Securalert™

GENERATION II

M900 V2.5

Programming and operation

Revision july 2009

Version 1.1

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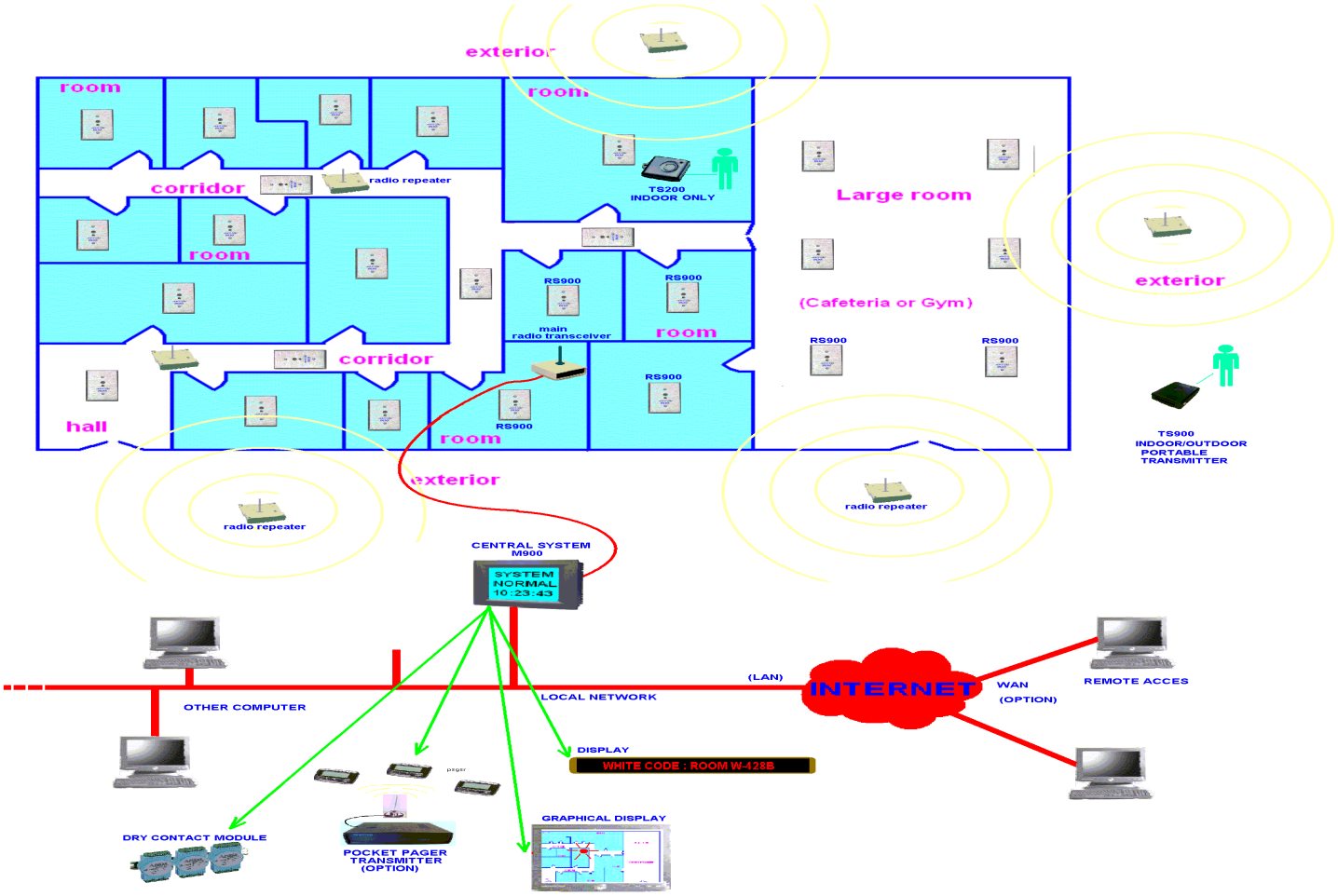
1.0 General description

The M900 system is a monitoring system, compatible with multiple Nordicom security products. It works with the Securalert™ Generation II hybrid localization system, the basic Securalert equipment and the Inovonics radio only system. It has a core module (server), operating in Service mode, that manages all the events of the system. It also has a user interface (applet) that provides display of events and status of any components thru a message display, a list display, or graphical display (floor map).

