Visible fields**. To change it, place the cursor on the field header and, holding the left mouse button, drag the column to the desired place. To change the field width, place the cursor on the right edge of the header and, when the "<|| >" symbol appears, drag the edge to the desired place while holding the left mouse button.

- **Font** – lets you choose the optimal font type and size, as well as the encoding table.
- **Freeze** – keeps the fields to the left of the selected one fixed when the table is scrolled horizontally.
- **UnFreeze** – cancels the previous command.
- **Editor** – opens the site editor preset to the selected site. The “hot key” is **Ctrl+E**.
- **Search** – lets you search the table by the fields specified in the additional menu. In the field **Nr.** the search is performed by the full site number, while in the other fields it is performed by any fragment of the record. The search always starts from the first record.
- **Save to file** – lets you save the table contents as a text file with tab-separated fields, which can later be imported into **MS Excel**, **Open Office Calc** or any other similar application.
- **Maintenance** – when the site is switched to this mode, all messages arriving from it are not accompanied by sounds and do not trigger the alarm window. Used to avoid distracting the operator during maintenance or installation work.
- **Maintenance Ok** – resets and restarts the countdown to the next maintenance (**Maintenance**). It becomes active if a period is set for the site **Maintenance**.
- **Manual alarm** – starts the alarm emulator for the site. Used to dispatch a crew to the site when no alarm messages have arrived from it (customer call, inspection, etc.)
- **Change State** – lets you forcibly change the current status of the site (armed, disarmed, 24h, etc.).
- **GSM Control** – not used on the server.
- **Custom** – not used on the server.

Event information window.

Displays, in chronological order, messages from all sites registered in the database and system messages. Each message occupies one line and is highlighted with a color depending on the type of the received message. Messages whose processing requires the operator's special attention (opening the alarm window) are shown in bold and underlined. Opening the alarm window on the server is not possible.



The event window also has a number of configurable parameters. As in the site window, the parameters are configured and additional site information is opened via the context menu (opened with the right mouse button). The appearance of the menu is shown in the figure. Additional information about a site is opened with the following commands:

- **History** – quick display of the latest events for the selected site. The “hot key” is **Ctrl+H**.
- **Picture** – displays on screen the graphic information corresponding to the selected site. The “hot key” is **Ctrl+P**.
- **Notes** – displays the comments for the selected site on screen. The “hot key” is **Ctrl+T**.
- **Details** – displays extended information about the site and the responsible persons on screen. The “hot key” is **Ctrl+D**.
- **Hardware** – displays on information on screen about the equipment installed at the site. The “hot key” is **Ctrl+A**.
- **Problem** – lets the operator leave a note about a problem that occurred at the site. All notes are entered in a list where they can be processed and printed. The “hot key” is **Ctrl+Alt+P**.
- **Archive** – opens the filter for generating an archive query for this site (see the “Working with the Archive” section). The “hot key” is **Ctrl+B**.
- **Work Schedule –** displays the site work schedule on screen.

Note. Latin letters are used in the “Hot Keys”.

The window interface configuration commands include the following menu items:

- **Font** – lets you choose the optimal font type and size, as well as the encoding table.
- **Visible fields** – defines the fields displayed in the table. To display a field, check its name in the list offered when this menu item is selected. The following fields are available for display:
  - **S** – current status of the message. It can have the following values:
    - ► processed automatically – 
    - ► processed by the operator – 
    - ► the event is not processed – 
    - ► the event is taken by an operator – 

- ► the event is postponed by an operator –
- ► the event has been passed to the crew and is being handled –
  - **Date/Time** – time of arrival of the signal from the site.
  - **Event type** – type of the message received from the site.
  - **Nr** – site number in the database.
  - **Status** – site status (armed / disarmed).
  - **Message** – message text.
  - **Id** – source of the message in the form: receiver number / slot (line) number / transmitter address (control panel number).
  - **Name** – site name.
  - **Description** – site description.
  - **Adr** – site address specified in the field “**Address**” of the tab **Details** in the site card.
  - **User** – identifier of the user who processed the message or is working with it.
- **Not sensual** – when switched to this mode, all subsequent activations of this zone or this event code are ignored during the set period of time. Active only on unprocessed messages. The “hot key” is **F6**.
- **Maintenance** – when switched to this mode, all messages arriving from the site are not accompanied by sounds and do not trigger the alarm window. Used to avoid distracting the operator during maintenance or installation work.
- **Manual alarm** – starts the alarm emulator for the site. Used to automatically dispatch a crew to the site when no alarm messages have arrived from it (customer call, inspection, etc.)

Workstation connections window.

The workstation connections window lets you monitor the status and list of users currently connected to the server.

The window contains the list of active connections with the following information:

- **User name (Log)**. The name under which the user logged in at the workstation.
- **Message queue (Queue)**. Number of messages intended for the user but not delivered to them.
- **User number (Id)**. User identifier in the database.

In addition, there is a connection status indicator in the form of a lamp image. When there are problems with the connection, it turns red.

If necessary, a workstation can be disconnected. To do this, select the required connection by clicking it with the left mouse button, then open the context menu with the right button and click **LogOff**. The application on the workstation will be closed and the connection terminated.

Receiver connections window.

The receiver connections window lets you monitor the operation of the receivers connected to the program in real time. The window contains the following fields:

- **ChNr**. Physical number of the channel the receiver is connected to.
- **Lg_Nr**. Logical channel number (messages arrive in the program with this number).
- **GetMsgNum**. Number of messages from the receiver not passed to the program (queue).
- **Cnt**. Number of messages passed from the receiver to the program since the program restart or receiver reinitialization.

The window is purely informational and no control functions are provided in it.

Information panel.

The information panel of the main window contains a set of buttons for opening additional information about the site under the cursor, and for activating some frequently used program functions. The cursor can be placed either in the site window or in the event window.

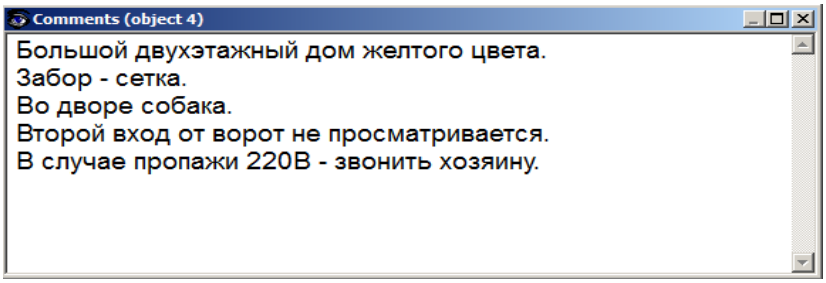


Edit.

This button opens the site database editor. A more detailed description is in the “DB Editors” section.

Notes.

Opens the additional site information window. It contains information about the site that does not fit into the standard information fields. The information is given in free form, and its amount is unlimited.

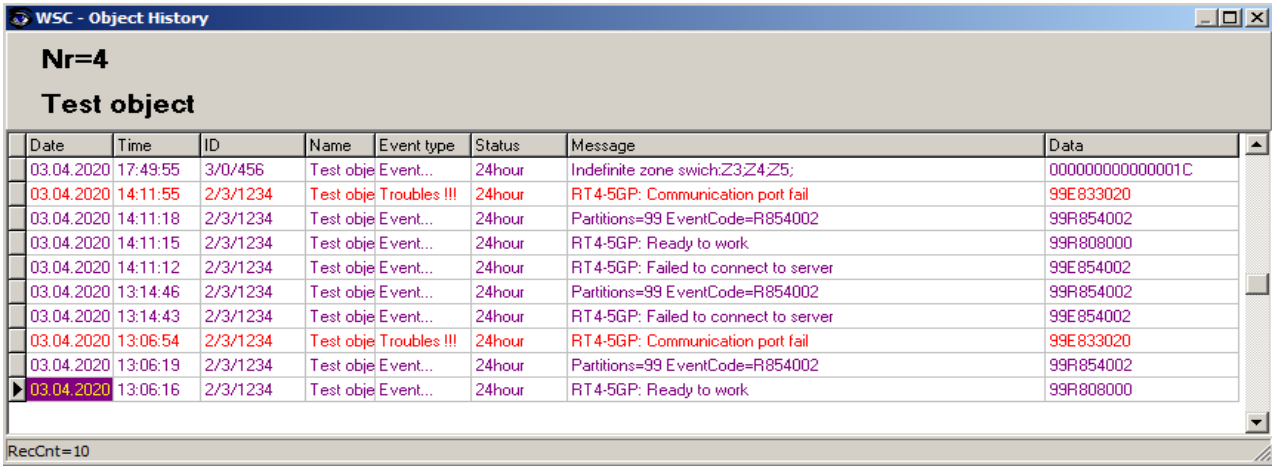


Picture.

Opens the image or video, “attached” to the selected site. The corresponding file is opened by a third-party application selected for this purpose in the program settings (see section «System settings»). The file format is determined by the application selected to open it.

History.

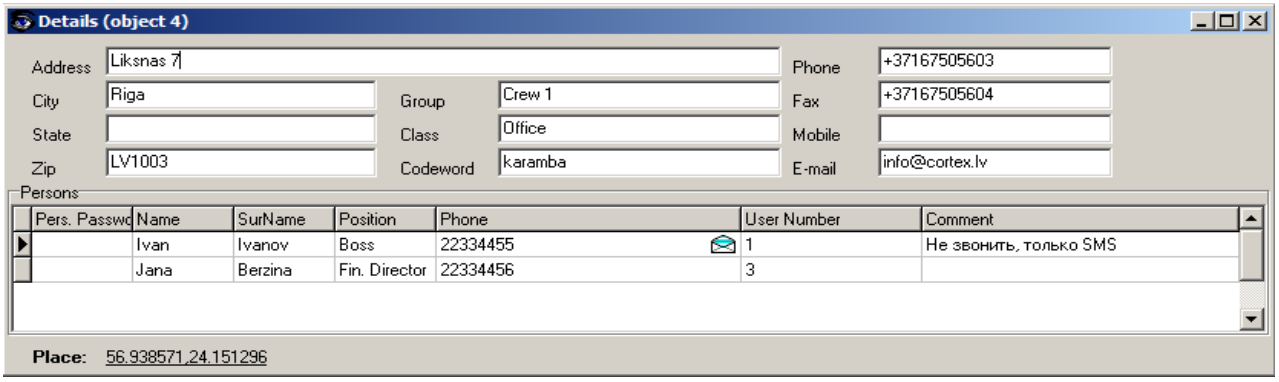
Opens the window containing the list of the latest messages from the site.



The list contains only informational messages that arrived from the site. Test messages and program messages about the site (for example: **No Signal**, **Schedule Error** etc.) are not displayed in this window. The maximum number of displayed messages is configured via the context menu, opened with the right mouse button, parameter **Depth of History**. The number of messages can be set in the range from 3 to 50. The default value is 10. The window contents are also configured through this menu (**Visible fields**) and font parameters (**Font**). The relative position of the fields in the window and their sizes can also be changed.

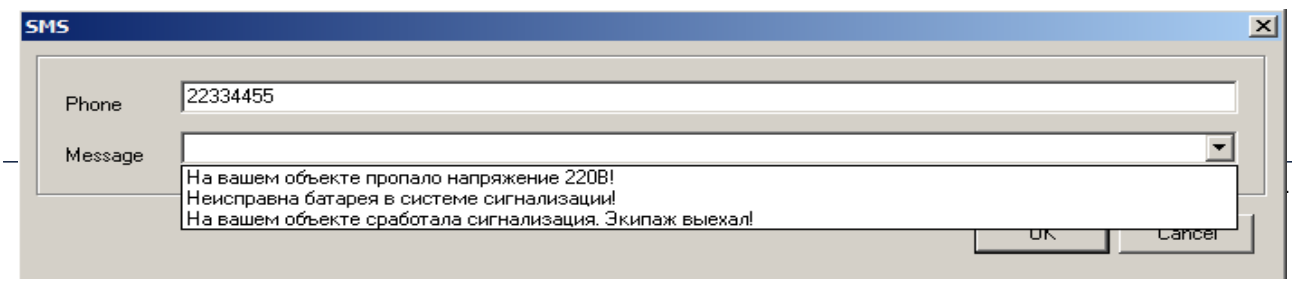
Details.

Opens the window with the main site information and the list of responsible persons:



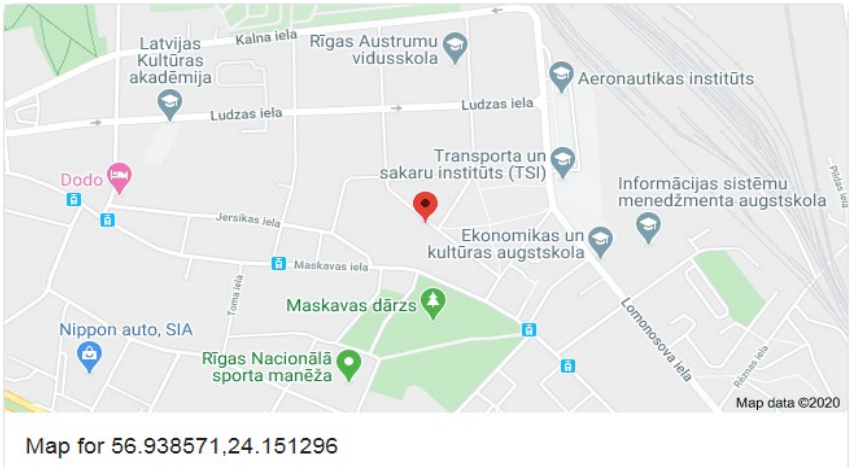
2 additional services are available from this window.

1. Sending **SMS** responsible person. Clicking the envelope next to the phone number in the list of persons opens the message sending window:



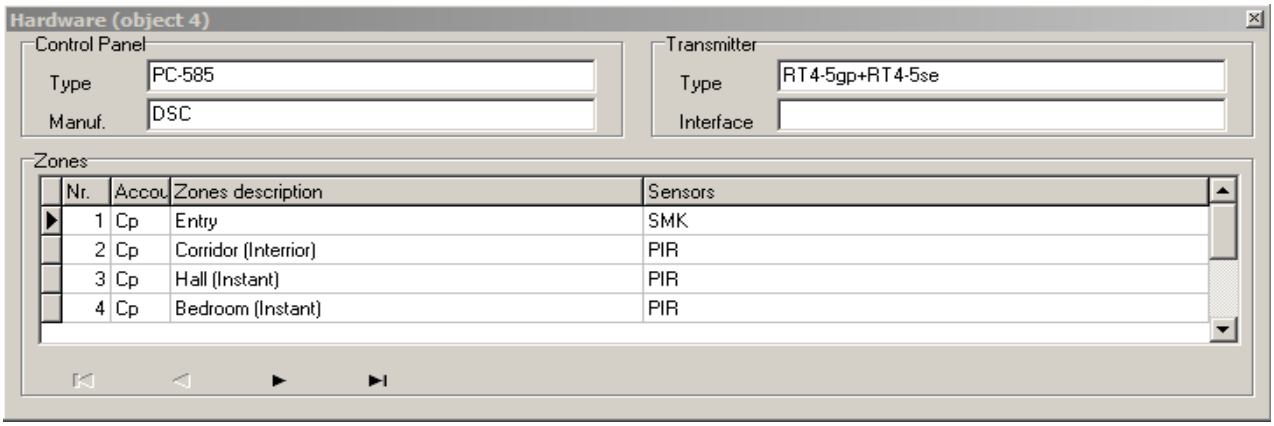
The phone number in the field **Phone** can, if necessary, be changed or supplemented (for example with the international code). The message text in the field **Message** can be typed manually or a pre-prepared one selected from the drop-down window. A standard message can also be supplemented. Standard messages can be added, deleted or changed in a special editor (**Service/SMS Editor**) separately for the server and each workstation.

2. Displaying the site location on the map **Google Maps**. At the bottom of the window, in the field **Place** the site coordinates are displayed. This is a hyperlink; clicking it opens the internet browser selected as the system default, showing a mart **Google Maps** with the point marked.



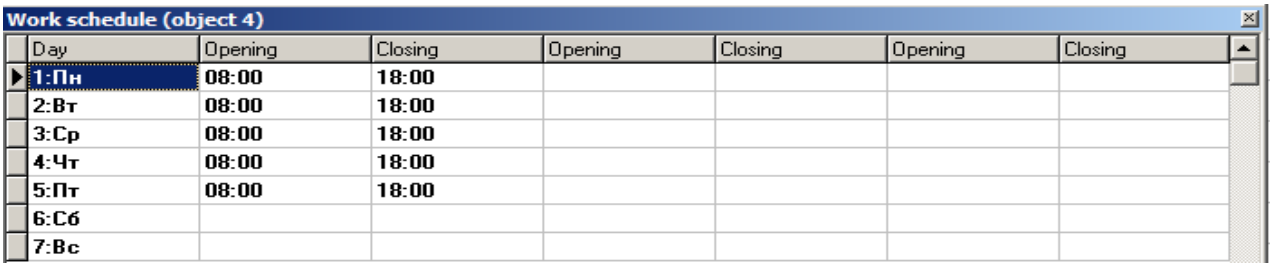
Hardware.

Opens the window with the equipment list and the descriptions of the protected zones:



Schedule.

Opens the window with the site working time schedule:

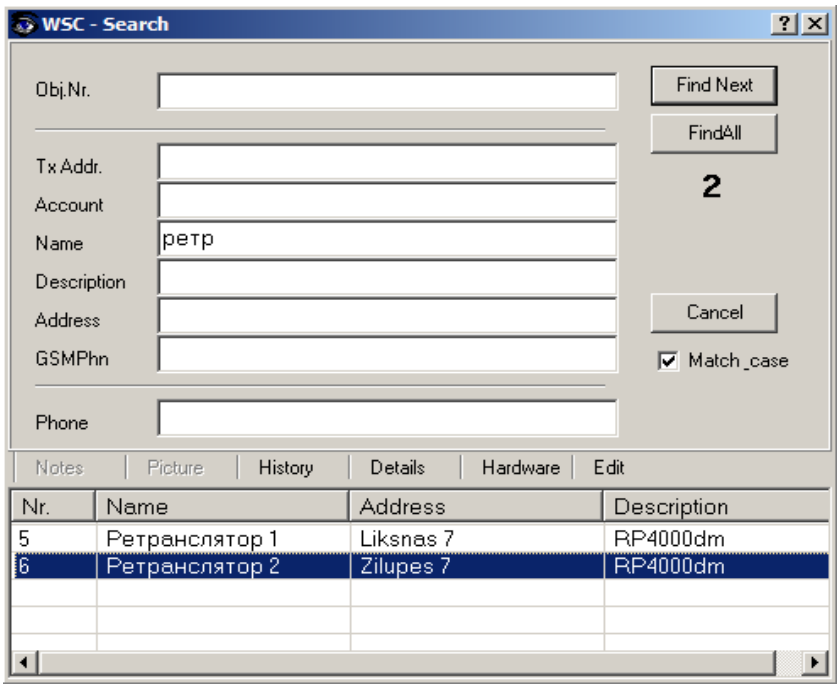


Problem.

Lets you record a problem that occurred at the site. The problem is described in free form in the window that opens. After pressing **OK**, goes to the problem list, which can later be reviewed at any workstation via the menu **Service/Problem List**.

Search.

Openss the window that lets you search for sites in the database.



The search can be done for a single site (**Find next**), where the cursor in the site window is placed on the next matching site each time, or all sites matching the selected criteria are displayed in a separate window along with the number of sites found (**Find All**). In the latter case the cursor is placed on the site selected in the list. For the selected site you can, directly from the search window, get information using the buttons **Notes**, **Picture**, **History**, **Details**, **Hardware**, and enter site editing.

A filled-in checkbox **Match_case** makes the search case-insensitive.

The search can be done by the following criteria:

1. **Obj. Nr.** Quick search by site number. This criterion implies a single search only and cannot be combined with other criteria.
2. **TxAddr**. Site search by radio transmitter address. The full transmitter address looks like: **C/S/AAAA**, where **C** – reception channel number, **S** – slot number, **AAAA** – the transmitter address itself. The search can be done by the full address or any part of it. The search syntax:
   C/ – search by channel number
   /S/ – search by slot number
   AAAA – search by transmitter address
   C/S/ – search by channel number and slot number
   /S/AAAA – search by slot number and transmitter address
   C//AAAA – search by channel number and transmitter address
   C/S/AAAA – search by full address.
3. **Account**. Search by control panel account or **IP** of the transmitter. The full account consists of the reception channel number, the line number and the account itself. The search can be done by the full account or by any part of it. The syntax is the same as **TxAddr**, except that the account uses the hexadecimal number system: digits (**0** – **9**), letters (**A** – **F**).
4. **Name**. Search by site name. The search is done by any text fragment and may include letters, digits and special characters.
5. **Description**. Search by site description.
6. **Address**. Search by site address.
7. **GSMPhn**. Search by phone number **SIM**-map or online identifier IP of the transmitter. The search can be done by the full number or any fragment of it.
8. **Phone**. Search by the phone number of the responsible person. The search is done among the phone numbers present in the column **Phone** of the section **Persons** tabs **Details**. The search can be done by the full number or by any fragment of it.

For criteria 4 through 8, searching by several fragments is also possible. In this case they are entered separated by spaces, and records containing all the fragments are searched for.

You can also search by several criteria (2nd through 8th). In this case, records matching all criteria simultaneously are searched for.

Alarm.

Lets you manually generate an alarm window for the selected site when a response team must be sent to the site in the absence of alarm signals. For example, to inspect the site at the client's request, etc. When the

button is pressed, a window appears with the number of the selected site and a field for entering or selecting the alarm message type.



After pressing the key **Enter**, a standard alarm message is generated, which the operator can pass to the response team.

The list of standard alarm types can be changed or extended by editing the settings file **WinSC.ini**. These entries are in the group **[ManualAlarms]** and look like:

[ManualAlarms]
1=To watch
2=By client request
3=Preventive measures

Entries can be made in free form and without limit on their number. The message length is – no more than 120 characters.

Scroll.

Turns the auto-refresh mode of the event window on / off when new messages arrive. This mode can also be enabled with the key **Home** on the keyboard, turn off – with the keys **Arrow down** or **End**, provided the active row is in **Event Window**.

Status panel.



The status panel contains graphic information about the status of the receivers by channel. Green means the receiver is connected, red means the connection to the receiver has been lost, black means there is no real-time connection monitoring for this receiver type. In the latter case, monitoring is done by the presence of messages from the receiver (see section “Receiver Settings”).

Control panel.



The control panel contains the following controls and indicators (from left to right):

- unprocessed events indicator (not functional in the server)
- button that opens the program for viewing .log file (see the section “Working with the program “**LogView**»)
- button that opens the list of unrestored alarms (see the section “Information window “**Alarm List»**)
- name of the current operator
- button ending the current operator's shift
- current time

Main program menu.



Main program menu (the “hot key” is **Alt**) is used for basic configuration and control of the main program functions.

The main menu contains the following items:

- **File**
- **Utilities**
- **Archive**
- **Service**
- **About**

The contents of the menu items depend on the access level of the authorized user. Below the menu contents are covered for the maximum access level (**Administrator**).

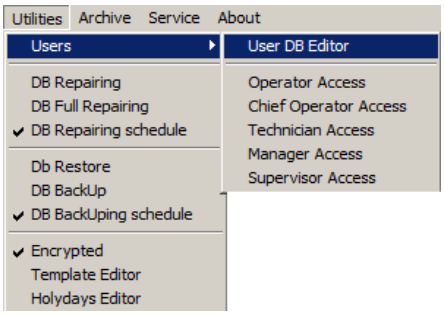
Submenu File.

Contains two submenus:

- **End session**. It has the same function as the button of the same name on the control panel – it initiates the end of the current operator's shift and offers authorization to the next one.

- **Exit.** Exit from the program.

Submenu Utilities.



Contains functions for working with the site and user (operator) databases.

It has the following submenus:

- **Users** – in turn contains functions for working with the user database:

  User DB Editor – opens the user database editor (see section «Editors DB»)

  Operator Access
  Chief Operator Access
  Technician Access
  Manager Access

  Supervisor Access – opens the window for configuring the corresponding access level. The access level **Administrator** (login **sys**) has unconditional full access to the program functions.

  The access configuration window is shown in Fig.7. The left-hand part of the window lists the program functions and main-menu items, access to which can be configured at your discretion for each user category. Three access levels are possible for each function: available, unavailable, and read-only. If neither field next to the name is filled in, the function is unavailable; if the field is filled in **Allow** – is available if the field is filled in **R/O** – is available for viewing without the ability to make changes.

  Brief description of the functions:

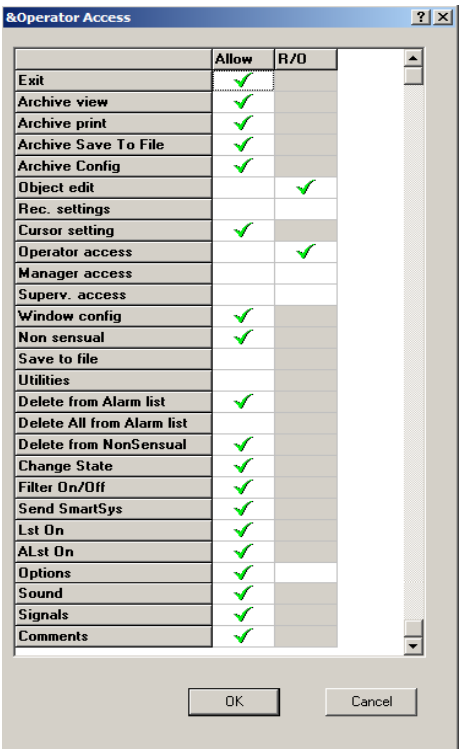


Fig. 7. Access settings.

  - **Exit** – exit the program
  - **Archive view** – archive viewing
  - **Archive print** – archive printing
  - **Archive Save to File** – saving an archive query to a text file with field separation
  - **Archive Config** – configuration of the archive display and print windows
  - **Object Edit** – editing, adding, deleting sites
  - **Rec. Settings** – adding, deleting and configuring message receivers
  - **Cursor setting** – turning on / off the function of automatically placing the cursor on the highest-priority message in the alarm list window.
  - **Operator Access** – operator access rights configuration
  - **Chief Operator Access –** senior operator access rights configuration.
  - **Technician Access** – technician access rights configuration.
  - **Manager Access** – manager access rights configuration
  - **Superv. Access** – supervisor access rights configuration
  - **Window config** – configuration of the layout and parameters of the main program windows
  - **Non Sensual** – starting site maintenance and blocking messages
  - **Save to File** – saving the site list to a text file with field separation
  - **Utilities** – access to the menu item
  - **Delete from Alarm list** – deleting messages from the unrestored alarms list one at a time
  - **Delete All from Alarm list** – deleting all messages from the unrestored alarms list
  - **Delete from NonSensual** – disarming of the site **Maintenance** or unblocking of the message
  - **Change State** – forced change of the site status
  - **Filter On/Off** – turning the site filter on / off
  - **Send SmartSys** – sending event data to the response team crew
  - **Lst On** – presence in the interface of **Event Windows**
  - **ALst On** – presence in the interface of **Alarm List Windows** (ability to process alarms)

- **Options** – access to the menu item
- **Sound** – ability to configure the sound notification parameters
- **Signals** – ability to configure sounds by message type
- **Comments** – ability to edit the operator's standard comments on the processed events.

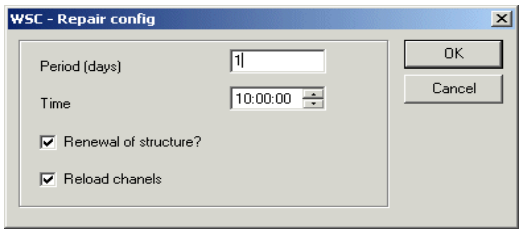
- **DB Repairing** – initiates the function of finding and fixing errors in the most vulnerable database tables.
- **DB Full Repairing –** initiates the function of finding and fixing errors in all database tables.
- **DB Repairing schedule** – opens the periodic database monitoring configuration window. The following parameters are configured in the window:

  Period (days) - sets the period for automatic invocation of the function **DB Repairing.**

  Time – activation time of the function **DB Repairing.**

  Renewal of structure - defines whether the information in the site table will be refreshed after the database repair.

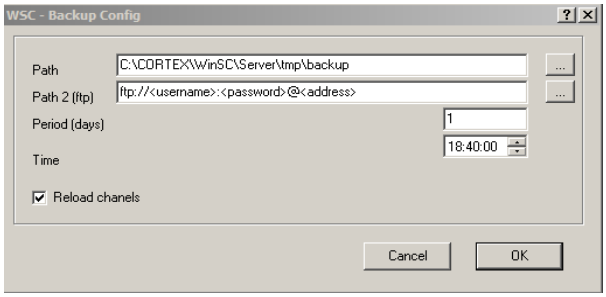
  Reload channels - defines whether the connection to the receivers will be reinitialized after the database repair.



- **DB BackUp** - initiates the database backup function.
- **BackUping schedule** – opens the periodic database backup configuration window. The following parameters are configured in the window:

  Path – defines the path to the folder where the database backup will be saved. The folder must be open for file modification. If the backup is made to another computer, a network drive must be set up there.

  Path 2 (ftp) – defines an additional path for the database backup, which may also use **ftp** or regular shared access to the directory and files (**Sharing**) without setting up a network drive.



  Period (days) - sets the period for automatic invocation of the function **DB BackUp.**

  Time – activation time of the function **DB BackUp.**

  Reload channels - defines whether the connection to the receivers will be reinitialized after the database backup is created.

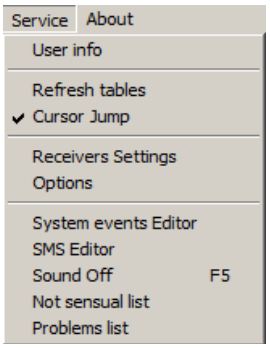
- **Change system password** – lets you change the administrator password (default "**sys**»). It is recommended to change the administrator password immediately after installing the program, since besides unconditional access to the program functions it provides database encryption. Available to the Administrator only.
- **Encripted** – lets you disable database encryption. Available to the Administrator only.
- **Template Editor** – lets you create global event code templates. For details see the "DB Editor" section.
- **Holydays Editor** – lets you define holidays. For details see the "DB Editor" section / page "Work Schedule».

Submenu Archive.

Contains functions for generating queries based on the specified parameters and for the specified period of time.

For more details on generating queries see the "Working with the Archive" section.

Submenu Service.



Contains functions for configuring the main program parameters and making it convenient to use.

- **User info** – displays information about the current user: his name, login, and the access level. These parameters cannot be changed in this function.
- **Refresh tables** – refreshes the window contents and settings.

- **Cursor Jump** – controls the function of placing the cursor on the site that sent the highest-priority message requiring processing. Works only in alarm list windows.
- **Receivers Settings** – opens the window for configuring the reception channel parameters. See the “Receiver Settings” section for details.
- **Options** – opens the window for configuring the main program parameters. See the “System Settings” section for details.
- **System events Editor** – opens the editor of system messages from the receivers used in the system. See the “Database Editors” section for details.
- **SMS Editor —** opens a window where you can create message templates for sending to the client in case of problems at their site.
- **Sound Off** – turns off the sound that starts when an alarm message arrives. “The “hot key” is **F5**.
- **Not sensual list –** list of sites placed under maintenance, as well as blocked events and zones**.**
- **Problems list –** list of all notes made by the operator about problems at the sites.

Submenu About.

Contains information about the program version and its release date, as well as information about the maximum possible number of reception channels, the maximum number of sites in the database and the maximum number of workstations simultaneously connected to the server.

Information window “Alarm list».

The window is opened by clicking the corresponding button on the control panel and contains the list of alarm messages for which no restore signals have been received (see Fig.8). In addition, at intervals set individually for each site (**Reminder timeout** in «DB Editor»), the alarm window is initialized for each message. Repeat messages are distinguished by the symbol «**R:**» before the event description, with the time of the original message.

All messages in the window can be sorted either by site number or by event priority.

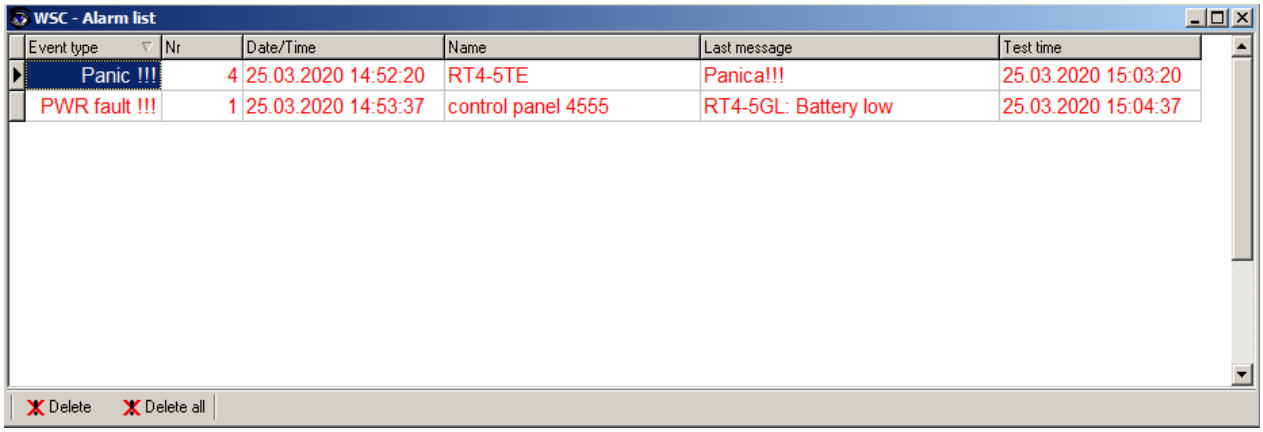


Fig. 8. Unrestored alarms window.

The window contains the following informational fields:

- **Event type**. Event type.
- **Nr**. Site number in the database.
- **Date/Time**. Time of the original message.
- **Name**. Site name.
- **Last message**. Message description.
- **Test time**. Time of the next reminder.

The window settings allow showing and hiding information fields, changing their sizes and relative position, and selecting the font. The settings menu is opened with the right mouse button.

If necessary, messages can be deleted from the window manually. One at a time — by pressing the button **Delete**, all at once — by pressing the button **Delete all**.

Note. For an alarm message to get into the “**Alarm list**» is required when describing it in «DB Editor» in the column “**R**» set the symbol “**Y**» and set a non-zero value **Reminder timeout,** and when describing the events, the restore code must also be specified in the column “**rEv**».

Main program settings.

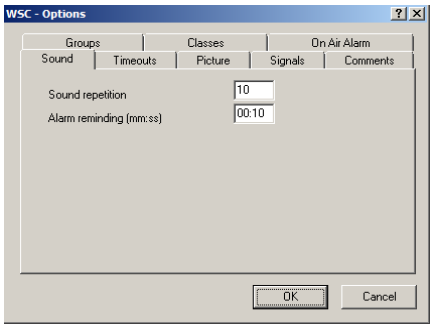
System settings.

Access to the system settings of the program is via the main menu **Service\Options.** Since many of the settings directly affect the operation of the program, they must only be made by qualified personnel.

The settings windows are shown and described below.

Sound. The following are configured in this window parameters:

- **Sound repetition** – sets the number of repetitions of the sound when messages intended for operator processing arrive. If its value is 0, the sound will continue until the operator turns it off.
- **Alarm reminding** – defines the time interval after which a reminder sound is generated if unprocessed messages remain.



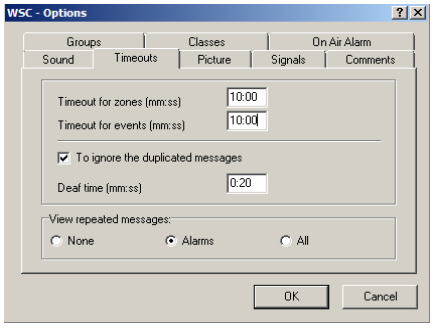
Timeouts. This window defines the interval the time during which identical messages arriving from the site are treated as one message (provided they do not alternate), as well as the program's reaction to receiving a duplicate message. This time interval is set separately for changes of the radio transmitter zones (inputs) (**Timeout for zones**) and events from the radio transmitter (**Timeout for events**).

The program's reaction to identical events outside the timeout for radio transmitter zones (inputs) can be the following:

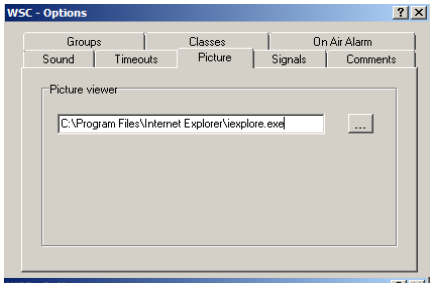
- **None** – the duplicate message is not displayed.
- **Alarms** – zones in the alarm state are displayed.
- **All** – all programmed zones are displayed.

When a duplicate message is received, the event description is marked with the symbol "**d:**».

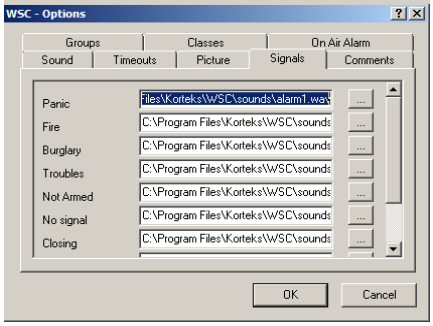
If the checkbox is selected **To ignore duplicate messages,** then the program will treat any identical messages that arrived from the site during the specified period of time (field "**Deaf time**»), as a single message.



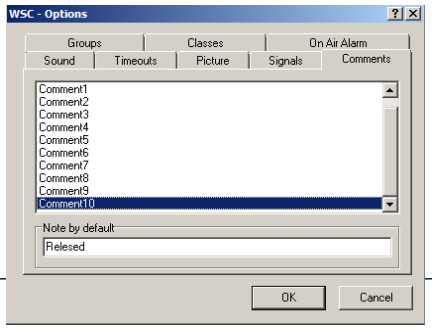
Picture. Defines the program used to view graphic attachments of sites and / or video files.



Signals. Lets you assign its own sound to each event type. The sound is defined by selecting the corresponding .**WAV**-of the file, which can be located either in the directory **Sounds**, or anywhere else on the disk.

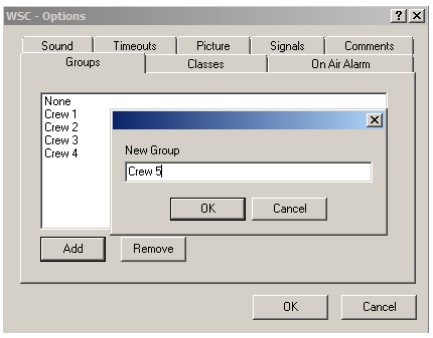


Comments. This is a set of standard operator comments that the operator can make while processing events in the alarm window. All comments go to the archive and are "attached" to the corresponding message. The comment from the field **Note by default** is used if the operator left no comments. Editing is done after double-clicking the corresponding comment with the left mouse button. To add a new comment, press the key on the

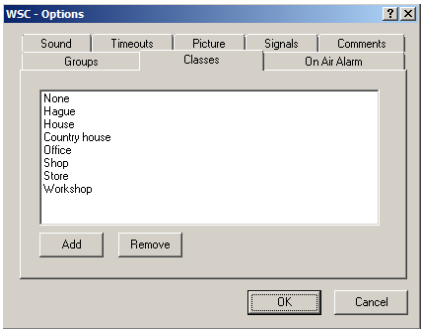


keyboard **Insert** (the comment will be written above the highlighted one). To delete – button **Delete**.

Groups. Lets you define and name groups, to which sites can later be assigned (see section "**DB Editors**"). The group classification can be arbitrary (response crew, location district, site owner, etc.). The number of groups is unlimited. When a group is deleted and a new one is added in its place, all sites that were assigned to the deleted group are reassigned to the new one. Deletion starts from the last one. The group list or a group name can also be changed in section [**Group**] of the file **Wsc.ini**.

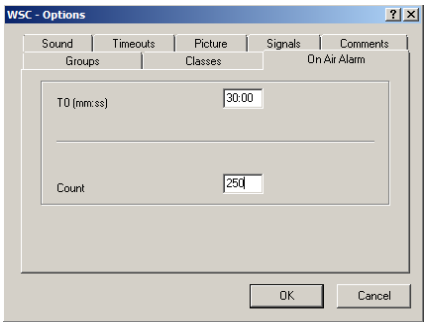


Classes. Lets you define and name site classes (see section "**DB Editors**"). The nature of the classes can be arbitrary (in the example – by site purpose). The number of classes is unlimited. When a class is deleted and a new one is added in its place, all sites that were assigned to the deleted class are reassigned to the new one. Deletion starts from the last one. The class list or a class name can also be changed in section [**Class**] of the file **Wsc.ini**.



On air alarm. Lets you track transmitters that switch to transmission mode excessively often due to faulty connected devices. For this a time period is set (**T0(mm:ss)**), and the number of transmissions (**Count**) that can be sent during this time. If the number of transmissions exceeds the set value, the program generates a corresponding message.

The message looks as follows: **Transmitter X/Y/ZZZZ on air,** where **X** – channel number, **Y** – slot number, **ZZZZ** – transmitter number. The message will be output even if the transmitter is not in the database.



Receiver settings.

Access to the receiver settings (information reception channels) is via the main menu: **Service/Receivers Settings.** Since these settings directly affect the operation of the program, they must only be made by qualified personnel.

The settings window looks as shown in Fig.9.

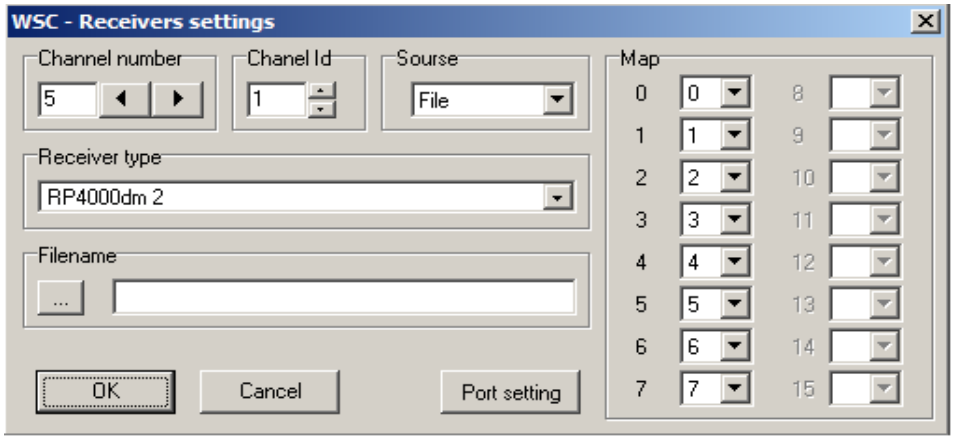
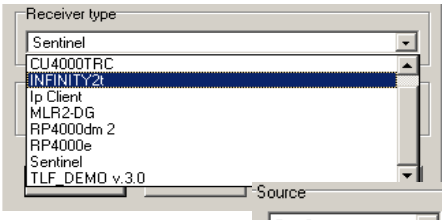


Fig. 9. Receiver settings.

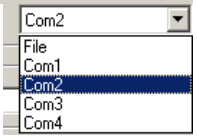
The following parameters are set when configuring a reception channel.

- **Channel number** – sequential number of the reception channel.
- **Channel Id** – logical number of the reception channel. This number is used for additional identification of the site in the database. The logical channel number is used so that messages arriving from different sources can be combined into one channel. This is necessary, for example, when using a main and a backup server for receiving messages from **IP** transmitters, and also when using different information delivery channels in the radio transmitter relay system, etc.
- **Receiver Type** – receiver type, of the corresponding to the assigned channel. The receiver type is selected from the list that drops down when clicking the symbol . The contents the list are determined by the presence of drivers for the corresponding receivers in the main program directory.



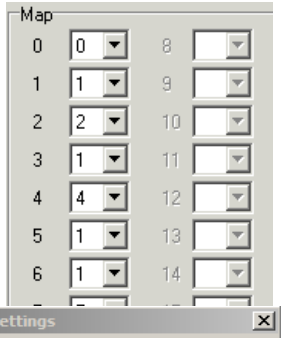
of

- **Source** – defines the information source for the program. This source can be either a serial port of the computer (including a virtual one) to which the receiver is connected, **IP** connection. In the latter case the source selected is **File**. Using **IP** receivers requires prior configuration of the corresponding configuration file. For details about the settings **IP** receivers – see Appendix 1.

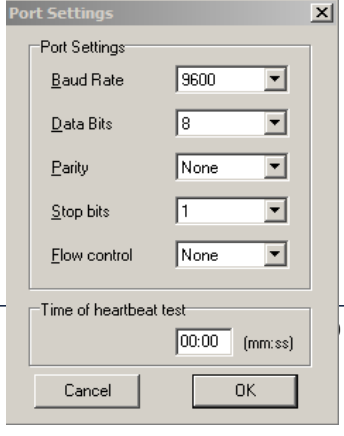


or

- **Filename** – this parameter is not used in the current version of the progral
- **Map** – signal distribution map. Establishes the correspondence between the physical number of the slot (in the radio console or repeater) or line (in the **IP** or **PSTN** receiver) and their logical number (in the program database). It is used when information about a site can arrive from several slots or lines, for example in the case of a duplex radio relay system or when a backup channel is arranged within a single server (**TLF_Serv**). In the case shown in the figure, information arriving on slots 1, 3, 5 and 6 will be treated by the program as arriving on the first slot. 8 slots are available for radio receivers, for **IP** and **PSTN** – 16 lines.



- **Port setting** – configuration of the serial port parameters of the computer in accordance with the settings of the specific receiver. The communication parameter values must be specified in the technical documentation of the corresponding receiver. For receivers connected via **IP**, these parameters are not used. The parameter **Time of heartbeat test** is used to monitor the operability of the reception channel. If not a single message arrives from the receiver within the specified time, the program displays a message like **No Signal** for this receiver. If a value is entered **00:00** – no monitoring is



performed. This function works on absolutely all receiver types, including those with real-time monitoring of the connection to the program. When a new receiver is added, the value **Time of heartbeat test** is set equal to **00:30** sec automatically.

After pressing the button “**OK**”, the entered parameters are saved, the selected receivers are entered into the system objects database (if they were not there) and all the ports involved are reinitialized.

Database editors.

Site database editor.

The site database editor is intended for creating site cards, entering the necessary information about the site and the signals arriving from it, and for organizing and storing the information.

The site editor can be opened:

- From the information panel – with the button ***Edit***.
- From the context menu in the site window – with the command ***Editor***.
- From the context menu in the event window – with the command ***Editor***.
- From the search window – with the button ***Edit***.
- From the keyboard – with the combination ***Ctrl+E***.

On loading, the editor opens for editing the card of the site the cursor was on in the site or event window. The site card consists of a header and several pages (tabs) of information grouped by type.

Title and first page.

The general view of the editor window is shown in Fig.10.