The user interface can be on the same machine as the M900 server system and/or a remote computer. Many Applet can run simultaneously.

The M900 server can generate multiple actions, based on setup, when alarms or troubles are detected. Messages can be sent to giant LED display, to pocket pager, to email, dry contacts, audio waves files or OPC protocol .

1.1 Securalert ™ Typical scheme



2.0 Installation

Usually, the M900 software and all its conponents should already be installed by Nordicom. If it's the case, go directly to point 3.0 STARTING.

If you need to install or re-install the program, follow theses steps:

The M900 is compatible with the operating system on Windows 2000 and Windows XP from Microsoft. Both these OS have been tested by Nordicom. The M900 is written in JAVA and requires JVM (Java Virtual Machine). A proper version is provided with the M900 files.

It is not recommended to replace the JAVA version provided by Nordicom to garantee proper operation. If other JAVA versions are required for other applications, just add the new and also keep the old one.

2.1 Installation or manual update

1-The installation consists in copying a group of files in a directory located in the main drive C:.

The directory is C:\AC900BIN

2-If the file received is a compressed one (extension .ZIP), create the AC900BIN directory in the root C:\. Decompress the files in this directory.

3-If the files are not compressed simply copy all of them in the the AC900BIN directory.

Once the files are copied, the installation is done. There is no need to reboot computer.

3.0 Starting of the complete suite (Server and Applet)

The first start up is done this way:

In the C:\AC900BIN directory, there is a batch file, named **STARTSERVER.bat.**

Run this program (double-click on it or select it with the mouse or the keyboard and type the ENTER key).

You only have to do this the first time ! After that, the M900 will run in background (service mode) all the time the computer will be powered on.

Note:

This batch file will install the main M900 program (Server module) in SERVICE mode, in automatic starting. The consequence of this is:

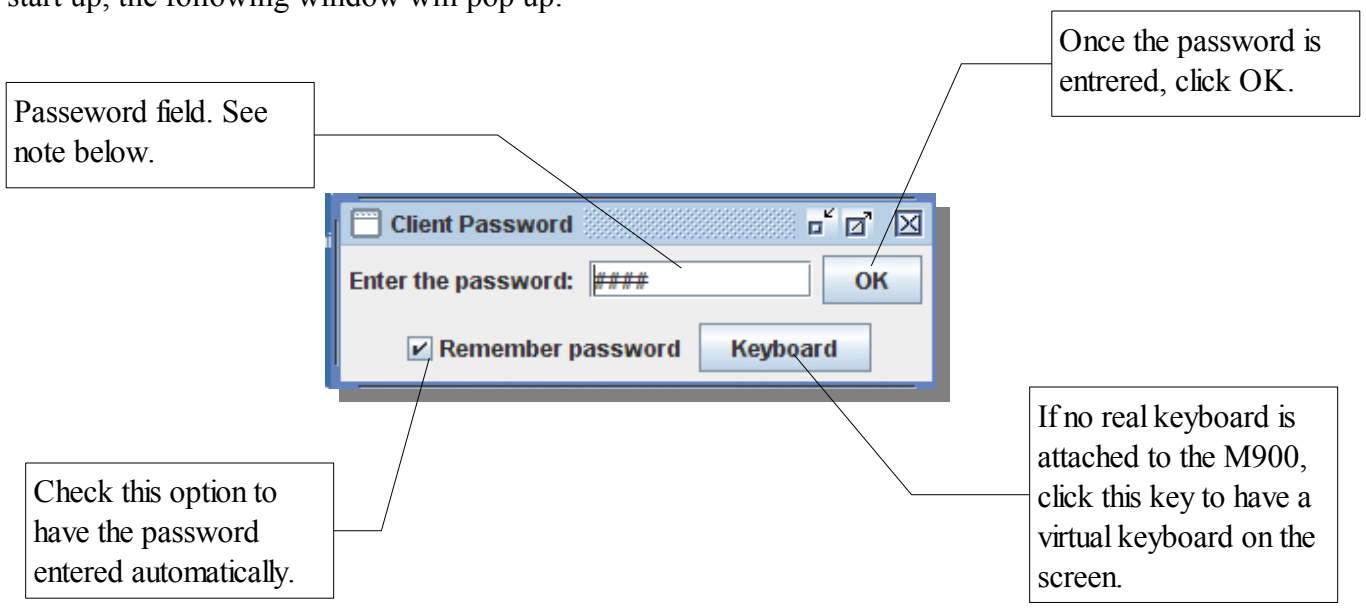
1-The Server Part of the M900 will always be started, automatically, at every start of the system.