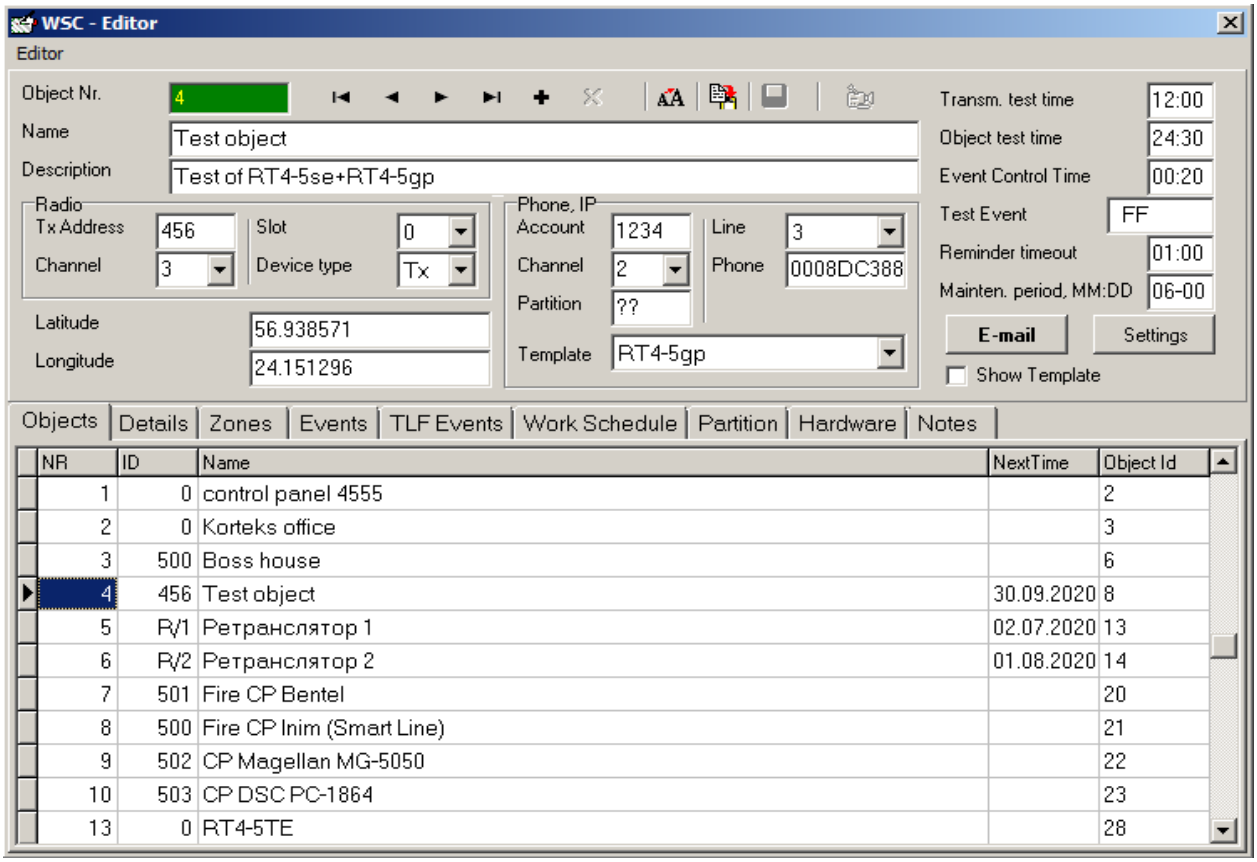
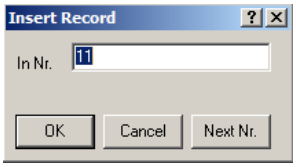


Fig. 10: Database editor window.

The first page of the editor is a list of sites (cards); as you move through it, the header of the current card is displayed.

The card header contains the following fields:

Object Nr. – ordinal number of the site in the database. When entering a new site, a window appears:



This window automatically offers the first minimal free number, but the next free one can be selected (**Next Nr.**) or any other entered manually. If the selected number already exists in the database, the following message appears **The number is busy**, and the procedure will have to be repeated.

If the site number is displayed on a green background, the site is active; if on red, it has been removed from monitoring (see section «**Tab Work Schedule**»).

Name – site name. Filled in in free form (80 characters maximum).
Description – site description. Filled in in free form (80 characters maximum).
Symbol |< – jumps to the first site.
Symbol < – jumps to the previous site.
Symbol > – jumps to the next site.
Symbol >| – jumps to the last site.
Symbol + – add a site.
Symbol X – cancel the changes.

Symbol – converts all letters in the site card to uppercase.

Symbol – copy a site. When copying a window appears, the same as when entering a new site, offering the first minimal free number in the database. After the number of the new site is successfully selected, the window for selecting the information to copy appears (see Fig.11).

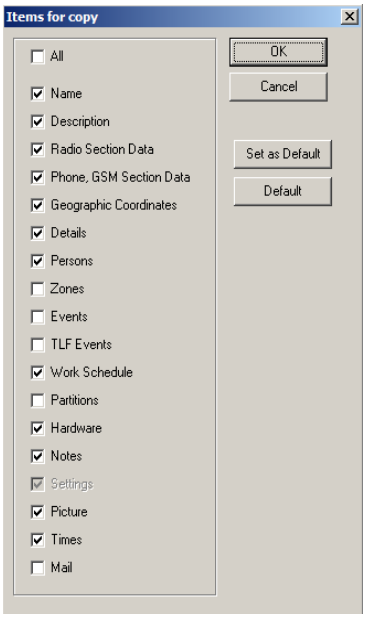
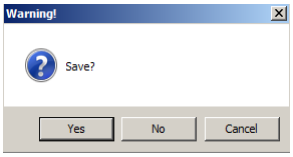


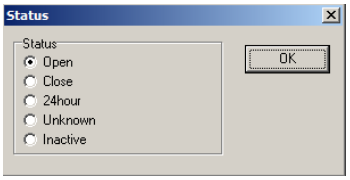
Fig. 11. Window for selecting information to copy.

As can be seen, the window contains a list of information blocks. Next to each block there is a checkbox; filling it in selects the corresponding block for copying. Using the checkbox **All** all blocks can be selected or deselected at once. Block **Settings** must be assigned for copying without fail. The most frequently used combination can be remembered (**Set as Default**) and it will appear automatically when copying sites. In addition, this combination can be opened manually with the button **Default**.

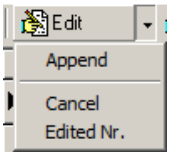
Symbol – save the changes. Clicking this symbol opens the option selection window:



When pressing **Yes** -– the data saving process begins, **No** – cancels all changes made, **Cancel** – returns to editing.
If a new site was entered, or transmitter parameters or signal descriptions were changed, after confirming the save a window for forcibly setting the site status appears:



After the status is selected and confirmed, the data is saved to a temporary database.
IMPORTANT! ***For the changes to reach the main database, after closing the editor the following function must be activated*** **Append.** ***The function is accessed from the drop-down on the button*** **Edit.**
Besides the function **Append** this window has the functions **Cancel** (cancels the entry of all changes made into



the database) and **Edited Nr.** (shows for which site numbers changes have been prepared for entry into the database).

Symbol – lets you “attach” a graphic or video file to the site card, which may contain additional information about the site or its location. The supported formats depend on which application is used to display the files (see section «**System settings/Picture**»). For graphic or video information about the sites to be displayed on all workstations, it is recommended to allocate a special folder for storing the files on the server computer and open access to it from all workstations. By default this is the folder **\Pict** in the main program directory of the server.
If the service for passing alarm information to response teams is to be used, then to give them access to the graphic and video information about the sites, all information from the mentioned folder must be duplicated on

the **ftp**server. To provide access to these files, in the configuration file **WinSC.ini** in the group **[Picture]** write the path on **ftp**server in the form:

[Picture]
Path=ftp://<username>:<password>@<ftp_name>/Pict/

In this case all workstations will also get access to the files at this path.

Transm. test time – time defined by the test transmission period of the transmitter or repeater. If not a single signal is received from the device within the specified period of time, the following alarm message is generated "**No signal (TIME)**", where (**TIME**) – time during which there were no signals from the transmitter in days, hours and minutes. If no signals have arrived for more than three days, the following message is generated "**No signal more then 3 days**».

Monitoring takes into account both test and informational messages from transmitters and repeaters.

The recommended value is **Transm. test time** should be set 5-10% longer than the actual test period of the transmitter to compensate for possible timer drift. If a value equal to **0**, test signals from the site are not tracked.

Object test time – time defined by the test transmission period of the control panel at the protected site, or **IP** of the transmitter. Both messages arriving via the radio channel (described in the tab **Events**), and via **PSTN** or **IP** channels (described in the tab **TLF Events**). If both channels are used, test messages are tracked in each of them separately. The value **Object test time** in this case applies to both channels.

Test message monitoring will only be performed if at least one message is present in the message descriptions for the corresponding channel **S**-type (test message).

If not a single message is received within the specified period of time **S**-type, the following alarm message is generated «**No signal from object**». The recommended value is **Object test time** should be set 5-10% longer than the actual test transmission period of the panel to compensate for possible timer drift. If a value equal to **0**, test signals from the site are not tracked.

Event control time – monitoring time **a certain** messages for **PSTN** or **IP** channels (described in the tab **TLF Events**). This parameter is intended, first of all, for monitoring the state of the "**OnLine**» **IP** transmitters, but can also be used for other purposes. If not a single expected message arrives within the specified time (by default this is **FF** – a message periodically sent by the program **TLF_Serv** for each **IP** to the transmitter while it is connected to the server), the following alarm message is generated "**Object Off Line**» and in the column **OOLin** of the site window, the status is set to "**OffLine**». If the expected message is later received, the status changes to "**OnLine**».

If the value of this parameter is set equal to **0**, the message is not tracked, and the site status is set to "**Unknown**».

Test event – describes the code of the message that will be tracked by the algorithm above. When a new site is created, this code is set automatically **FF**, but can be changed if necessary. In the message descriptions for **TLF**, **IP** channel (tab **TLF Events**) code must be assigned a **S**-type (test message).

Reminder timeout – period at which unrestored alarm messages from the site present in the window "**Alarm list**». Duplicated messages are marked with the symbol **R:** in the event description field (see section "Information window "**Alarm list**»). If a value equal to **0**, messages from this site are not duplicated.

Mainten. period, MM:DD – defines the period of scheduled **Maintenance** of the site. The countdown starts from the moment the information is entered in the field and saved to the database. When the set time expires, a window is generated reminding that it is necessary to perform **Maintenance** at the site. The operator can either postpone the **Maintenance** (in this case the reminder will be repeated in 24 hours), or confirm that the **Maintenance** (in this case the countdown restarts).

E-mail – message distribution editor. Lets you assign e-mail distribution of messages about events occurring at the console, as well as events arriving from a site, by their type. The general view of the window is shown in Fig.12.

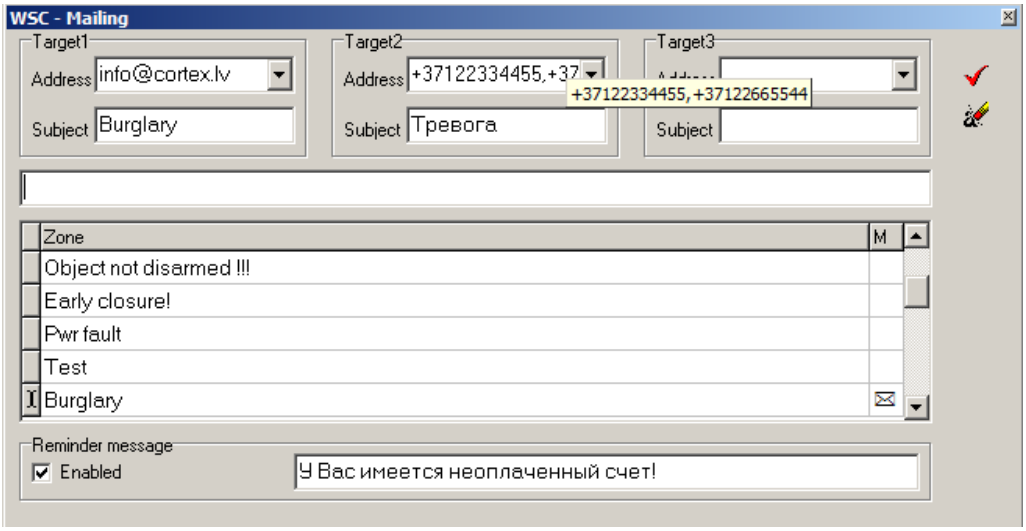


Fig. 12. Message distribution editor window.

The editor lets you configure message distribution for the following event types:

- **Object not disarmed**. Work schedule violation: the site was not disarmed at the scheduled time.
- **Early closure**. Work schedule violation: the site was armed earlier than scheduled.
- **Disarm in illegal time**. Work schedule violation: the site was disarmed at an unscheduled time.
- **Object not armed**. Work schedule violation: the site was not armed at the scheduled time.
- **Service**. It is time for the next scheduled **Maintenance** at the site.
- **Transmitter [e] on air**. The transmitter with number [**e**] is overloading the air.
- **No signal from object**. No test message from the control panel or **IP** of the transmitter, as well as the absence of a certain test message.
- **No signal**. No signals from the radio transmitter.
- **Pwr fault**. An event of type **PWR** (AC power loss).
- **Test**. An event of type **S** (test).
- **Burglary**. An event of type **B** (burglary).
- **Panic**. An event of type **P** (hold-up).
- **Fire**. An event of type **F** (fire).
- **Event**. An event of type **E** (message).
- **Restore**. An event of type **R** (alarm restore). This also includes restores by alarm type.
- **Open**. An event of type **D** (disarming).
- **Close**. An event of type **A** (arming).
- **Trouble**. An event of type **T** (trouble).

In the field **Target/Address** is written **E-mail** address of the message recipient or their phone number (must begin with <**+**>). If the size allows, several addresses and/or phone numbers can be entered in this field, separated by commas without spaces.

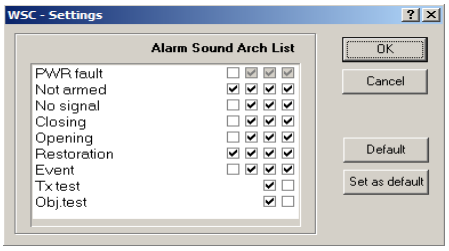
In the field **Target/Subject** – message header. By default the message type is substituted there, but the text can be changed.

The event type is also substituted into the message field by default. If this field is left empty, the text from the event's description in the editor is substituted into the message.

In the field **Reminder message** you can place information which, when the checkbox is activated, **Enabled**, will be added to every sent message.

If at least one message is assigned for sending, the text **E-mail** on the button is shown in bold (**Bold**).

Settings – configures the program's reaction to different event types. As can be seen in the figure, each of the listed event types has four checkboxes. A filled checkbox means the corresponding function is performed; an empty one means it is ignored. The functions corresponding to the checkboxes are shown at the top of the window:



- **Alarm** – the message is routed to the alarm window on the workstations.
- **Sound** – activation of the corresponding sound. If the message is also assigned to the alarm window (**Alarm** is active), the sound file is played as many times as specified in the option **Signal repetition quantity** (see section «**Options**»). If the alarm window is not initialized, then **one** times.
- **Arch** – the message is written to the archive.
- **List** – the message is displayed in the event information window**.**

For all types of alarm messages, all the listed functions are always active.

Event type **PWR fault** has its own program reaction algorithm. If the checkbox **Alarm** is filled in, the message is processed like any other alarm. If the checkbox **Alarm** is not filled in, the message goes only to the unrestored alarms list and is not routed to the alarm window. However, when the time expires **Reminder timeout,** it is routed to the alarm window as a repeat (see section “Information window «**Alarm list**»).

The event type **Not armed** covers all types of work schedule violations.

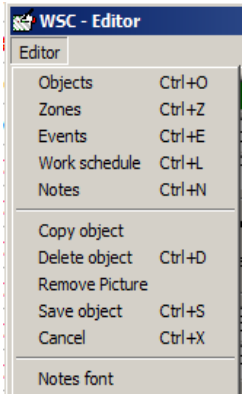
The most frequently used configuration can be saved by pressing the button **SetAsDefault**. Later it can be loaded with the button **Default**. The same configuration is also loaded by default when a new site is created in the database.

Radio – list of identification parameters of the device transmitting information over the radio channel. It contains four parameters:

- **Tx Address** – physical address of the transmitter or repeater.
- **Channel** – number of the information reception channel to which the corresponding receiver is set (see section “**Receiver settings**»).
- **Slot** – number of the receiver slot from which the information must be received.
- **Device type** – lets you select the type of the described device: transmitter (**Tx**) or a repeater (**Rx**).

Phone, IP - list of identification parameters of the device transmitting information via **PSTN** and/or **IP** communication channels. It contains the following parameters:

- **Account** – control panel number or physical address **IP** of the transmitter.
- **Channel** – number of the information reception channel to which the corresponding receiver is set (see section “**Receiver settings**»).
- **Line** – number of the line from which the information must be received.
- **Phone** – identification number **IP** transmitter (number **SIM**-maps, **Online ID**, **IMEI**, **MAC**-address). Used for sending commands and requests from the program to the **IP** transmitters.
- **Partition** – area (partition) number of the site. When entering <**??**> information from all areas is processed.
- **Template** – a drop-down window from which you can select an event code description template for this site.
  IMPORTANT! ***If in the site card, in the tab*** **TLF Events** ***contains event entries, they take priority over the template and are checked first.***
- **Show Template** – a checkbox; when it is filled in, the contents of the template will be displayed in the tab **TLF Events** on a yellow background. It does not affect message processing.



Latitude, Longitude – geographic coordinates of the site.

Editor – editor menu. It contains the following items:

- **Objects** – quick jump to the editor's site window.
- **Zones** – quick jump to the radio transmitter zone descriptions.
- **Events** – quick jump to the radio transmitter event code descriptions.
- **Work Schedule** – quick jump to the working time schedule.
- **Notes** – quick switches to editing the notes.
- **Copy object** – initiates the site copying procedure. It duplicates the corresponding button in the editor header.
- **Delete object** – deletes all site data from the database.
  IMPORTANT! ***This procedure is irreversible! A deleted site cannot be restored!***
- **Remove Picture** – deletes the link to the graphic or video file from the database.

- **Save object** – starts the procedure of saving the site data. It duplicates the corresponding button in the editor header.
- **Cancel** – cancels all changes made since the last data save.
- **Notes font** – lets you configure the fonts in the notes window.

Most of these commands can also be executed via “hot keys”, whose combination is shown in the right part of the menu window.

Tab Objects.

Objects – a tab containing the list of sites. The list contains 5 fields:

- **NR** – site number in the database.
- **ID** – address of the radio transmitter installed at the site.
- **Name** – site name
- **NextTime** – time of the next scheduled **Maintenance**.
- **Object Id** – unique site identifier (when a site is deleted, its number is never assigned to anyone else).

Tab Details.

This page is intended for a more detailed description of the site and for listing the responsible persons. The appearance of the page is shown in Fig.13.

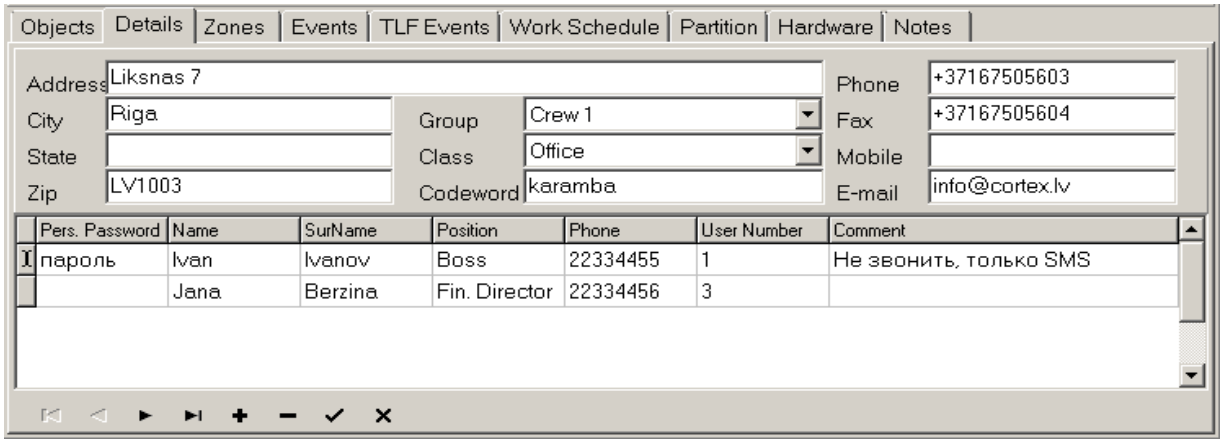


Fig. 13. The Details tab.

As can be seen, this page holds the postal address of the site and its information addresses, and the site is assigned to a specific group and class (see section “**System settings**”). In addition, a password word is entered here, allowing the client to be identified when they call the monitoring station by phone.

The client list contains the following fields:

- **Pers. Password** – the client's personal password, which may grant privileges different from those granted by the common password.
- **Name** – client's name.
- **SurName** – client's surname.
- **Position** – client's position.
- **Phone** – client's phone number. It is recommended to enter numbers with the international code – this will make the sending procedure easier **SMS** to the client from the program.
- **User Number** – user number in the control panel at the site.
- **Comments** – brief comments on each client.

The number of clients is unlimited.

The information from this tab can be viewed by the operator by pressing the button **Details** in the alarm window or on the information panel in the main program window.

Tab Zones.

This page of the editor is intended for describing the signals from the transmitter inputs (zones), as well as the repeater messages (see Fig.14).

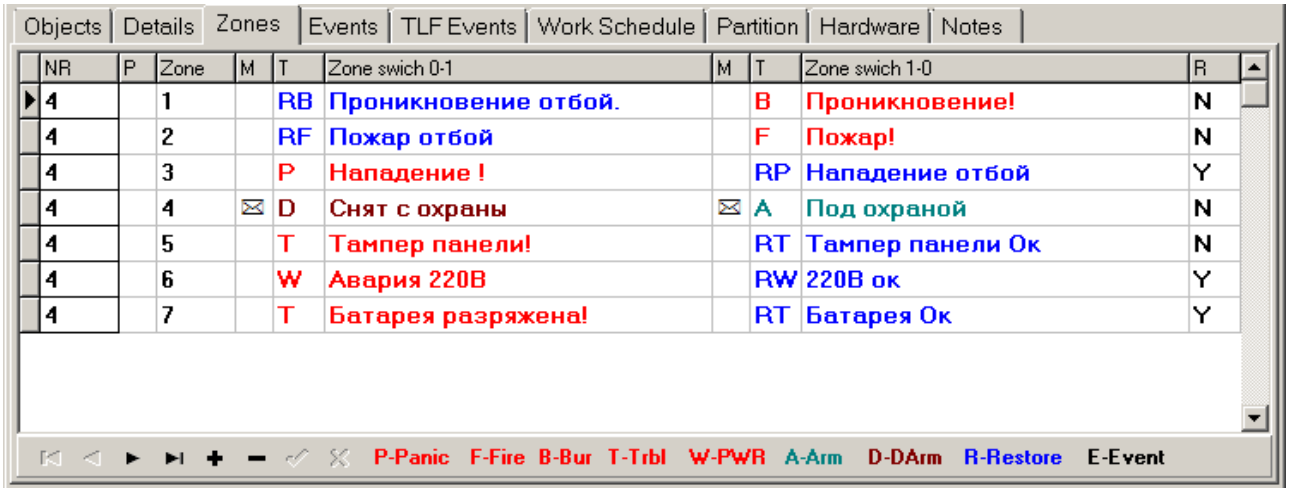


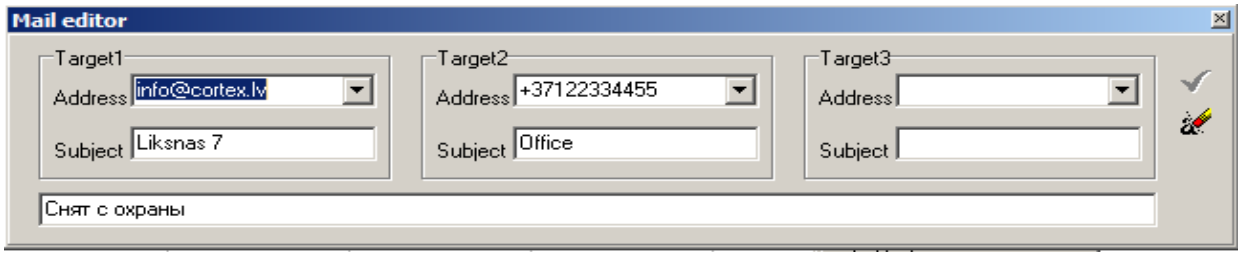
Fig. 14. The Zones tab.

Contains the following fields:

- **NR** – site number. The field is purely informational and cannot be edited.
- **P** – is not used in this version of the program.
- **Zone** – zone number. Specifies the number of the transmitter input being described. Unused transmitter zones do not have to be described. If an event occurs on an undescribed zone, it is assigned the type **E – Event** and it is displayed as:
  Unspecified zone switch: with the list of the changed zone numbers.
- **T** – event type. Each event described in the fields **0-1** and **1-0**, must be assigned a type. Each event type is highlighted with its own color, both in the editor and in the program information windows. This considerably eases the operator's perception of the information. The event types can be the following:
  1. **P – Panic** – alarm event. Corresponds to pressing the hold-up button at the site.
  2. **F – Fire** – alarm event. Corresponds to a fire alarm at the site.
  3. **B – Bur** – alarm event. Corresponds to activation of the burglar alarm at the site.
  4. **T – Trouble** – alarm event. Describes all kinds of trouble at the site (tamper activation, low battery, etc.)
  5. **W – Pwr** – AC mains voltage monitoring **220V**. Events of this type behave as follows: when an alarm is received, the program acts according to the settings made for this event type in the window **Settings**. When the time specified in the field expires **Reminder timeout**, the alarm window is displayed automatically.
  6. **A – Arm** – arming of the site.
  7. **D – Disarm** – disarming of the site. These event types describe, as a rule, different states of one zone. Each described site may have no more than one zone with the event type **D** or **A**. If the site has no zones with events of these types at all, its status will always be – **Arm**.
  8. **R – Restore** – zone restore. Can be used to describe the second state of zones with event types **1** – **5**. By default, alarm messages are matched with a restore of a special type, depending on the alarm type. In this case, when an archive query is generated, restore messages are automatically “attached” to alarms without requesting restores in the query. For details see the section “**Working with the archive**».
  9. **E – Event** – neutral event.

  The event type is changed with the “**space**” or by pressing the corresponding Latin letter.
- **Zone switch 0-1** and **Zone switch 1-0** – event descriptions. Each of these fields describes the event corresponding to a change of the transmitter input state relative to the previous one. That is, for example, the field **Zone switch 0-1** describes the event corresponding to the transition of the given zone from the “**short**” state to the “**open**”, and in the field **Zone switch 1-0** – event corresponding to the transition of the zone from the state “**open**” state to the “**short**»**.** If transmitter inputs are pulled to “**zero**”, and also for transmitters of the system **RS1000,** the values of the states “**short**” and “**open**” are reversed. For system messages (low battery and power loss) an alarm always corresponds to **Zone switch 0-1**, restore – **Zone switch 1-0**.
  IMPORTANT! ***If an input number is entered in the list but the event description is missing, information from that input is ignored by the program.***

- **R** – can take two values: **Y** – the alarm event is routed to the window «**Alarm List**», **N** – is not routed. This function will only work if the parameter **Reminder timeout** in the site editor title bar will show **non-zero** value.
- **M** – sending **E-mail**. Any event on any zone can be automatically sent to e-mail, to a mobile phone via **SMS** or to a local pager. To open the mail message editor, place the cursor on the description of the selected event and click the right mouse button. From the context menu that appears, select the item **Mail**. The mail message editor window appears on screen:



In the field **Target/Address** is written **E-mail** address of the message recipient, their phone number (must begin with <**+**>) or the pager code (must contain digits only). If the size allows, several addresses and/or phone numbers can be entered in this field, separated by commas without spaces.

In the field **Target/Subject** – message header.

The bottom row contains the message text. The text from the input's message description is substituted into this field automatically, but it can be changed.

When sending, information about the time it was received at the monitoring station is added to the message.

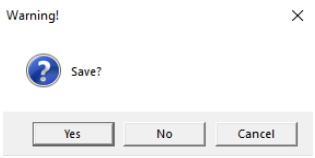
To save the information, click the symbol , to delete – the symbol .

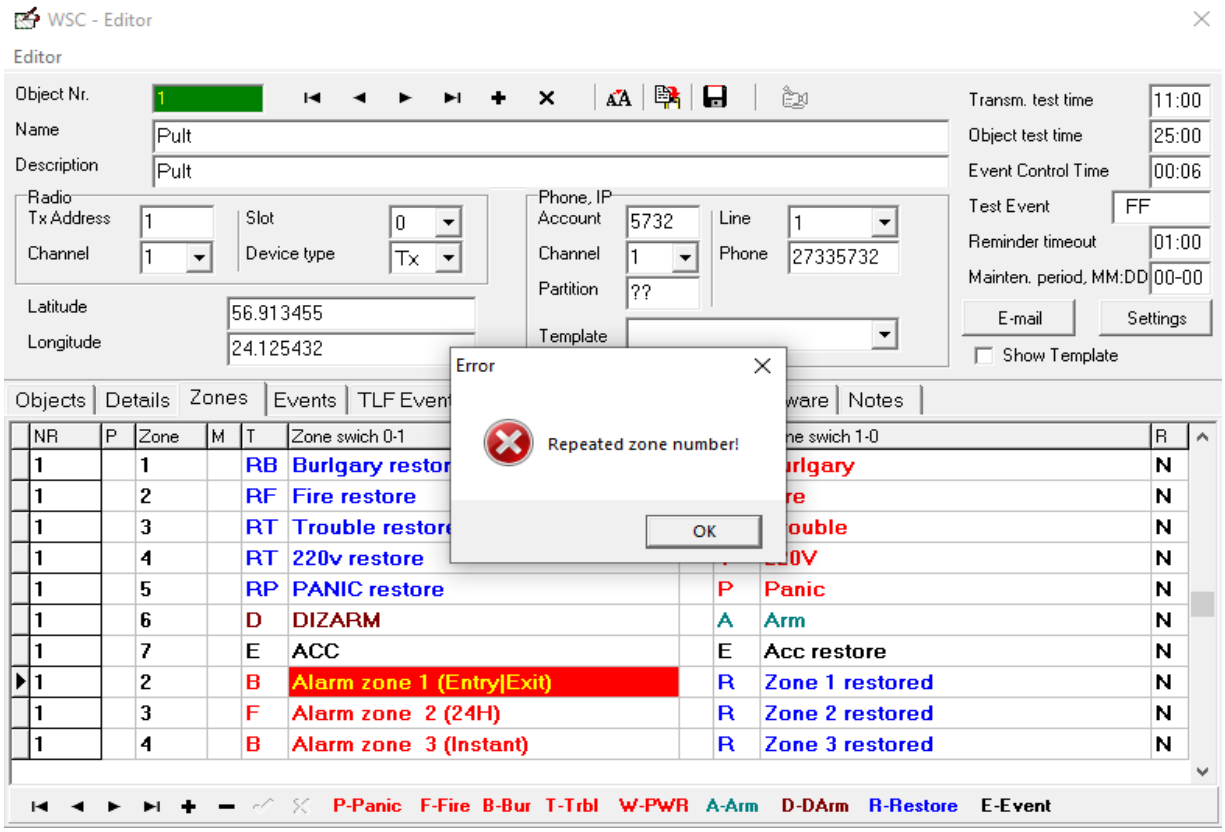
Events assigned for sending are marked with the symbol  in the field **M**. Messages are sent by a separate program not included in the standard software package.

The described version of the program lets you save zone descriptions as a text file in the directory **ZCard** and later load them into the site card. These procedures are performed via the context menu, which contains the following items:

- **Save to card** – saves all zones described in this card to a text file.
- **Load from card** – loads the zone descriptions from the selected file. Zones already present in the card are deleted.
- **Append from card** – loads the zone descriptions from the selected file. Zones already present in the card are not deleted.

If, while adding zones from a file (card) or manually, a zone (or several zones) is entered twice, then when you try to save the changes the program opens a window **Error** with the error **Repeated zone number!** (**Duplicate zone number!**) (see Fig. below). In this case the duplicate zones must be removed from the list by clicking < – > at the bottom of the window, after which the save changes dialog will open without an error.





Example of transmitter zone descriptions **RT4-5se** is shown in Fig.14.

Transmitter **RT4-5se** has 7 zones. The first six of them are given to the user, and the seventh reflects the state of the transmitter power supply: **0** – normal, **1** – low voltage. The transmission of the state of the remaining zones depends on their operating mode: **0** – open or **+E** – open. In the first case an open zone is transmitted **a one**, and a short as **a zero**. In the second it is the opposite: open – **a zero**, a short – **a one**.

When several sites are connected to one transmitter, its zones are divided between these sites. The programming process comes down to the following:

1. A site with the number is entered into the database **N** and the transmitter address **X**.
2. The site parameters and the transmitter zones related to the site are programmed **N**.
3. A site with the number is entered into the database **M**, while the transmitter address remains **X**.
4. The site parameters and the transmitter zones related to the site are programmed **M**.

An example of programming a transmitter for two sites is shown in Fig.15. (zones belonging to another site are shown in gray).

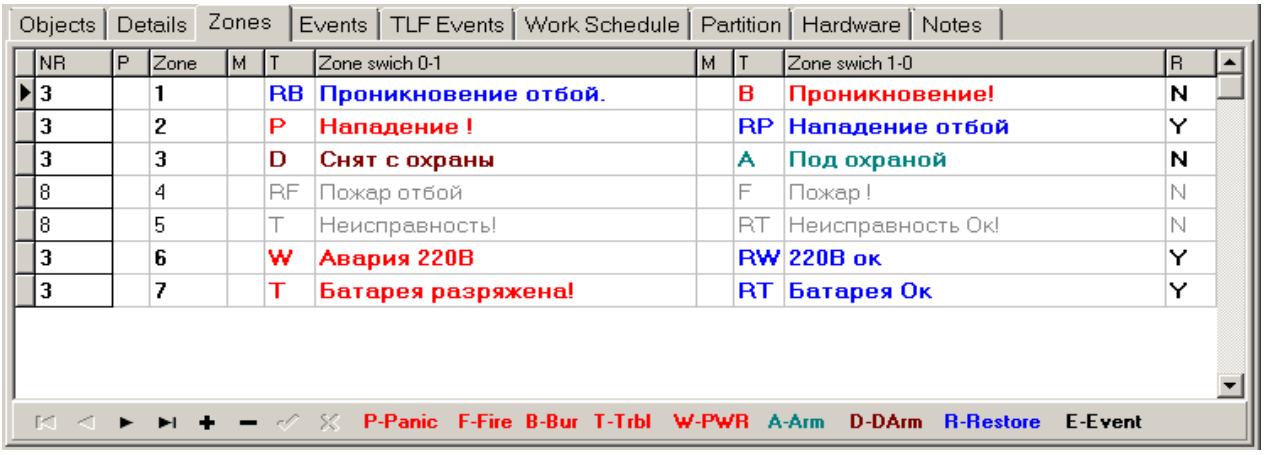


Fig. 15. Distribution of transmitter inputs between two sites.

Example of zone descriptions for **Repeater RP4000dm and Console CU4000** is shown in Fig.16**.**

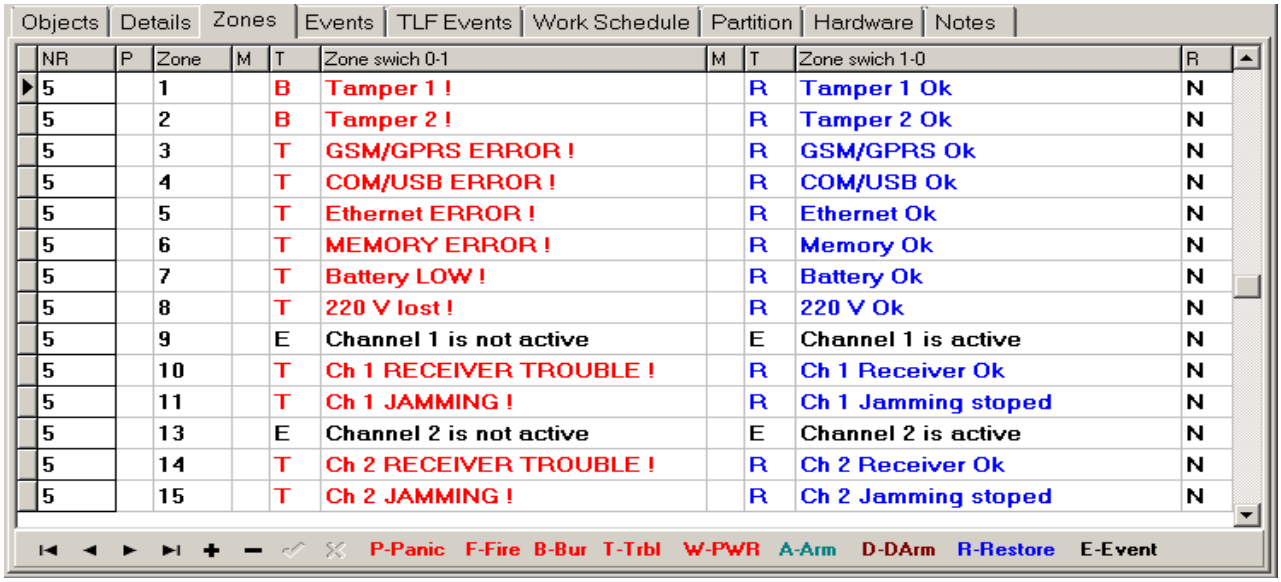


Fig. 16. Zone descriptions for the repeater and console.

Repeater **RP4000dm** and the console **CU4000** have 40 zones (zones 12, 16, 20, 24, 28, 32, 36 and 40 are not used). Zones 1 through 8 relate to the repeater as a whole; the rest, in groups of 4, relate to the reception channels and are duplicated for each channel (see Fig.16). Zone descriptions are covered in more detail in the repeater and console documentation.

Tab Events.

This page describes the events transmitted c of alarm panels and zone expanders via a radio transmitter. The ways of connecting the transmitter to alarm panels are described in detail in the transmitter manuals.

The following fields are used to describe events in the editor (see Fig.17):

- **NR** – is a reference (non-editable) field showing the number of the site being edited.
- **Account** – contains information identifying the alarm panel from which the information is read. It may have a different structure for different interface types (see below).
- **Event** – must contain the event code generated by the alarm panel. It may have a different structure for different interface types (see below). The code must be entered in full, including leading zeros.
- **M** – E-mail distribution. The rules for filling it in are the same as on the page **Zone.**
- **T** – Event type. The possible event types are listed below:
    1. **P – Panic** – alarm event. Corresponds to pressing the hold-up button at the site.
    2. **F – Fire** – alarm event. Corresponds to a fire alarm at the site.

3. **B – Bur** – alarm event. Corresponds to activation of the burglar alarm at the site.
4. **T – Trbl** – alarm event. Describes all kinds of trouble at the site (tamper activation, low battery, etc.)
5. **W – Pwr** – AC mains voltage monitoring **220V**. Events of this type behave as follows: when an alarm is received, the program acts according to the settings made for this event type in the window **Settings**. When the time specified in the field expires **Reminder timeout** the alarm window is displayed automatically.
IMPORTANT! ***For events of this type, in the column*** **R** ***must always be*** **Y**.
6. **A – Arm** – arming of the site.
7. **D – DArm** – disarming of the site. Unlike zone descriptions, several events of the type are allowed when describing events **A** and **D** for a single site.
8. **R – Restore** – alarm restore. Can be used to describe the second state of zones with event types **1** – **5**. If, when describing an alarm event, a restore code is entered in the field **rEv**, then the restore description is created automatically with a special restore type, depending on the alarm type. In this case, when an archive query is generated, restore messages are automatically "attached" to alarms without requesting restores in the query. For details see the "Working with the Archive" section.
9. **E – Event** – neutral event.
10. **S – Tst** – a test message from the alarm panel. This message is not informational, but if it is not received within the time defined by the parameter **Object test time**, the following message is displayed:

No signal from object!

- **Message** – intended for describing the event corresponding to the given code. If this field is left blank, the event is ignored when processing information, regardless of the type assigned to it. If an event not described in the database occurs, it is assigned the type **E – Event**. The message displayed in this case depends on the type of interface device.
IMPORTANT! ***If an empty row is present in the event descriptions, undescribed events will be ignored.***
- **rEv** – restore code. This field specifies the code by which the described alarm message (event types 1 – 5) must be removed from the window **«Alarm List»**. If no restore code has been entered, removal of the event from the window **«Alarm List»** must be done manually.
- **R** – can take two values: **Y** – the alarm event is routed to the window **«Alarm List»**, **N** – is not routed. This function will only work if the parameter **Reminder timeout** in the site editor title bar will show a non-zero value.

In the tab **Events** in the context menu, opened with the right mouse button, there is a special option **Replace**, which is used to change the values in the field **Account**. This function works as follows: when a new value is entered in one of the rows and **Replace**, all rows change their value to the one written in the selected row.

To simplify the site entry procedure and reduce the database size, part of the event code characters (field **Event code**) and/or the panel number (field **Account**) replace with "**?**". In this case the corresponding event description (**Message**) is matched with a code containing, in place of the "**?**" any character. To identify a specific event, the combination "**[E]**" for the event and "**[A]**" for the panel number, which when displayed is replaced with the actual characters from the event code (see example). The number of "**?**" in the event code can be any, but not more than the number of characters actually present. They must be placed from right to left without gaps.

If one of the codes entered using "**?**", a special description must be entered as an additional row (code **43** in the example).



Fig. 17. Example of event descriptions from a radio transmitter.

Example of using “**?**” when describing events:
When a message with the code is received **41**, the operator will get the following description line:

Alarm zone #1

If, however, the code is received **43**, the operator will get the line:

Fire alarm

Depending on the types of the interface device and alarm panel used, event programming has its peculiarities, but the rules for using “**?**” – are unchanged.

Interface IF_Paradox, panels ESPRIT 7X8, Premier.

An example of event programming for this variant is shown in Fig.18.

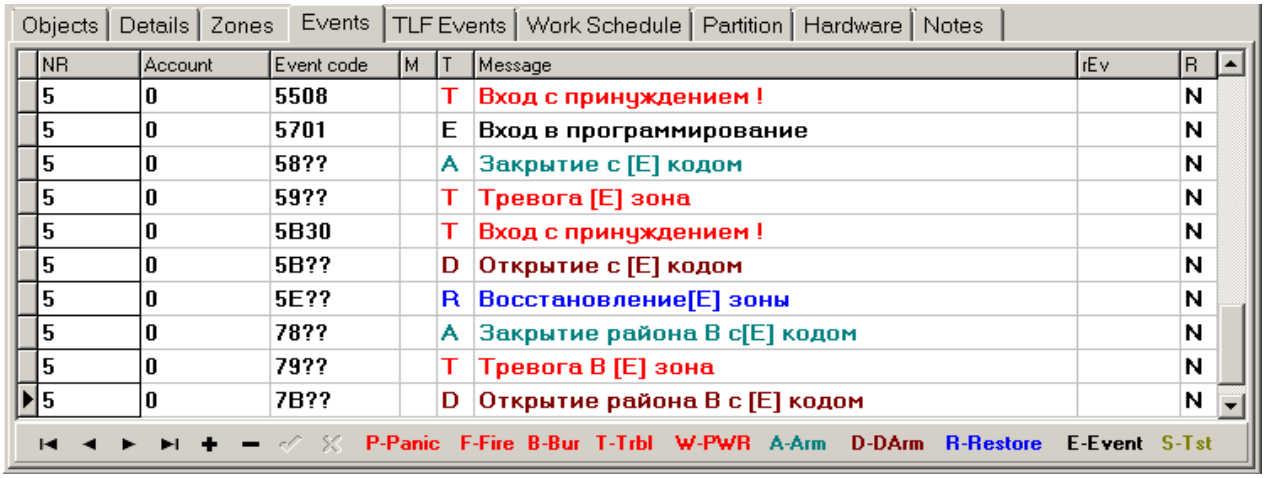


Fig. 18. Example of event descriptions in Esprit format.

In the field **Account** specifies the interface device number from 0 to 3 (see the manual for the **PARADOX_2**), in the field **Event** – group and event code. The code table is included in the manual for the **PARADOX_2**. An undescribed event is displayed as:

Group Of Event/Event=5001 Card number=02

Interface IF_Magellan, panels of the series E/SP/MG.

An example of event programming for this variant is shown in Fig.19.

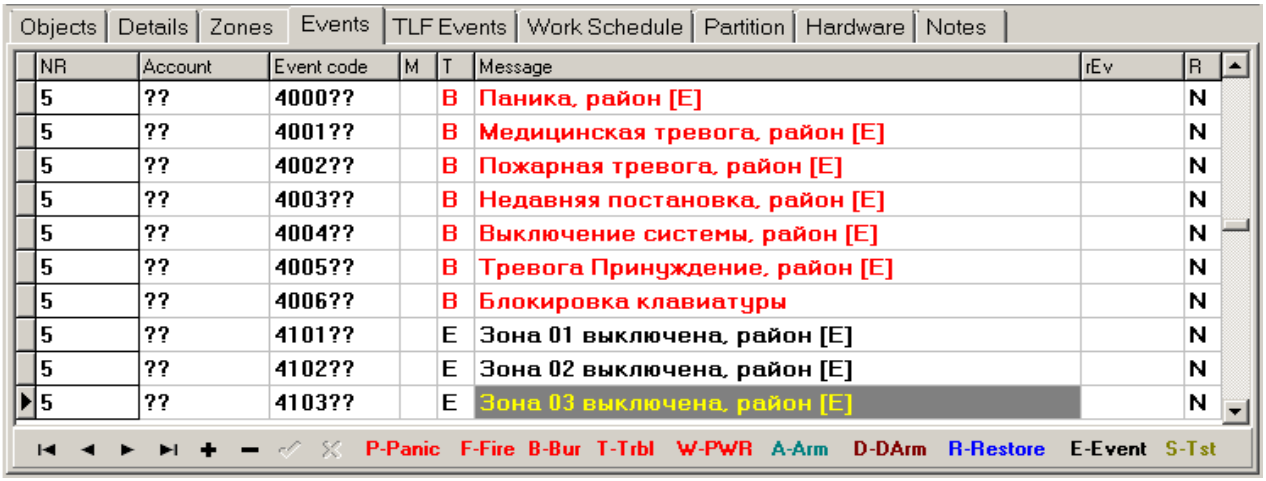


Fig. 19. Example of event descriptions in Magellan format.

In the field **Account** specifies the interface device number from 00 to 03 (see the manual for the **PARADOX_2**), in the field **Event** – group, event code and area number. The event code may also be a zone or user number. The code table is in the installation manual of the corresponding panel, in the section describing the programmable outputs (**PGM**). An undescribed event is displayed as:

Group Of Event/Event/Partition=0D0401 Card number=01

Interface IF-1.2 (4x2 format).

Using this interface, information can be read from any alarm panel that has a telephone communicator and supports the pulse format **4x2** (see the manual for the **IF-1.2**). In addition, alarm panels belonging to the system operate in this format **RS4000**.

An example of event programming for this variant is shown in Fig.20.

In the field **Account** specifies the identification code (account) of the alarm panel; the field **Event** – event code. The identification code and event codes are programmed manually in the alarm panel.

The recommended code table is included in the manual for the **IF-1.2**. An undescribed event is displayed as:

Account=1234 Event=15



Fig. 20. Example of event descriptions in 4x2 format.

Format Contact ID.

This format is used by the interfaces **IF-1.4id** and **IF-1.5id** (via the telephone communicator of panels supporting the format **Contact ID**), as well as when working with the systems **RS-63**, **RS-255**, **ABUS**, zone expanders and in many other cases.

An example of event programming for this variant is shown in Fig.21.

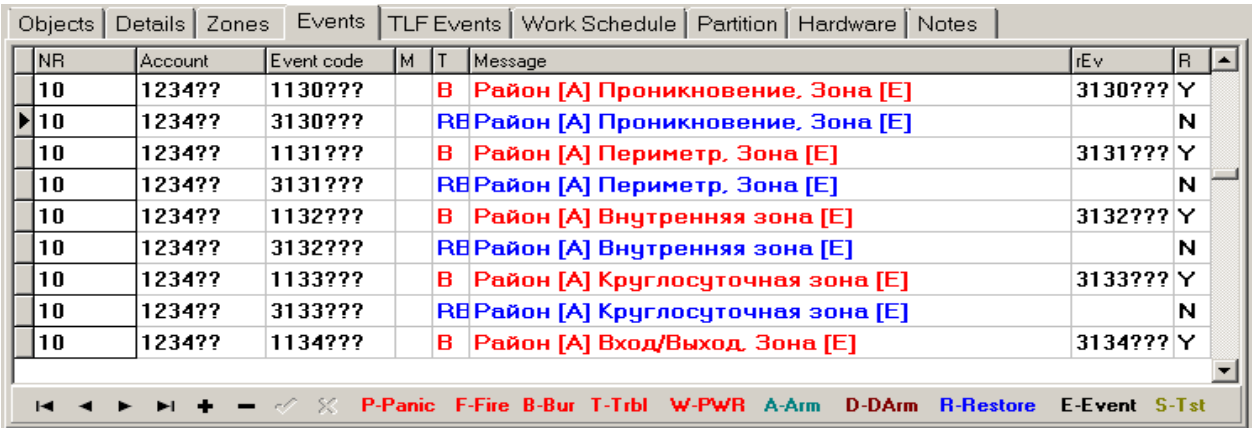


Fig. 21. Example of event descriptions in Contact ID format.