2-The server part will always be running, even if there is no active Windows session.

3-The visible window (APPLET) will also start, when an open Windows session will begin.

3.1 Opening of the visible *APPLET*

At start up, the following window will pop up:



Note:
Default passwords are: **Administrator mode : lala**
User mode : lulu
Viewer only mode : view

3.2 Password type

There are 3 types of passwords:

-ADMINISTRATOR:

Gives access to all parameters and permits modification. When this mode is entered, a 8 hour timeout is started. The timeout remaining is indicated at the top left corner of the screen. Once this timeout reaches zero, the applet will revert to USER mode.

-Mode USER:

Permits viewing all status (real time) parameters and modifications of LOCAL SETTINGS. Seeing and cancelling alarm is also permited.

-Mode VIEW ONLY:

Permits viewing all status (real time) parameters only. Alarm cannot be cancelled in this mode.

Note that when the remembered password option is checked, the password used will be the one active the last time the Applet was closed.

If the Applet was in mode ADMINISTRATOR and the applet was closed by the user, the next default mode will be ADMINISTRATOR. But if the 8 hour timeout has previously reverted the applet from ADMINISTRATOR to USER mode, and the applet is turned off, then the next default mode will be USER.

4.0 Operation of the APPLET VIEWER

4.1 Server M900 (Server module)

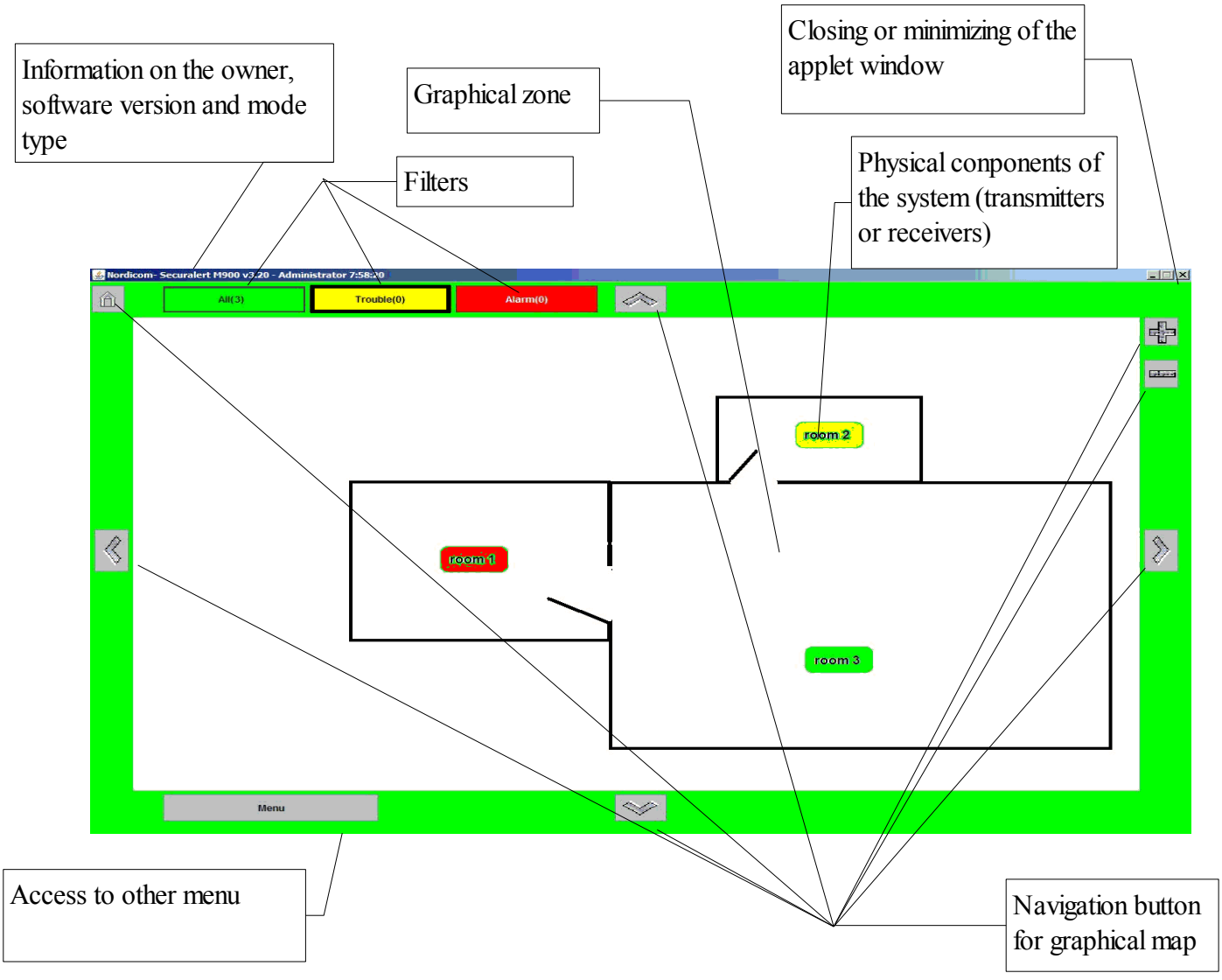
The main program of the M900 (server) has no visual interface. All parameters and configurations are only available from the Applet, when the Applet is in mode Administrator.