Field **Account** has the following structure: **AAAAGG**

where **AAAA** – panel number (**account**), **GG** – area number (**partition**).

No separator characters are placed between the area and panel numbers. If the panel number contains fewer than 4 digits, the leading zeros can be discarded. The area number must **always** must contain 2 digits, i.e. leading zeros are not discarded. For example, if the panel number is 132 and the area number is 2, the entry in the field **Account** must look as follows: **13202**.

If the last two characters in the field **Account** are replaced by the character **??**, messages from all areas of the panel will be processed. The area number can be included in the event description: it will be substituted in place of the symbol **[A]**.

IMPORTANT! ***Events for one or several areas can be described separately by specifying, instead of the characters ?? the corresponding number. In this case, however, all events for this area must be described, not just those requiring a special description.***

Field **Event** always consists of 7 digits and has the following structure: **MEEEZZZ**.

where **M** – modifier, **EEE** – event code (per the table in the installation manual of the specific panel), **ZZZ** – zone or user number (if the event does not involve zones or users, zeros are entered in this field).

Modifier **M** in the field **Event** can take 2 values:

M=1 if the event corresponds to an alarm or disarming, as well as to informational and service messages.

M=3 if the event corresponds to an alarm restore or arming

An undescribed event is displayed as:

Event=1137001 Account=2345/01

Distributing messages from a transmitter between several sites.

The need to distribute signals from a transmitter between several sites may arise, for example, when several alarm panels are connected to the transmitter, when working with multi-area panels, or when the transmitter is connected to systems **ABAS**, **RS-63**, **RS-255** and in other similar situations.

An example of signal splitting is shown in Fig.22.

Programming sites with split events is similar to programming with split zones.

The programming process comes down to the following:

1. A site with the number is entered into the database **N** and the transmitter address **X**.
2. The site parameters and the transmitter messages related to site **N**.
3. A site with the number is entered into the database **M**, while the transmitter address remains **X**.
4. The site parameters are programmed, along with messages of the transmitter related to the site **M**.

The example shows a case where the messages differ by account (more precisely, by area number), but sites can also be split by event codes. In any case, remember the rules for using the characters **?** when describing messages.

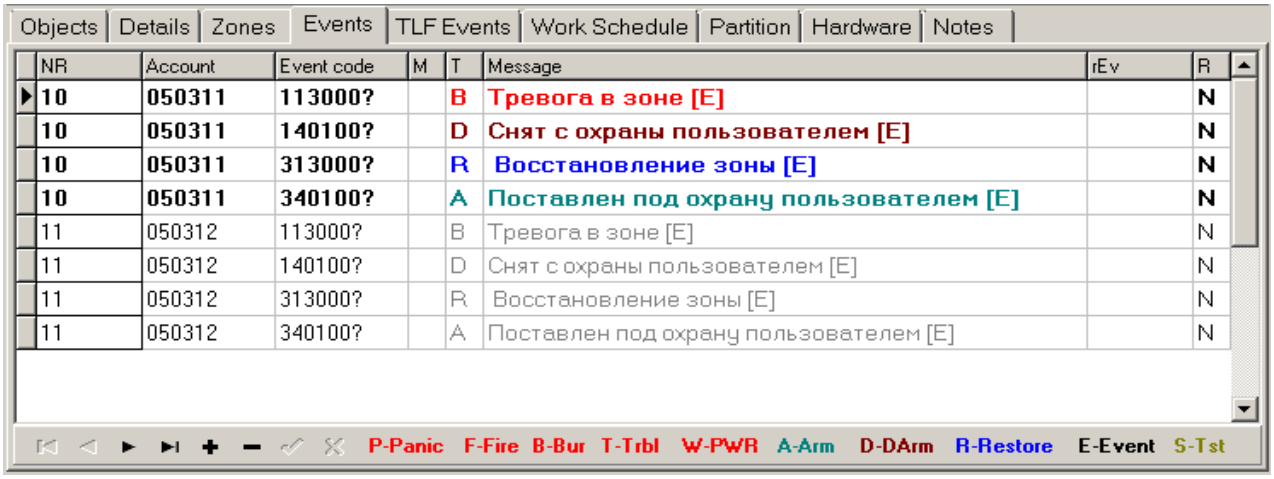
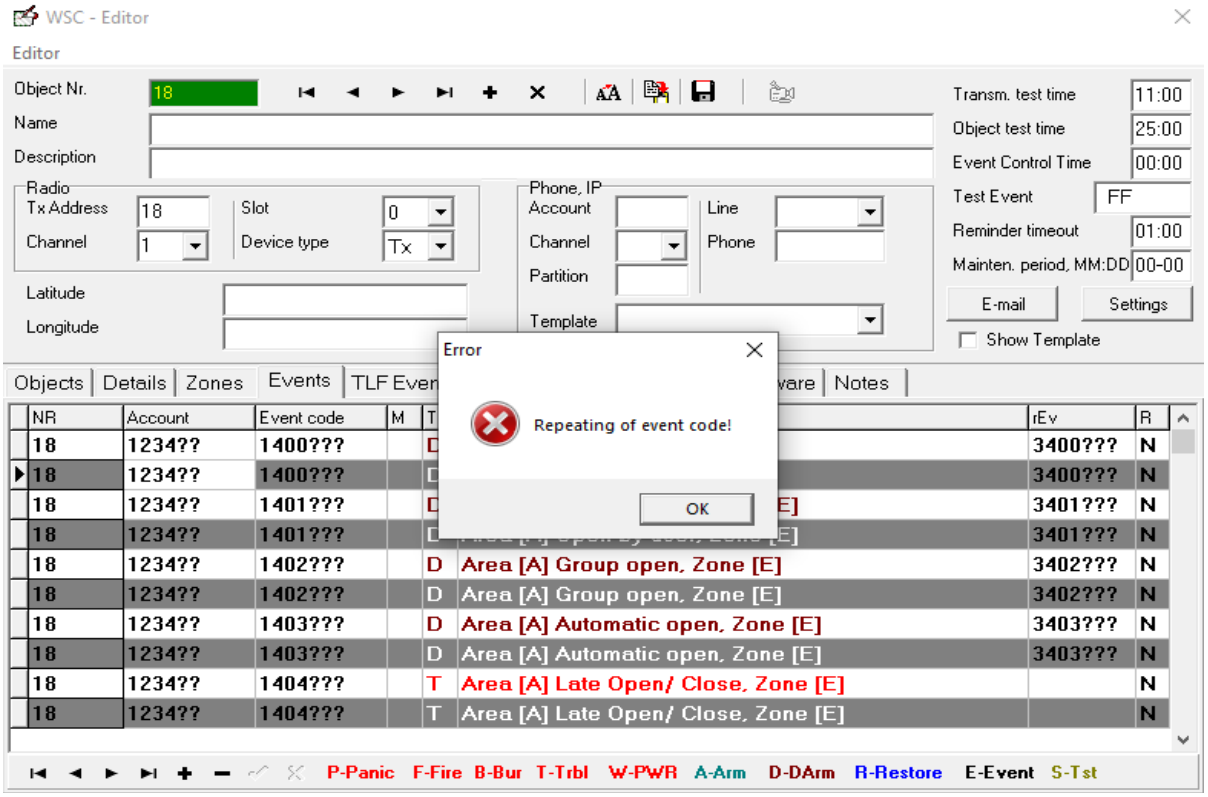


Fig. 22. Example of splitting messages between several sites.

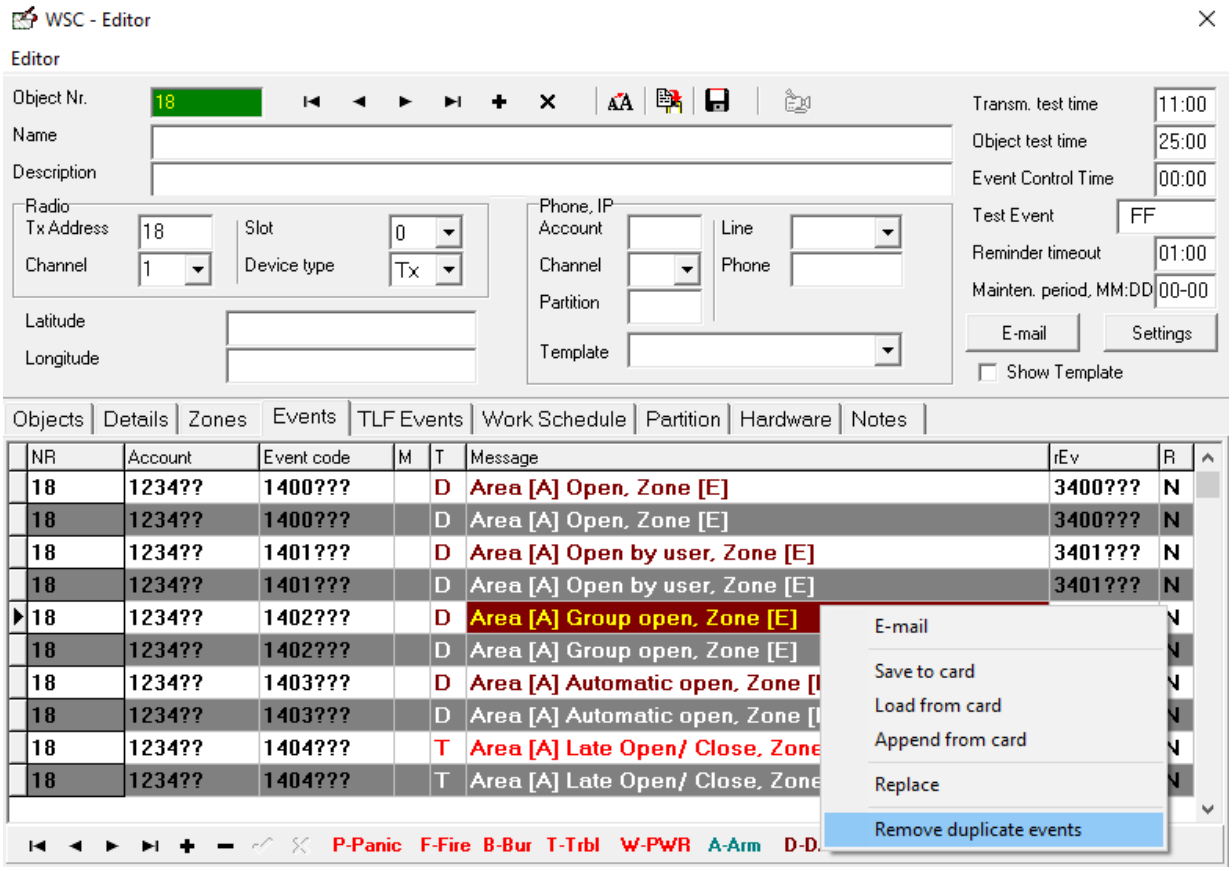
The described version of the program lets you save event descriptions as a text file in the directory **ECard** and later load them into the site card. These procedures are performed via the context menu, which contains the following items:

- **Save to card** – saves all events described in this card to a text file.
- **Load from card** – loads the event descriptions from the selected file. Events already present in the card are deleted.
- **Append from card** - loads the event descriptions from the selected file. Events already present in the card are not deleted.

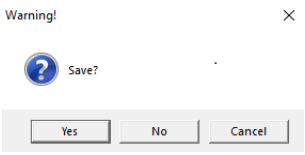
If, while adding events from a file (card) or manually, an event (or several events) is entered twice, then when you try to save the changes the program opens a window **Error** with the error **Repeating of event code!** (**Duplicate event code!**), and rows containing repeated codes will be highlighted in dark gray (see Fig. below).



In this case the duplicate events must be removed from the list by clicking < – > at the bottom of the window, or open the context menu with the right mouse button and select the item **Remove duplicate events** (**Delete duplicate events**)(see Fig. below).



After these actions, the save changes dialog will open without an error.



The TLF Events tab.

This page describes the events transmitted c of alarm panels over wired communication channels (PSTN and IP). The program supports several types of alarm message receivers (consoles), and this list is constantly growing. The ways of connecting alarm panels to transmitters are described in the corresponding transmitter manuals. Each console has its own peculiarities in interpreting the received messages when passing them to the computer. In addition, this may also depend on the individual settings of the console.

In view of the above, it does not seem practical to consider event programming for each console type in detail, so this section is devoted to the basic principles of event description and some general recommendations.

The following fields are used to describe these events in the editor:

- **NR** – is a reference (non-editable) field showing the number of the site being edited.
- **Event code** – must contain the event code received from the alarm panel. Depending on the communication protocol and console type, it may have a different length (but no more than 4 characters) and structure.
- **Zone** – zone or user number. For formats in which this value is absent, it is recommended that this field fill with the characters "**???**».
- **M** – E-mail distribution. The rules for filling it in are the same as on the page **Zone.**
- **T** – Event type. The possible event types are listed below:
    1. **P – Panic** – alarm event. Corresponds to pressing the hold-up button at the site.
    2. **F – Fire** – alarm event. Corresponds to a fire alarm at the site.
    3. **B – Bur** – alarm event. Corresponds to activation of the burglar alarm at the site.
    4. **T – Trbl** – alarm event. Describes all kinds of trouble at the site (tamper activation, low battery, etc.)
    5. **W – Pwr** – AC mains voltage monitoring **220V**. Events of this type behave as follows: when an alarm is received, the program acts according to the settings made for this event type in the window **Settings**. When the time specified in the field expires **Reminder timeout** the alarm window is displayed automatically.
    IMPORTANT! ***For events of this type, in the column*** **R** ***must always be*** **Y**.
    6. **A – Arm** – arming of the site.
    7. **D – DArm** – disarming of the site. Unlike zone descriptions, several events of the type are allowed when describing events **A** and **D** for a single site.
    8. **R – Restore** – alarm restore. Can be used to describe the second state of zones with event types 1 – 5. If, when describing an alarm event, a restore code is entered in the field **rEv**, then the restore description is created automatically with a special restore type, depending on the alarm type. In this case, when an archive query is generated, restore messages are automatically "attached" to alarms without requesting restores in the query. For details see the "Working with the Archive" section.
    9. **E – Event** – neutral event.
    10. **S – Tst** – a test message from the alarm panel. This message is not informational, but if it is not received within the time defined by the Object test time parameter, the following message is displayed:

        No signal from object!

- **Message** – intended for describing the event corresponding to the given code. If this field is left blank, the event is ignored when processing information, regardless of the type assigned to it. If an event not described in the database occurs, it is assigned the type **E – Event**. The message displayed in this case looks like:

    Partition= P EventCode= EEEEZZZ,

    where **P** – area number, **EEEE** – event code, **ZZZ** - zone or user number.

    The area number may contain 2 or 1 hexadecimal digits, or be absent. In the latter case the line will look like:

    Partition= EventCode= EEEEZZZ

    The event code consists of 7 characters, the first 4 of which are the event code proper, and the rest are the zone or user number. This is exactly how they must be entered in the corresponding fields (including spaces).

IMPORTANT! ***If an empty row is present in the event descriptions, undescribed events will be ignored.***

- **rEvent code** – restore code. This field specifies the code by which the described alarm message (event types: 1 – 5) must be removed from the window «**Alarm List**». If no restore code has been entered, removal of the event from the window «**Alarm List**» must be done manually. After a restore code is entered for an alarm event, a description for the restore event is automatically created, with a type matching the alarm type. If this restore code has already been described earlier, one of the rows must be deleted.
- **R** – can take two values: **Y** – the alarm event is routed to the "**Alarm List**», **N** – is not routed. This function will only work if the parameter **Reminder timeout** in the site editor title bar will show a non-zero value.

As with the description of events transmitted over the radio channel, part of the event code characters (fields **Event** and **Zone)** replace with "**?**". In this case, in the processed message, in place of the "**?**" may contain any characters. To identify a specific event, the combination "**[E]**", which when displayed is replaced with the actual characters from the event code (see example), or the combination "**[P]**", which is replaced by the area number or its name (see section "Tab **Partition**»). Number of "**?**" in the event code or area number can be any (but not more than the number of characters actually present); however, they must be placed from right to left, without gaps (**Event** and **Zone** are considered a single field).

If one of the codes or areas entered using "**?**", a special description must be entered as an additional row (code **E855** in the example).

Example of a filled-in card using "**?**" in the format **Contact ID** is shown in Fig.23:

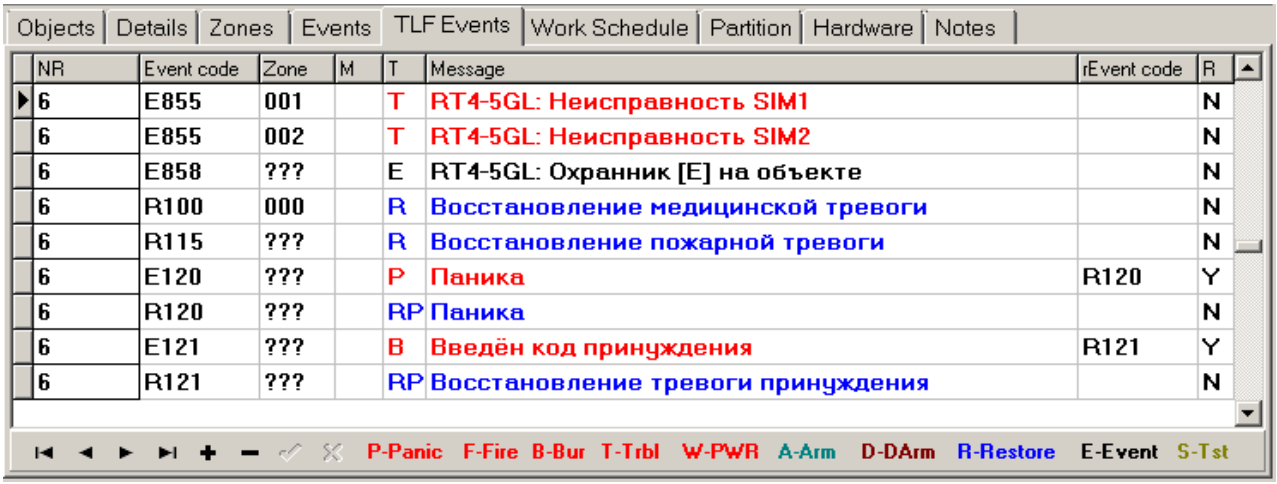


Fig. 23. Example of a filled-in card.

As already noted, event codes may have different structures, depending on a number of factors. As a rule, the description of the communication protocols and of the corresponding messages passed to the computer is present in the documentation of the specific console. To find out the structure of specific information from a specific site, the following method is recommended.

If you know the panel number at the site of interest, create a card and enter this number in the field **Account** of the header (see the "Title and first page" section). Also fill in the fields **Channel** and **Line**, and in the field **Partition** add «**??**». Then initiate a message transmission from the site. You will get a message like **Event**assigned to the site you have entered, looking like:

Partition= P EventCode= E

P may consist of two hexadecimal digits, one, or be empty.
E may contain from two to seven characters.
For the site described in the example, this line could look like:

Partition= 99 EventCode= E855002

Now we fill in the site card, entering the obtained values in the corresponding fields, and, when the event is triggered again, we get the line:

RT4-5GL: Trouble SIM2

If the panel number at the site is unknown, no site card is created; simply trigger an event at the site. In this case you will also get a message like **Event**, but it will be assigned to the console and will look as follows:

Line:1 Acc:1234 Part:99 EvCode:E855002

In this case, in the column **Nr** the number of the channel from which the signal arrived will be shown. This information is thus sufficient to describe a message from the site.

Below are examples of event descriptions for different formats.

4x2 format.

This format uses an event code consisting of two hexadecimal digits, the area number (Partition) is not transmitted. Both digits of the code are written in the field **Event Code**, field **Zone** is filled with the characters "**?**» (see Fig.24).



NR	Event code	Zone	M	T	Message	rEvent code	R
8	4?	???		B	Тревога Зона [E] !		N
8	61	???		E	Вход в режим программирования ключей		N
8	62	???		E	Выход из режима программирования ключей		N
8	9?	???		RB	Восстановление зоны [E]		N
8	B?	???		D	Открыто пользователем [E]		N
8	C?	???		A	Закрыто пользователем [E]		N
8	81	???		W	Пропажа сетевого питания	E1	Y
8	E1	???		RW	Восстановление сетевого питания		N
8	82	???		T	Низкий заряд аккумулятора	E2	Y

Fig. 24. Event descriptions in 4x2 format.

SIA format.

The event code in this format consists of two Latin letters, and the zone or user number consists of two or three decimal digits.

An example of describing codes with three-digit zone numbers is shown in Fig.25.



NR	Event code	Zone	M	T	Message	rEvent code	R
8	AT	000		W	Пропажа 220V	AR	Y
8	AR	000		RW	Пропажа 220V		N
8	BC	???		E	Отмена тревоги, пользователь [E]		N
8	BH	???		R	Восстановление тревоги, зона [E]		N
8	BA	???		B	Тревога, зона [E]	BH	Y
8	BV	000		B	Тревога проходной зоны		N
8	CA	000		A	Автопостановка под охрану		N
8	CE	000		E	Отмена автопостановки		N
8	CG	???		A	Закрытие, район [P]		N

Fig. 25. Event descriptions in SIA format.

If two-digit values are used in the format, two characters should also be used in the description (except for "**???**»).

The code set of the format **SIA** is standardized, but it is recommended to use it in full only in templates (see the "Message Template Editor" section), since a large number of codes (many of which are not used) unjustifiably increases the database size. The list of codes used by a specific panel is usually found in the installation manual for that panel.

Contact ID format.

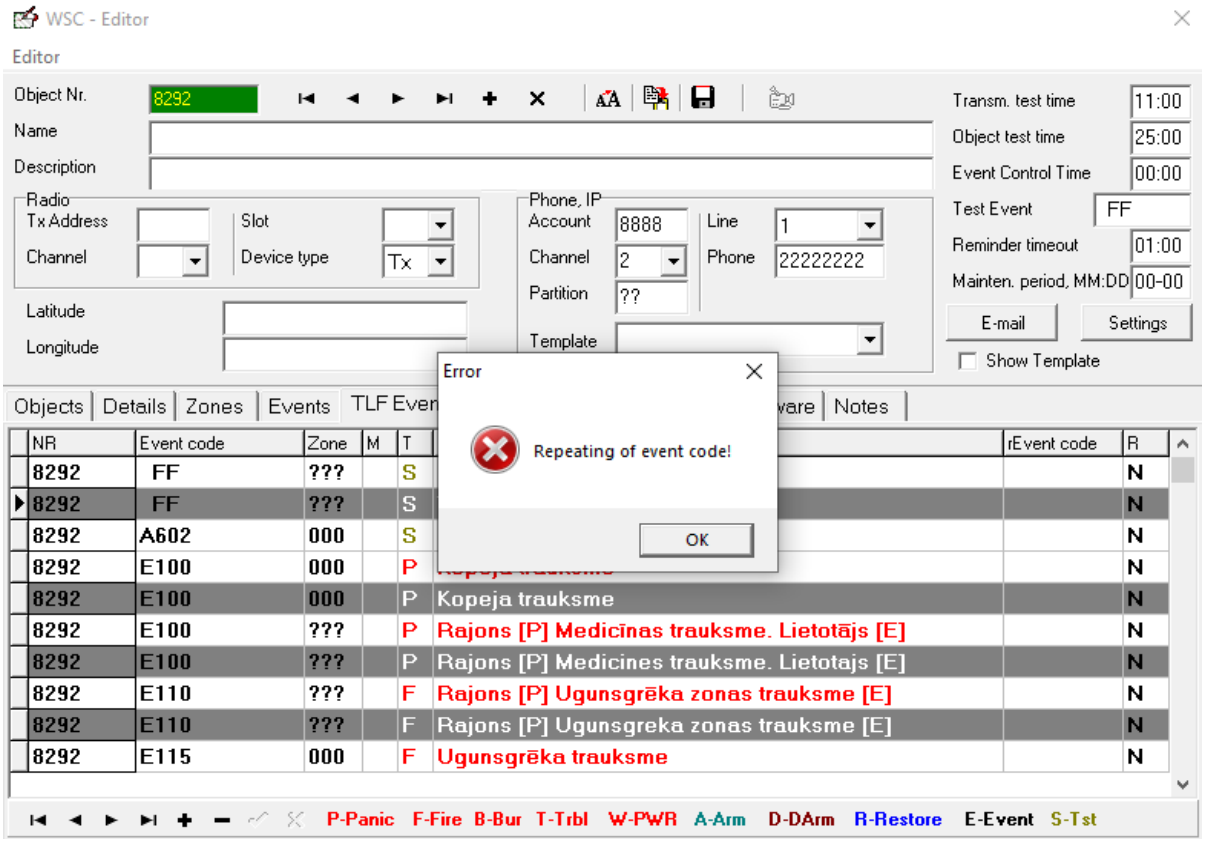
This format is the most commonly used. The event code consists of three digits (the event code proper) and a modifier. The modifier can take 2 values: **E** – an alarm or informational message, as well as a message about disarming of a site or area; **R** – an alarm restore or arming message. The zone or user number consists of three digits. An example of event descriptions is shown in Fig.23.

The described version of the program lets you save event descriptions as a text file in the directory **TLF** and later load them into the site card. These procedures are performed via the context menu, which contains the following items:

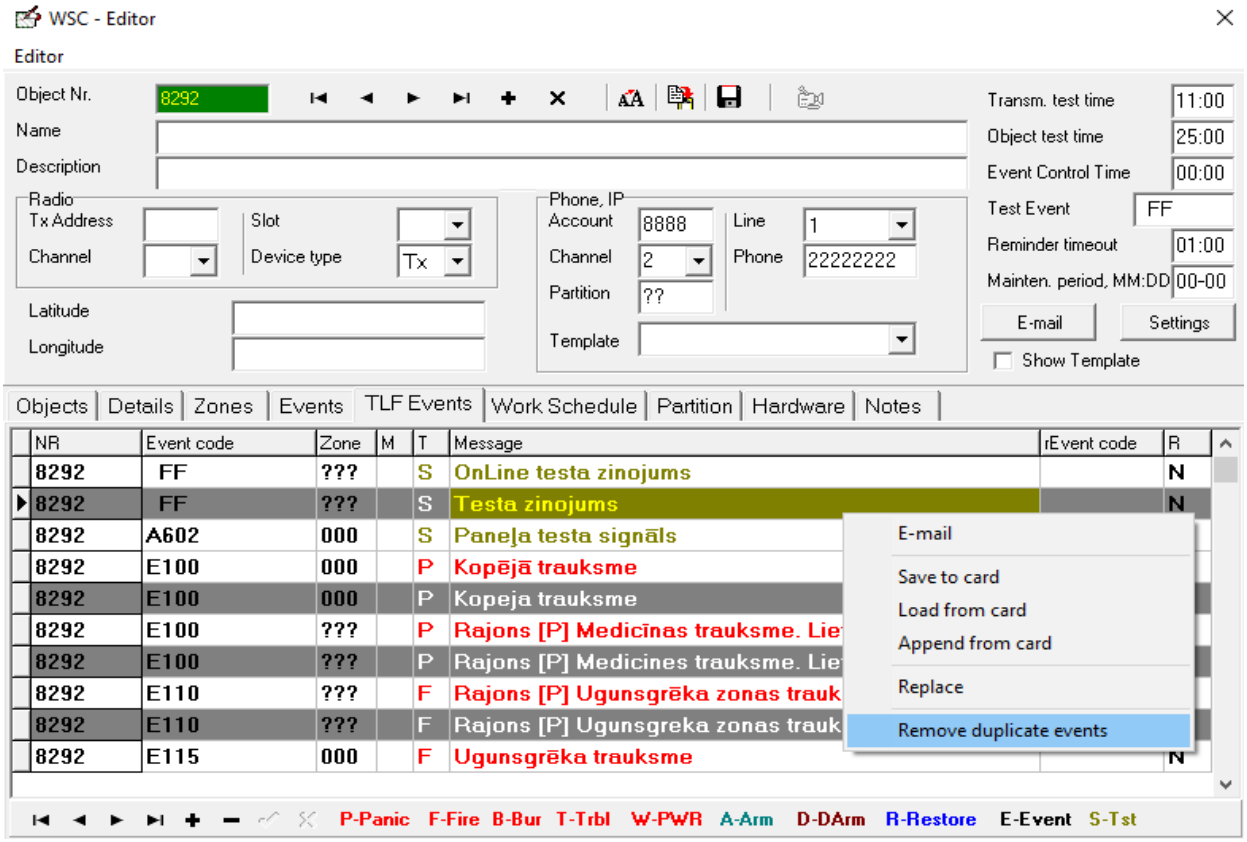
- **Save to card** – saves all events described in this card to a text file.

- **Load from card** – loads the event descriptions from the selected file. Events already present in the card are deleted.
- **Append from card** - loads the event descriptions from the selected file. Events already present in the card are not deleted.

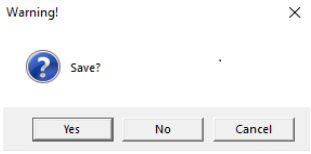
If, while adding events from a file (card) or manually, an event (or several events) is entered twice, then when you try to save the changes the program opens a window **Error** with the error **Repeating of event code!** (**Duplicate event code!**), and rows containing repeated codes will be highlighted in dark gray (see Fig. below).



In this case the duplicate events must be removed from the list by clicking < – > at the bottom of the window, or open the context menu with the right mouse button and select the item **Remove duplicate events (Delete duplicate events**)(see Fig. below).



After these actions, the save changes dialog will open without an error.



Tab Work Schedule.

On this page you can enter the site work schedule, and the program will automatically track its execution and react to the selected type of violations. An example of a work schedule is shown in Fig.26. In the column **Day** specifies the days of the week for which the schedule is created. To enter a day of the week, either

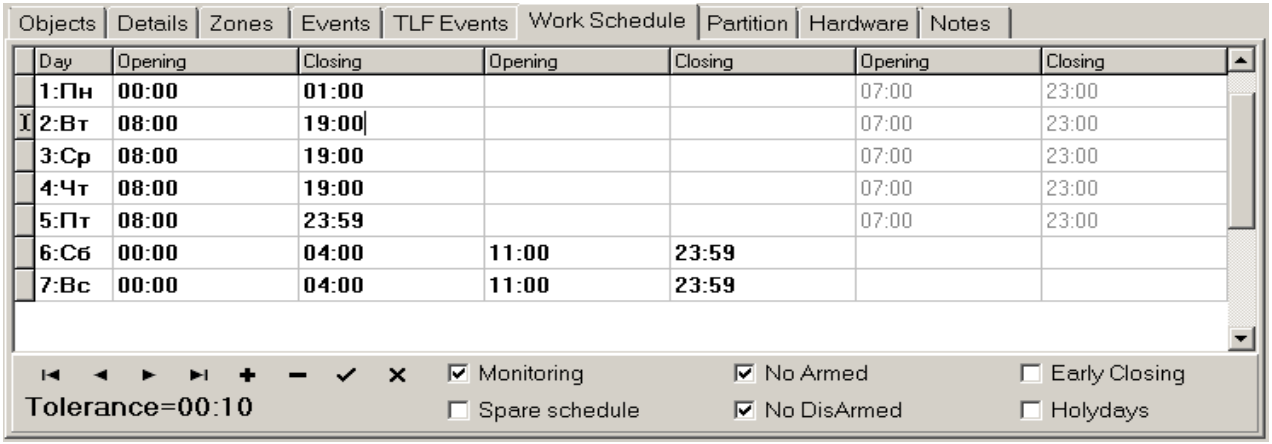


Fig. 26. Example of a site work schedule.

type its ordinal number (Monday – 1), or, by pressing the space bar, bring up the desired day. Next come three groups of fields **Opening/Closing**, which specify the disarming and arming times of the site respectively. The first two groups form the main schedule, the third forms the backup one.

Switching from the main schedule to the backup one and back is done by filling in or clearing the checkbox **Spare schedule**. To remove a site from monitoring without deleting its card, clear the checkbox **Monitoring**. In this case all messages for this site are ignored by the program, the background of the site number in the DB editor list changes to red, and the text in the site list in the main program window – to gray.

The schedule works as follows.

Specified in the fields **Opening/Closing** interval defines the site working time, i.e. the period during which the site may remain disarmed.

If, at the moment the time specified in the field arrives **Closing** plus the value **Tolerance**, the site is not armed, the following message is generated – **Object not Armed !!!**

If the site is armed earlier than the time specified in the field **Closing** minus the value **Tolerance**, the following message is generated – **Early Closing !!!**

If the site was disarmed in the period from **Closing+Tolerance** to **Opening-Tolerance**, the following message is generated – **Disarm in illegal time !!!**

If the site was not disarmed after the time specified in the field **Opening** plus the value **Tolerance**, the following message is generated – **Object Not Disarmed !!!**

All these messages have the event type **Schedule Error (Schedule Error)**.

If you need to set a time interval that starts on one day and ends on another, it is split into two days. The interval ending at 23:59 is entered for the first day, and the one starting at 00:00 for the second. An example of a spanning interval for the spanning intervals Friday-Saturday, Saturday-Sunday and Sunday-Monday is shown in Fig.26. For example, the site opens on Friday at 8:00 and closes on Saturday at 4:00.

If a day of the week is specified in the schedule but the other fields are not filled in, the site must remain armed on that day the whole 24 hours.

If a day of the week is missing from the schedule, the schedule is not tracked on that day.

If the checkbox is filled in **Holydays**, then on the days marked as holidays the site cannot open, regardless of the schedule entered for that day. The list of holidays is created using the corresponding editor (menu **Utilities/Holyday Editor**).

If the site has the same schedule for all days of the week, it is enough to enter Monday only, then open the context menu with the right mouse button and press **Copy**. The schedule will be copied to the whole week.

Tab Partition.

On this page each area of the control panel can be given a name. This name will be automatically substituted in place of the symbol «**[P]**» in the event description text. If there is no area description – its number is substituted. An example of area descriptions is shown in Fig.27.

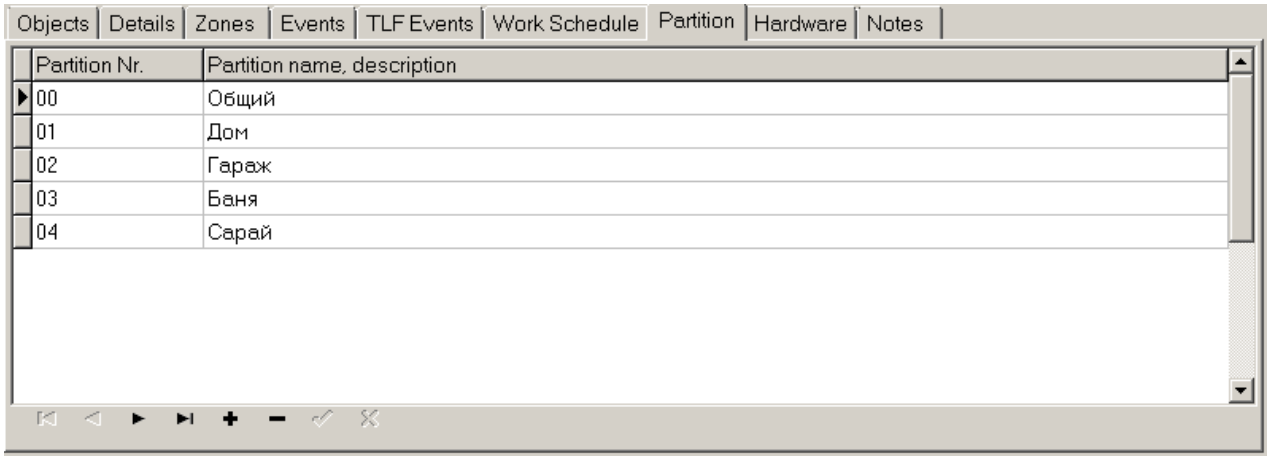


Fig. 27. Example of site area descriptions.

So without area descriptions the message looks like this:

Closing of area 02 with code 3

After the description shown in Fig.27, the same message will look like this:

Closing of the Garage area with code 3

Tab Hardware.

This page is intended for describing the equipment installed at the site and how it is connected. This page is for reference, without any interactive functions, and looks as shown in Fig.28.

The page header shows the type and manufacturer of the control panel (CP) installed at the site, as well

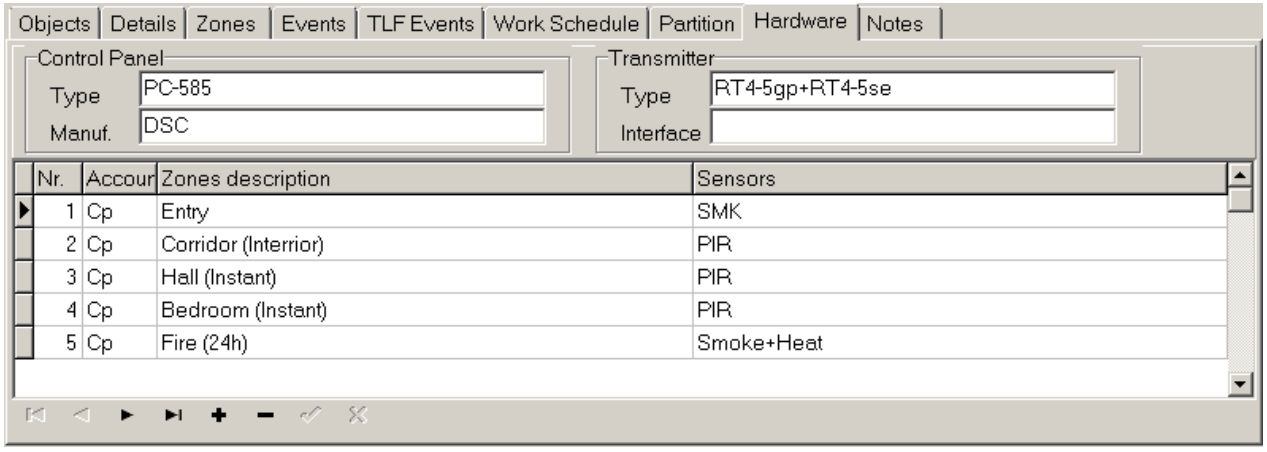


Fig. 28. Example of a filled-in Hardware page.

as the type of the transmitter and interface module (if present). At the bottom there is a table describing the type of equipment connected to the alarm loops and transmitter inputs and its purpose. The table contains the following fields.

- **Nr** – number of the CP loop (zone) or transmitter input.
- **Account** – assignment of the described loop: **Cp** – panel, **Tx** – transmitter.
- **Zone Description** – description of the protected zone**.**
- **Sensors** – description of the end equipment (detector).

All fields are filled in free form.

This information can be viewed by the operator by pressing the button **Hardware** in the alarm window or on the information panel in the main program window.

Tab Notes.

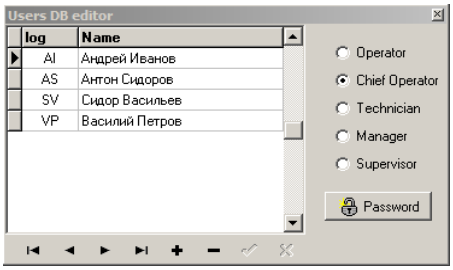
On this page you can place any additional information about the site in free form (in text format).

This information can be viewed by the operator by pressing the button **Notes** in the alarm window or on the information panel in the main program window.

The amount of information that can be placed here is unlimited.

User database editor.

Since authorization is required to enter the program, it must be possible to assign each user their own symbolic name (**Login**) and password, and to define their access rights to the various program functions. Only the Administrator has unconditional full access (login: **sys** – is fixed), the administrator password (as supplied: **sys**) can be changed via the menu **Utilities/Change system password**.



The described editor is intended for creating and correcting the database of program users. The editor is opened from the main program menu: **Utilities/Users/User DB Editor**. The general view of the editor window is shown in the figure.

To add a new user to the database:

- Click the symbol "**+**" on the bottom panel. An empty row will appear.
- Enter the symbolic (five characters maximum) and real user name in the fields **log** and **Name** respectively.
- Select the required access level (in the right part of the window – **Operator / Chief Operator / Technician / Manager / Supervisor**).
- To enter the password, press the button **Password**. The following will appear window **Current password**. If entering a new user, press "**OK**"; if editing, enter the current password and press "**OK**". In the next two windows the new password is entered and confirmed.

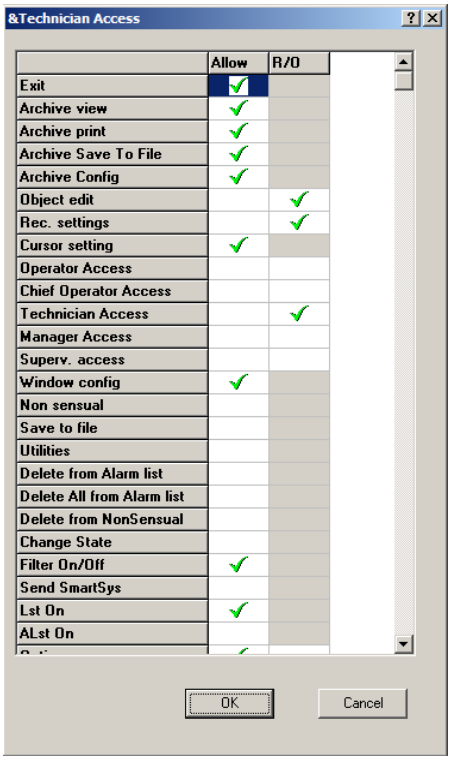
To save the user details, press "√».

To cancel the editing actions (since the last save), press "**X**».

To delete the user from the DB, press "**–**». You do not need to know a user's password to delete them.

Access-level editors exist for configuring the program functions permitted to each user category. The editors are opened via the menu **Utilities/Users/Operator Access, Utilities/Users/Chief Operator Access, Utilities/Users/Technician Access, Utilities/Users/Manager Access, Utilities/Users/Supervisor Access.** The access level configuration window is shown in the figure and looks the same for all user categories.

The following functions are available for configuration.



- **Exit** – exit the program.
- **Archive view** – archive viewing.
- **Archive print** – archive printing.
- **Archive Save to File** – saving a query to a text file with field separation.
- **Archive Config** – configuration of the archive display and print windows.
- **Object Edit** – editing, adding, deleting sites.
- **Rec. Settings** – adding, deleting and configuring message receivers.
- **Cursor setting** – turning on/off the function of automatically placing the cursor on the highest-priority message in the alarm list window.
- **Operator Access** – operator access configuration.
- **Chief Operator Access –** senior operator access configuration.
- **Technician Access** – technician access configuration.
- **Manager Access** – manager access configuration.
- **Superv. Access** – supervisor access configuration.
- **Window config** – configuration of the layout and parameters of the main program windows.
- **Non Sensual** – starting maintenance and blocking messages.
- **Save to File** – saving the site list to a text file with field separation.
- **Utilities** – access to the corresponding menu item.
- **Delete from Alarm list** – deleting messages one at a time from the unrestored alarms list.

- **Delete All from Alarm list** – deleting all messages from the unrestored alarms list.
- **Delete from NonSensual** – ending maintenance or unblocking a message.
- **Change State** – forced change of the site status.
- **Filter On/Off** – turning the site filter on / off.
- **Send SmartSys** – sending event data to the response team crew.
- **Lst On** – presence of the Event Window in the interface.
- **ALst On** – presence of the Alarm List Windows in the interface (ability to process alarms).
- **Options** – access to the corresponding menu item.
- **Sound** – ability to configure the sound notification parameters.
- **Signals** – ability to configure sounds by message type.
- **Comments** – ability to edit the operator's standard comments on the processed events.

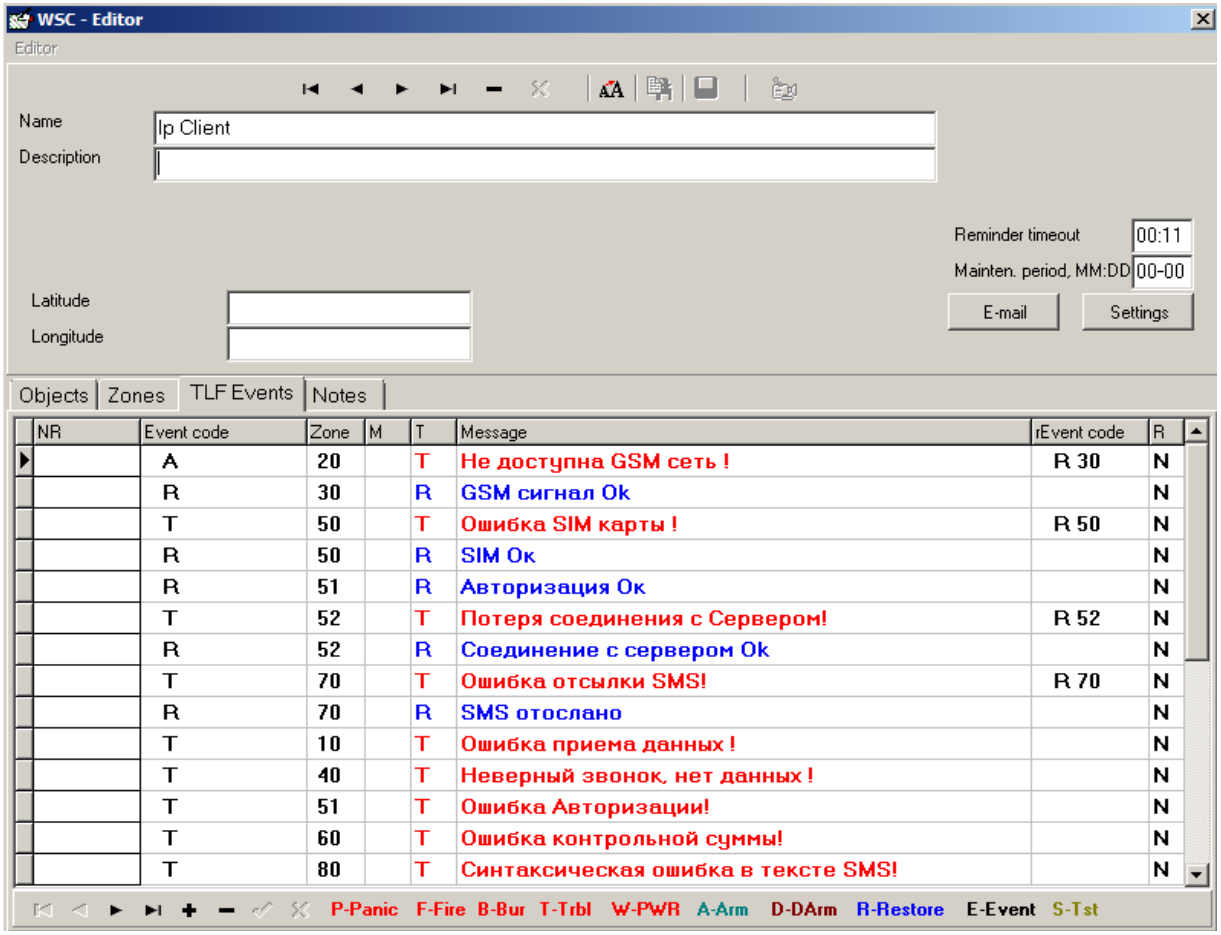
Three access options are possible for each item:

- **No** – the function is not available
- **Yes** – the function is fully available
- **R/O** – the function is available for viewing only.