Starting or stopping of the main program is done through special command files (called Batch Files). List of batch files and their use are in annex.

4.2 Applet M900 (visual interface or Client module)

Once a proper password has been enterred in the password window, the visual interface will show in full screen mode.

Here are the main items found in this window:



4.3 Main Functions

Information
Provide information on site (name), software version and actual operating mode.

Filter
Filter the receivers displayed:
'All' to view all receivers.
'Trouble' to show only receiver in trouble state.
'Alarm' to show only receiver in alarm state.
'Trouble' and 'Alarm' together will show trouble and alarm receiver.

Also, the number in parenthesis show the total number of units included in this category.

Theses filters have the same effect in graphic mode, as well as in list view mode.

Closing or minimizing applet

Use to close or minimize the Applet. A password is required. The default password is ***exit***.

Graphic Zone

In graphic view, show a 2D floorplan with the position of each device.

Graphic navigation buttons

The four arrows (left, right, up and down) will move the visible part on the screen.
The Home button (top corner left) will center the screen to the center of the map.
The buttons + and – (top corner right) will zoom in or out in graphic mode. In list view mode, these buttons will change he number of lines displayed (height of the line).

Menu

Open a main menu window.

Note that if a mouse is used, clicking the right button of the mouse anywhere on the screen will result in the same as clicking the menu button.