Receiver system message editor.

System messages are the alarm and informational messages describing the state of the receivers (CMS) operating in the system. Information on system events is loaded into the database when the corresponding receiver is selected in the settings menu (see the “Receiver Settings” section). However, the receiver event descriptions can also be loaded manually, and those already loaded can be edited. The editor is opened from the menu: **Service/System events Editor**.

The editor interface is the same as the site database editor, except for parameters not used for describing receivers. Console event descriptions **CU4000** and **RP4000dm** is done on the page **Zones**, the others on the page **TLF Events**. The rules for describing events are the same as when describing sites. Below is a fragment of event descriptions for a receiver of type **IpClient** (reception of signals from **TLF_Server**).



Message template editor.

Message templates make it unnecessary to describe standard event codes in every site, which simplifies site entry and considerably reduces the database size, which in turn speeds up the system.

Templates can only describe events corresponding to the group **TLF Events**. All signals from radio transmitters of the system **RS4000** must be described for each site individually.

The template editor is opened from the menu **Utilities/Template Editor** and looks as shown in Fig.29.

The template number and its name are entered in the upper window. The number determines the order

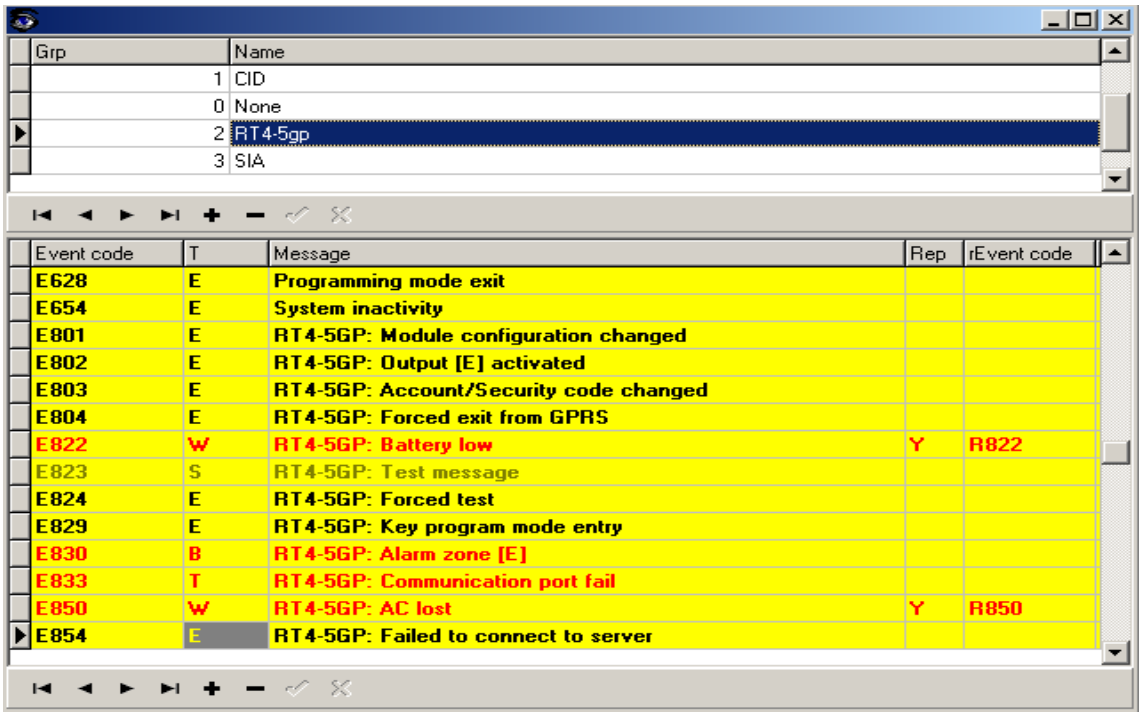


Fig. 29. Template editor.

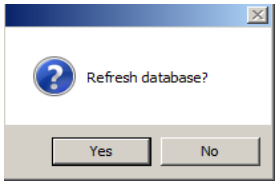
of the templates when selecting them in the site editor, and the name helps identify them.

The event codes are entered in the lower window (**Event code**), event types (**T**), event descriptions (**Message**), restore codes for alarm event types (**rEvent code**) and the flag for assigning a reminder about an unrestored alarm (**Rep**).

The rules for describing events are the same as those in the tab **TLF Events** of the site database editor, with the only difference that there are no zone (user) descriptions here, which is equivalent to the value "**???**» in this field. Just as in the site database editor, the event descriptions can be saved to the card as a text file, loaded from the card, and the card contents can be appended to the existing description. The context menu, opened with the right mouse button, serves this purpose.

When describing events, remember that event codes cannot be duplicated within one template. If duplicates are found when saving the description, the program will display a warning **Repeating of event code** (**Duplicate event code!**), and the cursor will stop on the duplicate row.

For a new or edited template to be accepted by the program, the tables on the server must be refreshed, so after closing the template editor the following window appears:



When you have finished working with the editor, press **Yes** and the database will be refreshed; if not, you can press **No** and postpone the procedure.

Holiday date editor.

The holiday editor lets you select the days that are holidays in the user's region. This is necessary for correct tracking of the site work schedule if it is not supposed to open on holidays.

The holiday date editor is opened from the menu **Utilities/Holydays Editor**.

The appearance of the editor is shown in Fig.30.

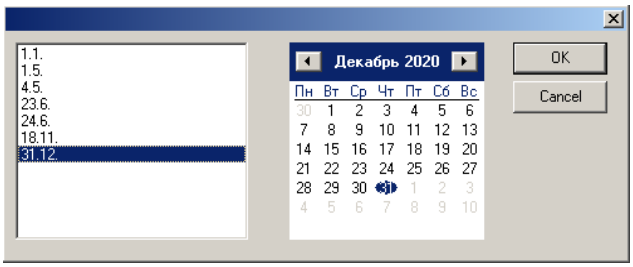


Fig. 30. Holiday date editor

The left window contains the dates selected as holidays (**<day>.<month>.**).

The right one contains a standard calendar.

To designate a date as a holiday, select it in the calendar and double-click the left mouse button. The selected date will then appear in the left window. To remove a date from the holidays, select it in the left window and press **Delete** on the keyboard.

The order of the dates in the left window does not matter.

Template editor SMS messages.

The editor is intended for adding, deleting and editing message templates that the operator can send to clients directly from the program (from the window **Details**).

The editor is opened from the menu **Service/SMS Editor** (see Fig.31).

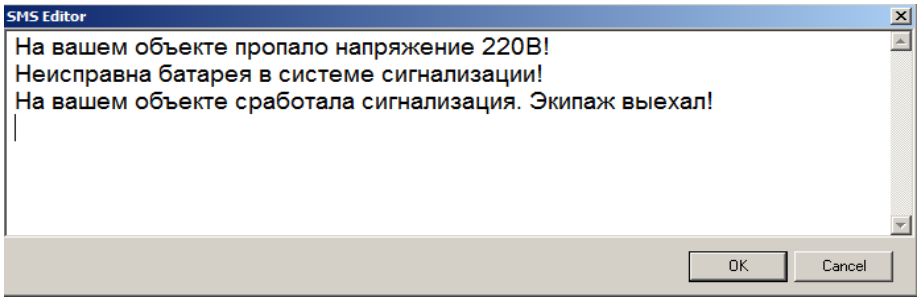


Fig. 31. SMS message template editor

Texts **SMS** are entered in free form and separated from each other by a line break. Each line thus corresponds to one message.

The number of templates is unlimited.

A separate template list can be created for each workstation and for the server.

After pressing “**OK**» the template list is saved to the file **SMS.txt** in the main program directory, which, if necessary, can be copied to other workstations.

Working with the archive.

All events arriving from the sites, arising from the program's monitoring of test messages and the work schedule, all user actions, as well as operator comments on the processed events, are stored in the archive. Archive data is kept for the entire period of the program's operation and can be sorted, displayed on screen, saved to a file and printed at the user's request at any moment and for any period of time (provided the user has the corresponding rights).

The archive query (archive filter) window can be opened:

- from the main menu **Archive**.
- via the context menu from the site or event window with the command **Archive**.

If opening archive filter is done via the context menu; the window appears with the site number already set to the one the cursor was on at the moment it was opened.

When opened from the main menu, a query can be made not only by the number or range of site numbers in the database, but also by the radio transmitter address or the number **IP**-transmitter (or their range).

The appearance of the windows for all three query types is shown below in Fig.32.

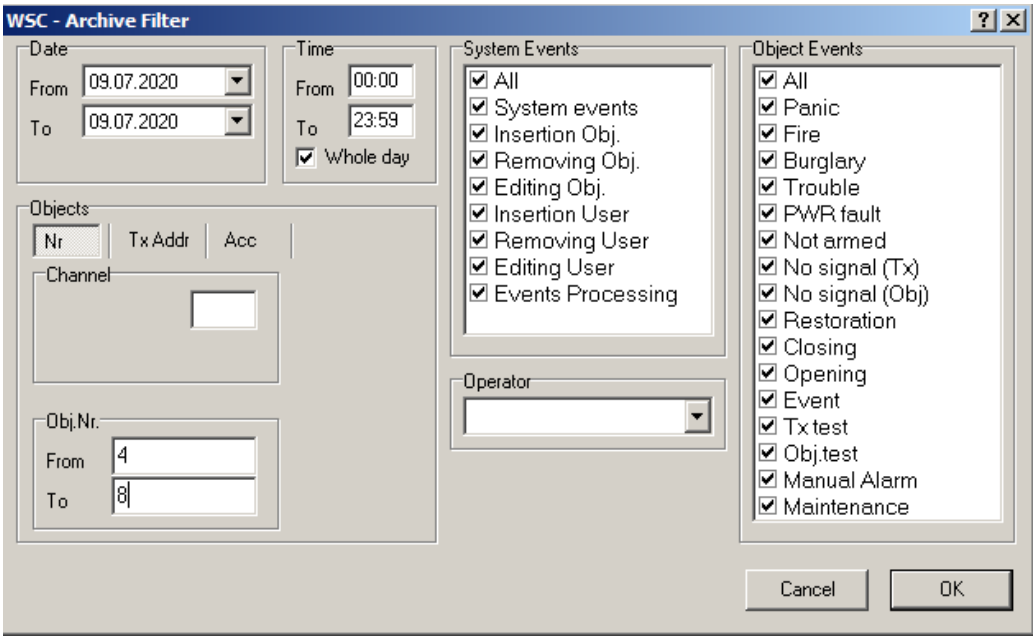


Fig. 32. Window sorted by DB numbers.

As can be seen in the figure, a range of site numbers can be set for the query, as well as the reception channel number. In the latter case, only signals received from the specified sites via that reception channel will be included in the query.

In this window, besides the address range and the reception channel number, you can specify the number of the receiver slot from which the messages were received. For queries by repeater, addresses must be entered in the form **Rn**, where **n** – repeater address (see Fig.33). The valid transmitter address range is – 1 - 4095, repeaters – R1 - R255.

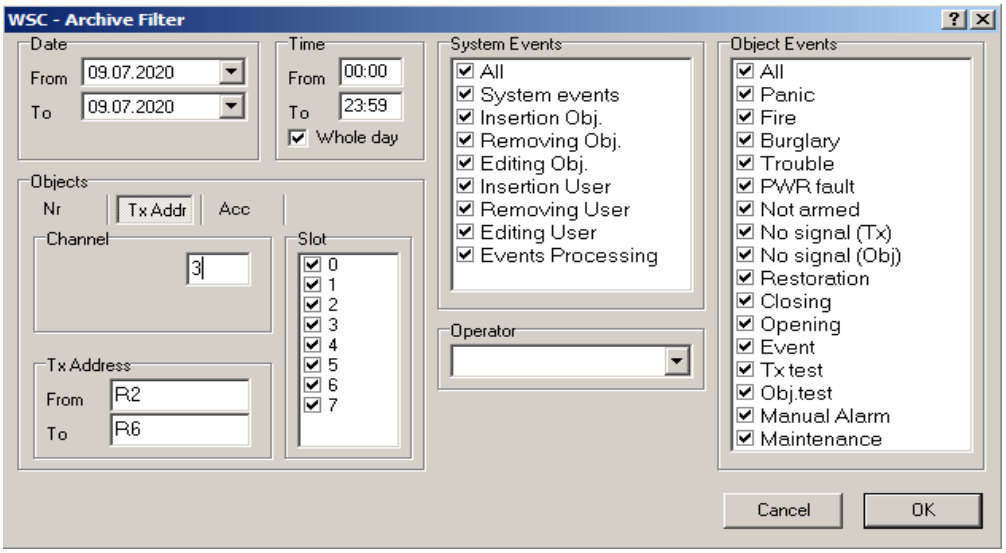


Fig. 33. Window sorted by radio transmitter addresses.

Sorting by numbers IP-of transmitters and control panels (accounts) differs in that the account is a hexadecimal number and the line is selected from **16** possible. The valid account range is – **0000** - **FFFF** (see Fig.34).

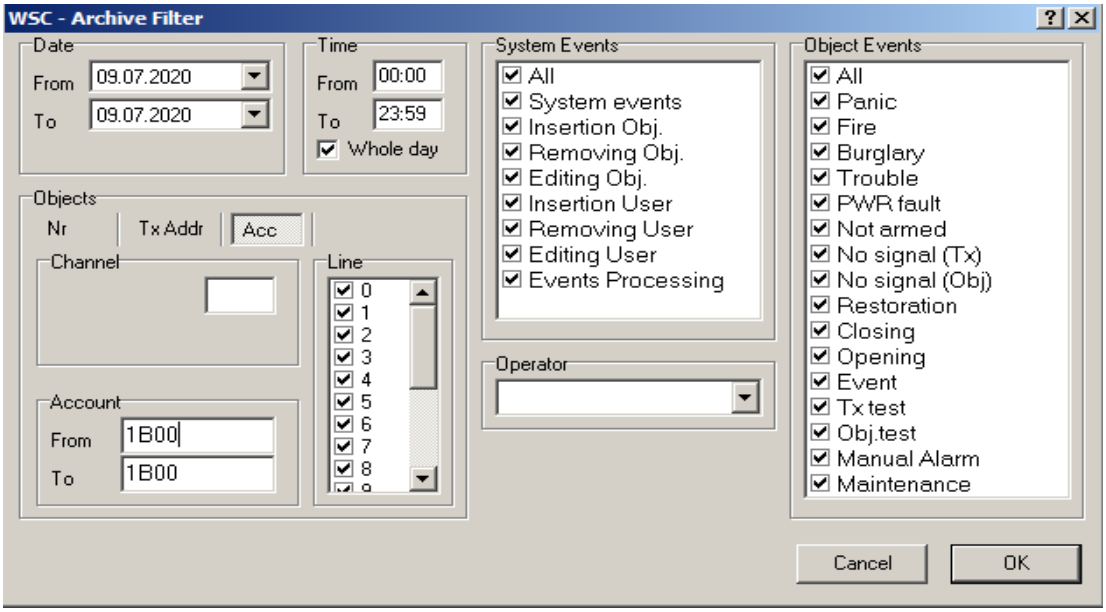


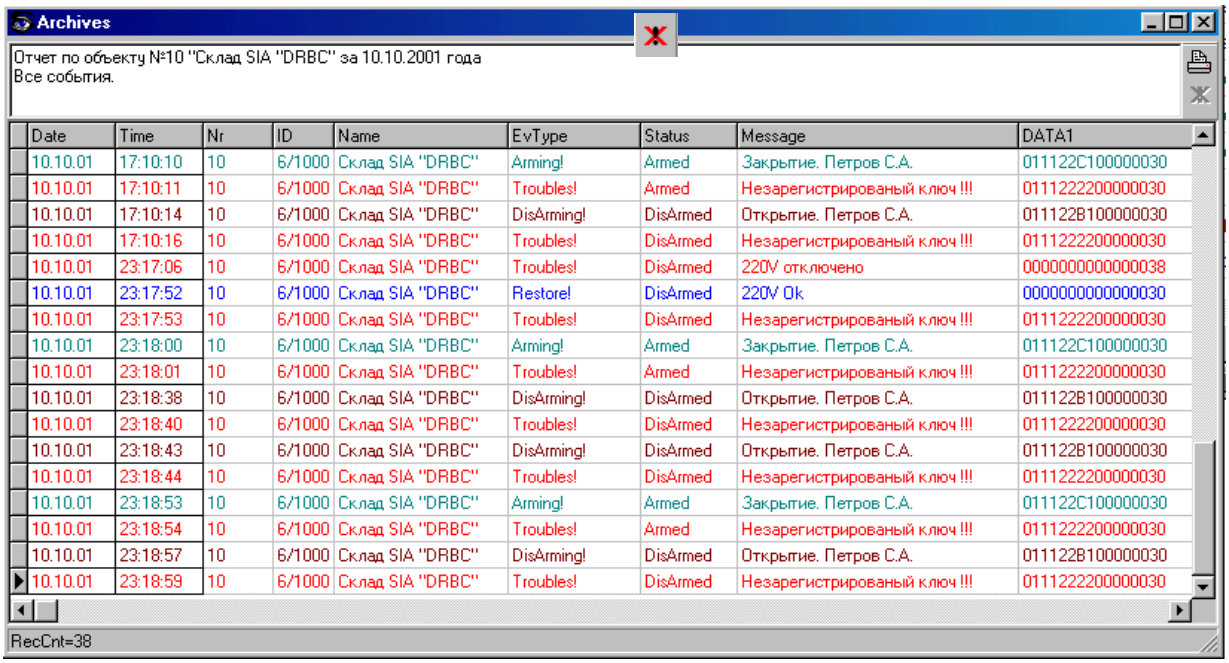
Fig. 34. Window sorted by IP transmitter and control panel numbers.

As can be seen, these windows differ only in the site identification parameters used for the query. All the other query criteria are the same and have the following purposes.

1. **Date** – lets you define the start and end date of the query.
2. **Time** – lets you set the time interval for the query. If several days are specified in the previous item, the query runs from the time "**From**" of the first day until the time "**To**" of the last one. When the checkbox is set **Whole day** – the query covers a full day (24h).
3. **System Events** – lets you define the types of events that occurred at the operator workplace that will be included in the query.
4. **Object Events** – lets you define the types of signals related to the site that will be included in the query. The checkbox **Not Armed** covers all types of work schedule violations, while **Maintenance** includes in the query the signals received from the site during the period when it was under maintenance (without sound and alarms).
5. **Operator** – lets you define whose processed events will be included in the query, by operator.

Once all query criteria are set, press the button "**OK**". The time needed to generate the query depends on the selected time interval, the amount of requested information and the computer performance, and may take

up to several minutes. To cancel the query generation, click the symbol in the upper right corner of the window. An example of an archive query is shown in Fig.35.



Date	Time	Nr	ID	Name	EvType	Status	Message	DATA1
10.10.01	17:10:10	10	6/1000	Склад SIA "DRBC"	Arming!	Armed	Закрытие. Петров С.А.	011122C100000030
10.10.01	17:10:11	10	6/1000	Склад SIA "DRBC"	Troubles!	Armed	Незарегистрированый ключ !!!	0111222200000030
10.10.01	17:10:14	10	6/1000	Склад SIA "DRBC"	DisArming!	DisArmed	Открытие. Петров С.А.	011122B100000030
10.10.01	17:10:16	10	6/1000	Склад SIA "DRBC"	Troubles!	DisArmed	Незарегистрированый ключ !!!	0111222200000030
10.10.01	23:17:06	10	6/1000	Склад SIA "DRBC"	Troubles!	DisArmed	220V отключено	0000000000000038
10.10.01	23:17:52	10	6/1000	Склад SIA "DRBC"	Restore!	DisArmed	220V Ok	0000000000000030
10.10.01	23:17:53	10	6/1000	Склад SIA "DRBC"	Troubles!	DisArmed	Незарегистрированый ключ !!!	0111222200000030
10.10.01	23:18:00	10	6/1000	Склад SIA "DRBC"	Arming!	Armed	Закрытие. Петров С.А.	011122C100000030
10.10.01	23:18:01	10	6/1000	Склад SIA "DRBC"	Troubles!	Armed	Незарегистрированый ключ !!!	0111222200000030
10.10.01	23:18:38	10	6/1000	Склад SIA "DRBC"	DisArming!	DisArmed	Открытие. Петров С.А.	011122B100000030
10.10.01	23:18:40	10	6/1000	Склад SIA "DRBC"	Troubles!	DisArmed	Незарегистрированый ключ !!!	0111222200000030
10.10.01	23:18:43	10	6/1000	Склад SIA "DRBC"	DisArming!	DisArmed	Открытие. Петров С.А.	011122B100000030
10.10.01	23:18:44	10	6/1000	Склад SIA "DRBC"	Troubles!	DisArmed	Незарегистрированый ключ !!!	0111222200000030
10.10.01	23:18:53	10	6/1000	Склад SIA "DRBC"	Arming!	Armed	Закрытие. Петров С.А.	011122C100000030
10.10.01	23:18:54	10	6/1000	Склад SIA "DRBC"	Troubles!	Armed	Незарегистрированый ключ !!!	0111222200000030
10.10.01	23:18:57	10	6/1000	Склад SIA "DRBC"	DisArming!	DisArmed	Открытие. Петров С.А.	011122B100000030
10.10.01	23:18:59	10	6/1000	Склад SIA "DRBC"	Troubles!	DisArmed	Незарегистрированый ключ !!!	0111222200000030

Fig. 35. Archive query window.

As can be seen in the figure, the window consists of a header field and an information field. The contents of the information field are formed from messages received at the central console and generated by the program, and therefore cannot be edited. The header field is filled in by the user at their discretion.

In the described version of the program, an archive query can be saved as a text file with which can later be imported into **MS Excel**. To do this, open the context menu by clicking the right mouse button and select the item **Save to file**, (the action must be permitted by the rights of the given user). In addition, the context menu contains the commands **Font**, which lets you choose the optimal font type and size, and **Visible fields**, which lets you hide fields of no interest in the query window and in the printed report.

The query window may contain the following fields:

- **Date** – date the message was received.
- **Time** – time the message was received.
- **Nr** – site number in the database.
- **Rnum** – reception channel number (see the “Receiver Settings” section).
- **ID** – source of the message in the form: receiver number/slot number (line)/device address.
- **Name** – site name.
- **Event type** – type of the message from the site.
- **Status** – site status at the moment the message was received (armed/disarmed arming).
- **Message** – text of the message from the site.
- **Data** – data block received from the receiver.
- **HI** – physical address of the last repeater through which the message passed message (only for **CU4000**).
- **HN** – number of times the message was relayed (only for **CU4000**).
- **TG** – type of transmitted data (only for **CU4000**).
- **Log** – symbolic name of the operator who processed the message.
- **Slot type** – slot type (only for **CU4000**).
- **Slot** – number of the slot (line) from which the message was received.

Clicking the symbol  opens the report generation and printing window.

The appearance of the report generation and printing window with its context menu is shown in Fig.36. This window will contain the fields defined in the query window.

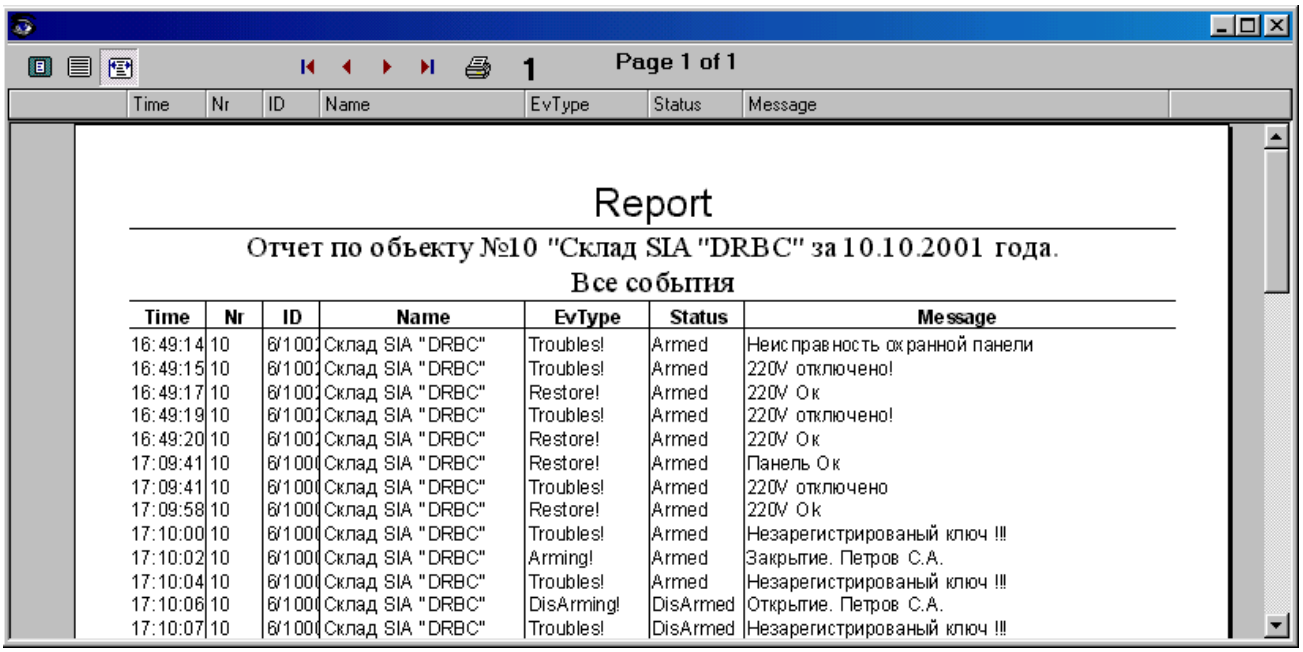


Fig. 36. Print preparation window.

This window has the following tools for generating a report:

- Header font selection. Done via the context menu with the command **Header Font**. This command opens the standard font configuration window, letting you choose the font type, size, color, etc.
- Text font selection. Done via the context menu with the command **Font** same as the previous item.
- Field formatting, consisting of choosing the optimal width for each field. To change the field width, place the cursor on the field boundary in the header part of the window (see Fig.36) and, holding the left mouse button, move it to the desired position.

If necessary, the described operations are performed several times until the desired result is achieved.

To send the generated report to the printer, click the symbol . 

Printing is done on the “default” printer.

Working with the program LogView.

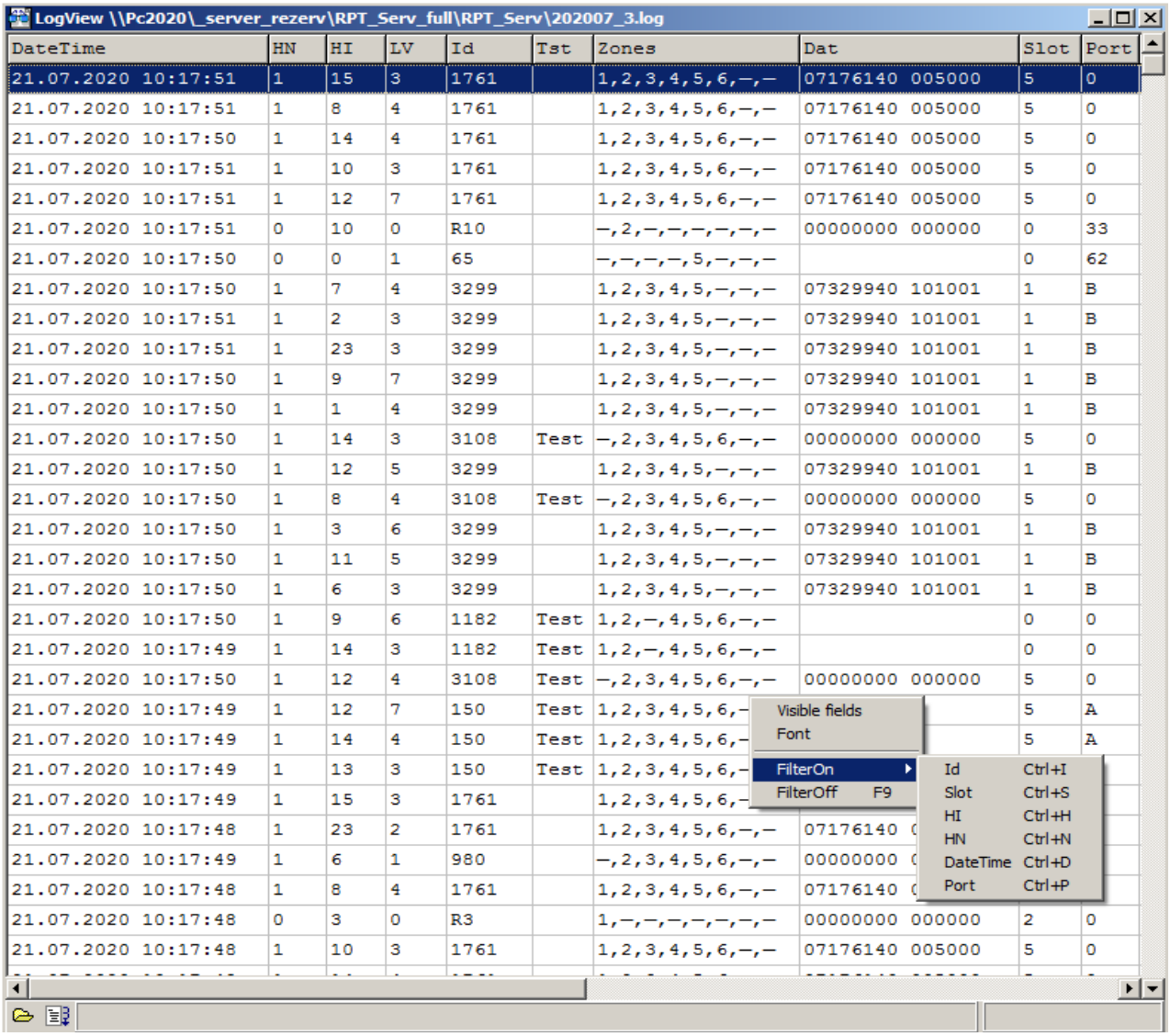
Program **LogView** is intended for viewing and analyzing the signals arriving in the program from the radio transmitters of the system **RS4000**.

.logfile is a text file storing all messages arriving from the receiver, regardless of whether the corresponding site is in the database or not. Moreover, all messages from every transmission session are written to it (duplicated, relayed, etc.). Since each message contains information about the signal level, the route and relay depth, the transmitted data, etc., analysis of the .logfile gives a complete picture of the operation of the network as a whole. .logfile will only be generated if the folder exists in the main program directory **tcp_rplog** (created by default during installation). Each .logfile is closed every ten days, i.e. it contains information for 10 days. The file name looks as follows:

YYYYMM_D.log

Where **YYYY** – year, **MM** – month and **D** – number of the ten-day period when the file was created. For example, 200311_2.log – this is the file for the second ten-day period of November 2003.

For convenience of working with the .logfile, the program has the button **LogView** (see the “Control Panel” section). It not only presents the information in a form that is more convenient to work with, but also allows you, by means of a system of filters, to single out the data required for the job. The general view of the window **LogView** with the context menu open is shown in the figure.



DateTime	HN	HI	LV	Id	Tst	Zones	Dat	Slot	Port
21.07.2020 10:17:51	1	15	3	1761		1,2,3,4,5,6,–,–	07176140 005000	5	0
21.07.2020 10:17:51	1	8	4	1761		1,2,3,4,5,6,–,–	07176140 005000	5	0
21.07.2020 10:17:50	1	14	4	1761		1,2,3,4,5,6,–,–	07176140 005000	5	0
21.07.2020 10:17:51	1	10	3	1761		1,2,3,4,5,6,–,–	07176140 005000	5	0
21.07.2020 10:17:51	1	12	7	1761		1,2,3,4,5,6,–,–	07176140 005000	5	0
21.07.2020 10:17:51	0	10	0	R10		–,2,–,–,–,–,–,–	00000000 000000	0	33
21.07.2020 10:17:50	0	0	1	65		–,–,–,–,5,–,–,–		0	62
21.07.2020 10:17:50	1	7	4	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:51	1	2	3	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:51	1	23	3	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:50	1	9	7	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:50	1	1	4	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:50	1	14	3	3108	Test	–,2,3,4,5,6,–,–	00000000 000000	5	0
21.07.2020 10:17:50	1	12	5	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:50	1	8	4	3108	Test	–,2,3,4,5,6,–,–	00000000 000000	5	0
21.07.2020 10:17:50	1	3	6	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:50	1	11	5	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:50	1	6	3	3299		1,2,3,4,5,–,–,–	07329940 101001	1	B
21.07.2020 10:17:50	1	9	6	1182	Test	1,2,–,4,5,6,–,–		0	0
21.07.2020 10:17:49	1	14	3	1182	Test	1,2,–,4,5,6,–,–		0	0
21.07.2020 10:17:50	1	12	4	3108	Test	–,2,3,4,5,6,–,–	00000000 000000	5	0
21.07.2020 10:17:49	1	12	7	150	Test	1,2,3,4,5,6,–		5	A
21.07.2020 10:17:49	1	14	4	150	Test	1,2,3,4,5,6,–		5	A
21.07.2020 10:17:49	1	13	3	150	Test	1,2,3,4,5,6,–			
21.07.2020 10:17:49	1	15	3	1761		1,2,3,4,5,6,–			
21.07.2020 10:17:48	1	23	2	1761		1,2,3,4,5,6,–,–	07176140		
21.07.2020 10:17:49	1	6	1	980		–,2,3,4,5,6,–,–	00000000		
21.07.2020 10:17:48	1	8	4	1761		1,2,3,4,5,6,–,–	07176140		
21.07.2020 10:17:48	0	3	0	R3		1,–,–,–,–,–,–,–	00000000 000000	2	0
21.07.2020 10:17:48	1	10	3	1761		1,2,3,4,5,6,–,–	07176140 005000	5	0

The window has the following settings, available via the context menu:

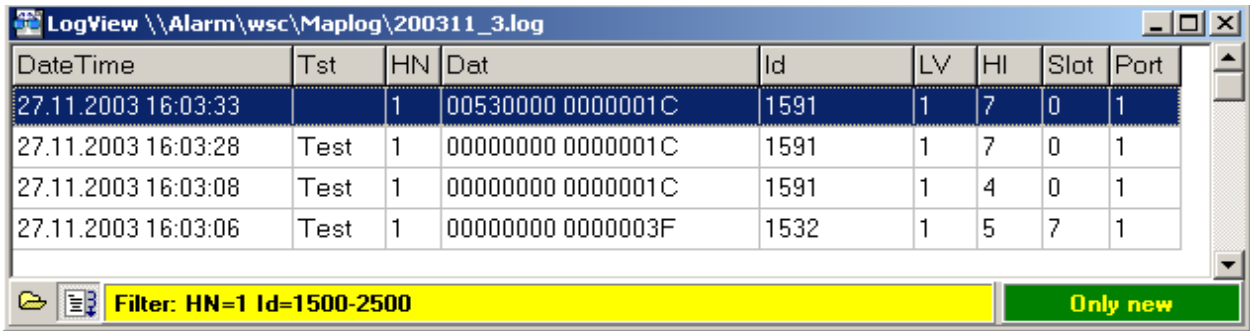
- **Visible fields** – lets you show or hide certain information fields
  - **Port** – number of the relay system through which the message was received
  - **Slot** – number of the receiver or repeater slot from which the message was received
  - **Dat** – data block
  - **Zones** – state of the transmitter inputs (the digit corresponding to the input number)
  - **ST** – receiver slot type

- **DateTime** – date and time the message was received
- **ID** – transmitter (repeater) address
- **Tst** – test message flag
- **Serv** – repeater service message flag
- **HI** – address of the last repeater the message passed through
- **HN** – number of times the message was relayed
- **LV** – received signal level (0 – 7). If the message was relayed, the reception level at the first repeater is shown.
- **Sourse** – the original string .logfile from which the information was taken
  Note. In the field **HI** when receiving information directly from the transmitter, the number of the repeater on which the transmitter is registered may be displayed (this is only possible in old relay systems with transmitters **RT4-5se** version 2 and below, and when using simplex repeaters **RP4000s**).

- **Font** – lets you choose the optimal font type and size.
- **Filter On** – lets you select and activate message filtering by the corresponding fields (see figure). Filters on several fields can be active at the same time. In that case, the information matching all the criteria is displayed. In the criterion field you can specify either a specific parameter value or a range (in the form n – m). When a new criterion is set, the old one is cancelled. When the filter is activated, the bottom panel of the window is highlighted in yellow and all filtering criteria are shown on it (see figure).
  The filtering criterion window can also be opened by double-clicking the header or column of the corresponding parameter.
- **Filter Off** – cancels filtering by all set criteria. To cancel filtering by a single field, open the criterion window and, leaving it blank, press «**OK**».

When opening **LogView** opens automatically .logfile for the current ten-day period. If you need to view information for an earlier period or view another log, click the symbol  and select the required file with the extension .log from the list.

The button  is used to switch the viewing modes. The pressed button corresponds to the quick-view mode, when newly arriving messages are automatically displayed in the window. The released one corresponds to the mode of viewing previously received messages (history mode). The modes can also be switched with the keys **Home** and ↓ respectively. When the filter is active, the quick-view mode is indicated in green on the bottom panel of the window and by the label **Only new**.



The fields in the program window can be arranged in any order. To move a field, place the cursor on its header and, holding the left mouse button, drag it to the desired position. The field width is changed in the same way. In this case place the cursor on its right edge.

Appendices.

Appendix 1. Settings IP-receivers.

If in the program, in section **Receiver Settings** receivers of the types were selected **IpClient**, **RP4000dm2**, **RP4000e**, their additional configuration is required. The configuration is done by editing the corresponding file with the extension .ini.

Receiver IpClient.

This receiver is intended for receiving messages from the program **TLF_Server** and is multi-channel, i.e. it allows receiving information from several servers.

The receiver is configured by editing the file **IpClient.ini** in any text editor. An example of this file is included in the installation package.

The contents of the file look like:

```
[Opt]
;If PcTime=1 the time is from this PC, if PcTime=0 – from message
PcTime=1

[Ch2]
Client=1
Host=localhost
Port=949
Id=pult

[Ch6]
Client=1
Host=192.168.211.56
Port=949
Id=pult_reserv
```

In the group **[Opt]** you can configure what time will be assigned to the message: if the parameter **PcTime=1**, the message is always assigned the time at which it arrived in the program; if **PcTime=0**, then the message is assigned the time contained in the message itself. If the message does not contain a time, it is assigned the time of arrival in the program.

Next come the groups named **[ChN]**, where N – is the number of the channel to which, in section **Receiver Settings** this receiver type corresponds to (**IpClient**). All channels of this type must be described.

Each group contains the following parameters:

- **Client=1** indicates that the channel operates in the mode TCP/IP client.
- **Host=** defines IPaddress or name of the computer the channel will connect to.
- **Port=** defines the port through which the connection to the server will be made.
- **Id=** defines the name registered on the server for this channel. The name must match exactly, including uppercase and lowercase letters and spaces.

If all the parameters are written correctly, the following messages should appear for the corresponding channel when the program starts:

Connection to Server Ok

Autorization Ok

If, because the address or port is written incorrectly, the TCP/IP settings on the server side (Firewall, Forwarding etc.), or the connection to the server is not established for some other reason, the program displays the message:

Connection to Server lost

The same message will also appear if the connection to the server is lost during operation.

If the connection to the server is established but the name does not match the one registered on the server, the program displays the message:

Autorization Fail!

After correcting the errors in the configuration file, the receivers must be reinitialized: go to the section **Receiver Settings** and press «**OK**».

Receiver RP4000dm2.

This receiver is intended for receiving messages from radio transmitters via the relay system and the program **RPT_Server**. This receiver is multi-channel, which allows receiving information from several servers **RPT_Server**, located, for example, in different regions and serving their local relay systems.

The receiver is configured by editing the file **RP4000dm.ini** in any text editor. An example of this file is included in the installation package.

The contents of the file look like:

```
[Ch1]
Client=1
Host=localhost
Port=950
CmdDelay=2000
Id=pult_Riga

[Ch3]
Client=1
Host=123.45.678.9
Port=951
CmdDelay=2000
Id=pult_Liepaja
```

As can be seen, the file consists of groups named **[ChN]**, where N – is the number of the channel to which, in section **Receiver Settings** this receiver type corresponds to (**RP4000dm2**). All channels of this type must be described.

Each group contains the following parameters:

- **Client=1** indicates that the channel operates in the mode TCP/IP client.
- **Host=** defines IPaddress or name of the computer the channel will connect to.
- **Port=** defines the port through which the connection to the server will be made.
- **CmdDelay=** delay when sending commands (changing the preset value is not recommended).
- **Id=** defines the name registered on the server for this channel. The name must match exactly, including uppercase and lowercase letters and spaces.

If all the parameters are written correctly, the following message should appear when the program starts over the corresponding channel:

Restore communication with AR!

If, because the address or port is written incorrectly, the TCP/IP settings on the server side (Firewall, Forwarding etc.), or the connection to the server is not established for some other reason, the program displays the message:

Loss communication with AR!

The same message will also appear if the connection to the server is lost during operation.

After correcting the errors in the configuration file, the receivers must be reinitialized: go to the section **Receiver Settings** and press «**OK**».

Receiver RP4000e.

This receiver is intended for receiving messages from radio transmitters via the relay system and the program **RPT_Server**. This receiver is multi-channel, which allows receiving information from several servers **RPT_Server**, located, for example, in different regions and serving their local relay systems.

Unlike the receiver **RP4000dm**, **RP4000e** processes only the transmitter messages received via the port, ignoring the messages from the inputs. This allows converting them into messages of class "**Phone, IP**» and describe them in the corresponding section of the site database editor using templates.

So that messages are not duplicated in the program (from **RP4000dm** and **RP4000e**), in the site database editor, in the tab **Events** enter an empty row.

The receiver is configured by editing the file **RP4000e.ini** in any text editor. An example of this file is included in the installation package.

The contents of the file look like:

```
[Ch3]
Client=1
Host=213.21.196.8
Port=950
CmdDelay=2000
Id=pult_Riga
;Mx123456789abc – data block from Tx
;s – space
;M1..M8 – ExtId 1..8
M1=ssss56sssss.1234
M2=bc1234sssss
M3=561234sssss
M6=89E567abcss
M7=89R567abcss

[Ch4]
Client=1
Host=213.21.196.8
Port=950
CmdDelay=2000
Id=pult_Liepaja
;Mx123456789abc – data block from Tx
;s – space
;M1..M8 – ExtId 1..8
M1=ssss56sssss.1234
M2=bc1234sssss
M3=561234sssss
M6=89E567abcss.1234
M7=89R567abcss.1234
```

As can be seen, the file consists of groups named **[ChN]**, where N – is the number of the channel to which, in section **Receiver Settings** this receiver type corresponds to (**RP4000e**). All channels of this type must be described.

Each group contains the following parameters:

- **Client=1** indicates that the channel operates in the mode TCP/IP client.
- **Host=** defines IPaddress or name of the computer the channel will connect to.
- **Port=** defines the port through which the connection to the server will be made.
- **CmdDelay=** delay when sending commands (changing the preset value is not recommended).
- **Id=** defines the name registered on the server for this channel. The name must match exactly, including uppercase and lowercase letters and spaces.
- **Mn=** defines the placement of the data in the message arriving in the program, depending on the type of data representation received from the transmitter (**n** – **ext_ID** defines the data representation type).

  The information line arriving in the program looks like:

  PPEEEEZZZss[.AAAA]

  where:
  - **PP** – area number (**Partition**)
  - **EEEE** – event code (**Event code**)
  - **ZZZ** – zone or user number (**Zone**)
  - **s** – space

- **.AAAA** – control panel account (**Account**). This parameter is optional and is entered when the account value transmitted from the control panel must be kept. Otherwise the physical address of the transmitter is used as the account (**Tx Address**).

The layout of this information in the transmitter data block is described in detail in **Appendix_2**. Below are examples of data conversion with different **ext_ID**, depending on the configuration line.

ext_ID=1

Data from the transmitter:

Tx Address **1000**
Data **01010CB10000003C**
Mx123456789abczz

Configuration line:

M1=ssss56sssss.1234

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 010C
Partition None or ??
Event code B1
Zone None or ???

Configuration line:

M1=ssss56sssss

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 1000
Partition None or ??
Event code B1
Zone None or ???

ext_ID=2

Data from the transmitter:

Tx Address **1100**
Data **025B03000000001F**
Mx123456789abczz

Configuration line:

M2=bc1234sssss

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 1100
Partition 00 or ??
Event code 5B03
Zone None or ???

ext_ID=3

Data from the transmitter:

Tx Address **1110**
Data **032904010000003B**
Mx123456789abczz

Configuration line:

M3=561234sssss

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 1110
Partition 01 or ??
Event code 2904
Zone None or ???

ext_ID=6

Data from the transmitter:

Tx Address **1111**
Data **061493401010023C**
Mx123456789abczz

Configuration line:

M6=89E567abcss.1234

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 1493
Partition 01 or ??
Event code E401
Zone 002 or ???

Configuration line:

M6=89E567abcss

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 1111
Partition 01 or ??
Event code E401
Zone 002 or ???

ext_ID=7

Data from the transmitter:

Tx Address **1111**
Data **071493134010053C**
Mx123456789abczz

Configuration line:

M7=89R567abcss.1234

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 1493
Partition 01 or ??
Event code R134
Zone 005 or ???

Configuration line:

M7=89R567abcss

Parameters for the program (section **Phone, IP**; tab **TLF Events**):

Account 1111
Partition 01 or ??
Event code R134
Zone 005 or ???

If all the parameters communication are written correctly, the following message should appear when the program starts over the corresponding channel:

Restore communication with AR!

If, because the address or port is written incorrectly, the TCP/IP settings on the server side (Firewall, Forwarding etc.), or the connection to the server is not established for some other reason, the program displays the message:

Loss communication with AR!

The same message will also appear if the connection to the server is lost during operation.

If the data distribution block is configured incorrectly, events will be displayed in the program as undescribed. By comparing the data received by the program with the original data, the configuration error can be found.

After correcting the errors in the configuration file, the receivers must be reinitialized: go to the section **Receiver Settings** and press «**OK**».

Appendix 2. Information layout in the transmitter data block RT4-5se.

The total length of the transmitter data block is **8 bytes**.

The data is distributed as follows:

byte0 – **ext_ID** data view type identifier.
byte1 – **byte6** – event data (received via the transmitter port).
byte7 – state of the transmitter inputs (the least significant bit corresponds to input 1, the most significant – 8).

byte1		byte2		byte3		byte4		byte5		byte6	
A	A	A	A	E	E	0	0	0	0	0	0

Below is the layout of the information in the data block depending on the value of **ext_ID**.

ext_ID= 1 (format ***4/2***)

byte1		byte2		byte3		byte4		byte5		byte6	
A	A	A	A	E	E	0	0	0	0	0	0

<AAAA> panel account
<EE> event code

ext_ID= 2 (module for the ***PARADOX ESPRIT***)

byte1		byte2		byte3		byte4		byte5		byte6	
E	E	E	E	0	0	0	0	0	0	P	P

<EEEE> event group and the event code (***Group of events / Event***)
<PP> module number

ext_ID=3 (module for the panels ***PARADOX E/SP/MG***)

byte1		byte2		byte3		byte4		byte5		byte6	
E	E	E	E	P	P	0	0	0	0	0	0

<EEEE> event group and the event code ***(Group of events / Event***)
<PP> area number

ext_ID = 6 (***Contact ID***: alarm / disarming)

byte1		byte2		byte3		byte4		byte5		byte6	
A	A	A	A	E	E	E	P	P	Z	Z	Z

<AAAA> panel account
E<EEE> event code
<PP> area number
<ZZZ> zone or user number

ext_ID = 7 (***Contact ID***: restore / closing)

byte1		byte2		byte3		byte4		byte5		byte6	
A	**A**	**A**	**A**	**E**	**E**	**E**	**P**	**P**	**Z**	**Z**	**Z**

<AAAA> panel account
R<EEE> event code
<PP> area number
<ZZZ> zone or user number.