4.4 Floorplan files

The file used as a floorplan (in graphic view) is a Graphic Image File type (extension of the file is .GIF).
The system can manage many floorplans (corresponding to many floors or many buildings). The files can be replaced easily, at any time. To do so, simply copy files at the following locations:

c:\AC900BIN\BIN\IMAGES

The file names must be:
Buildingplan1.gif for the first file, ***Buildingplan2.gif*** for the second file, ***Buildingplan3.gif*** for the third, and so on.

4.5 Components

Display of components on the screen.

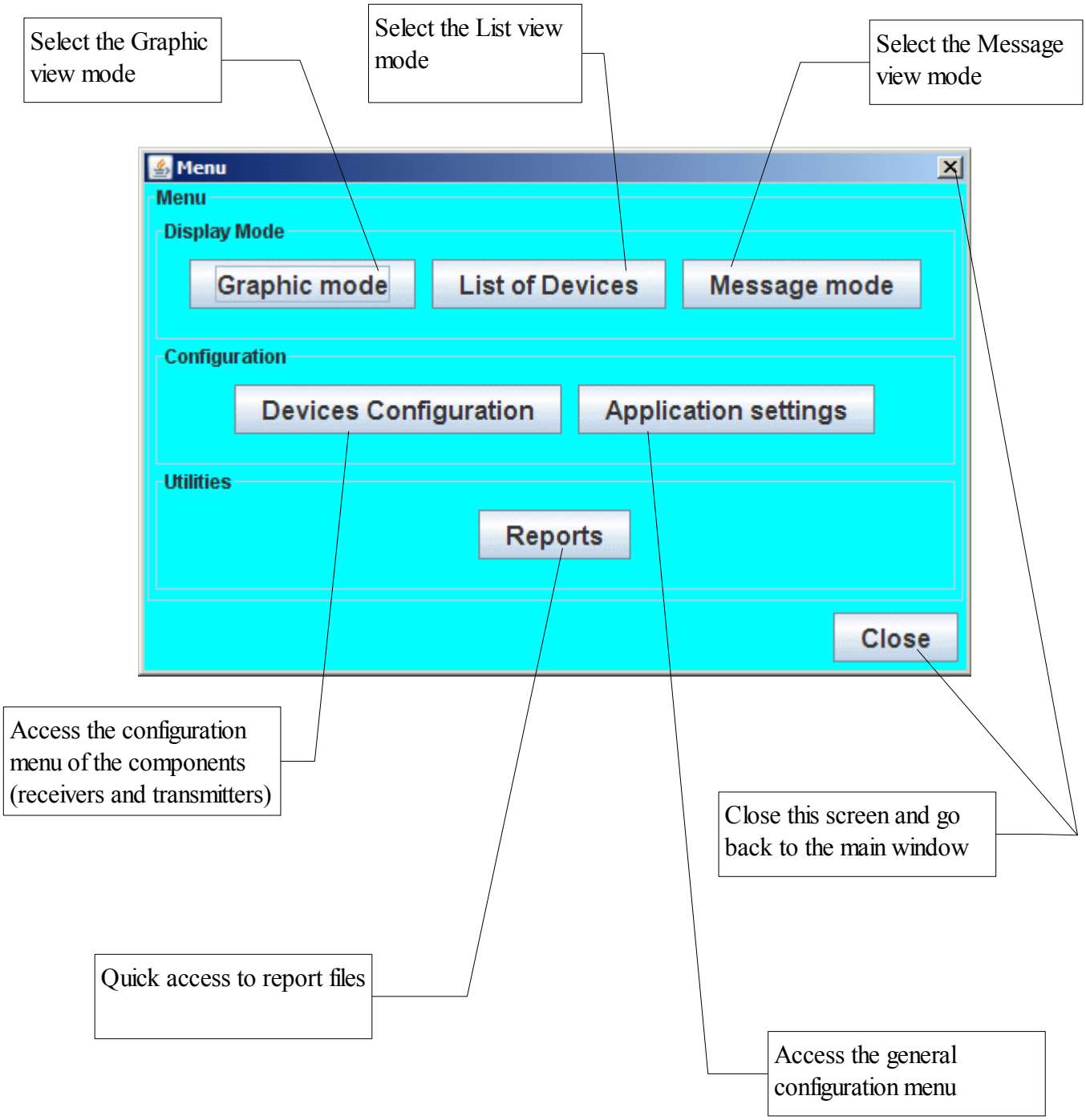
The following components may appear on the screen:

COMPONENTS	FORMS	COLORS	DESCRIPTION
RECEIVER or FIX TRANSMITTER	Rectangle	Green yellow red or blue	Normal operation Abnormal or no operation In alarm Detected but not enabled
TRANSMITTER	Triangle	Green yellow red or flashing magenta	Normal operation Abnormal or no operation In alarm Reaction after a manuel (TRACKING) request
Radio beacon B900	Futur use	Futur use	Futur use

5.0 Operating the program: configuration

5.1.0 First configuration menu

The first configuration menu appears when you click the right mouse button or by clicking the MENU button in the bottom left corner of the screen.



5.1.1 Display types

There are 3 display types. Two main, and one secondary:

The main modes are Graphic and List view. All possible interactions can be done in either of these modes (access to other menus, viewing states and cancelling alarm. Also, the filter buttons act the same way on both view modes.
-'All' to view all receivers.
-'Trouble' to show only receiver in trouble state.
-'Alarm' to show only receiver in alarm state.
-'Trouble' and 'Alarm' together will show trouble and alarm receiver.

5.1.2 Graphical view.

-Graphical (main)
In this mode, drawing is used as a background of the screen, corresponding to a floorplan.
–If no alarm is on, the system scans all floors (or sections). Each floor is displayed a few moments than another, and so on.
–When an alarm is detected, the scanning stops and only the image of the floor corresponding to the alarm's floor is displayed.
–If there are many alarms at the same time on many floors, the floor will scan but only with floors with unit in alarm.

5.1.3 List of devices type

-List view (main)
In this mode, all the components are displayed, in a grid, with all real time information related to it.

Following are the informations available for devices (these may vary depending on type of components of model used):

ID
Serial number or fix identification address of the device. This number is unique to each device and is factory programmed in the device.

Location/Name
Identification and/or description of a component, as defined in the setup by the user/installer. In mode Administrator this field can be changed by the user. This information will be used when in graphic mode as well as when in message view mode. It is also this identification that will be used with pager and alpha display.

Date/hour
Date and hour of the last communications received from this device.

Battery
Voltage of the component battery (if available). This value is in volts (ussually between 2.5 and 6.0).

Signal
Radio signal level, show in %. 100 means perfect (normally only occurs within a few feet) normal operation will occur between 10% to 100%. A value lower than 10% indicates a very low signal and a noticable drop of performance may occur.

State
Comments generated by the M900 system.

Comments	Significations
Waiting	Reset message at start up of M900. The fields Battery and signal will indicate 0 at this time and has no real meanning. However, the date and time fields will correspond to the real last communication received.
Low	Low battery state (Voltage is lower than value set in configuration)
Tamper	Cover of the unit opened or not properly closed
Trouble	No signal reveived for a while (timeout can be programmed by user)
Active	Unit working properly (normal state)
Alarm	Unit in alarm state

5.1.4 Message display type

-Message (secondary)
The message display mode is basically a momentary mode that can be activated from the Graphic or the List view mode. When the message mode is selected, the prior mode is kept in memory. When exiting from the message mode, the screen will always revert to the previous mode.

In this mode, the only possible action is to click on the screen, anywhere, to roll back to the main mode that was active prior to activating the message mode.

Message mode did not give a detailled information on components, but only a resume. There are three possible states indicated by the background color of the screen.

States	Colors	Content
Normal (alarm and trouble = 0)	Green	Basic message + Current hour (optional)
No alarm, 1 or + trouble	Yellow	TROUBLE + Current hour
1 or more alarm	Flashing red and white	The first 3 alarm's description

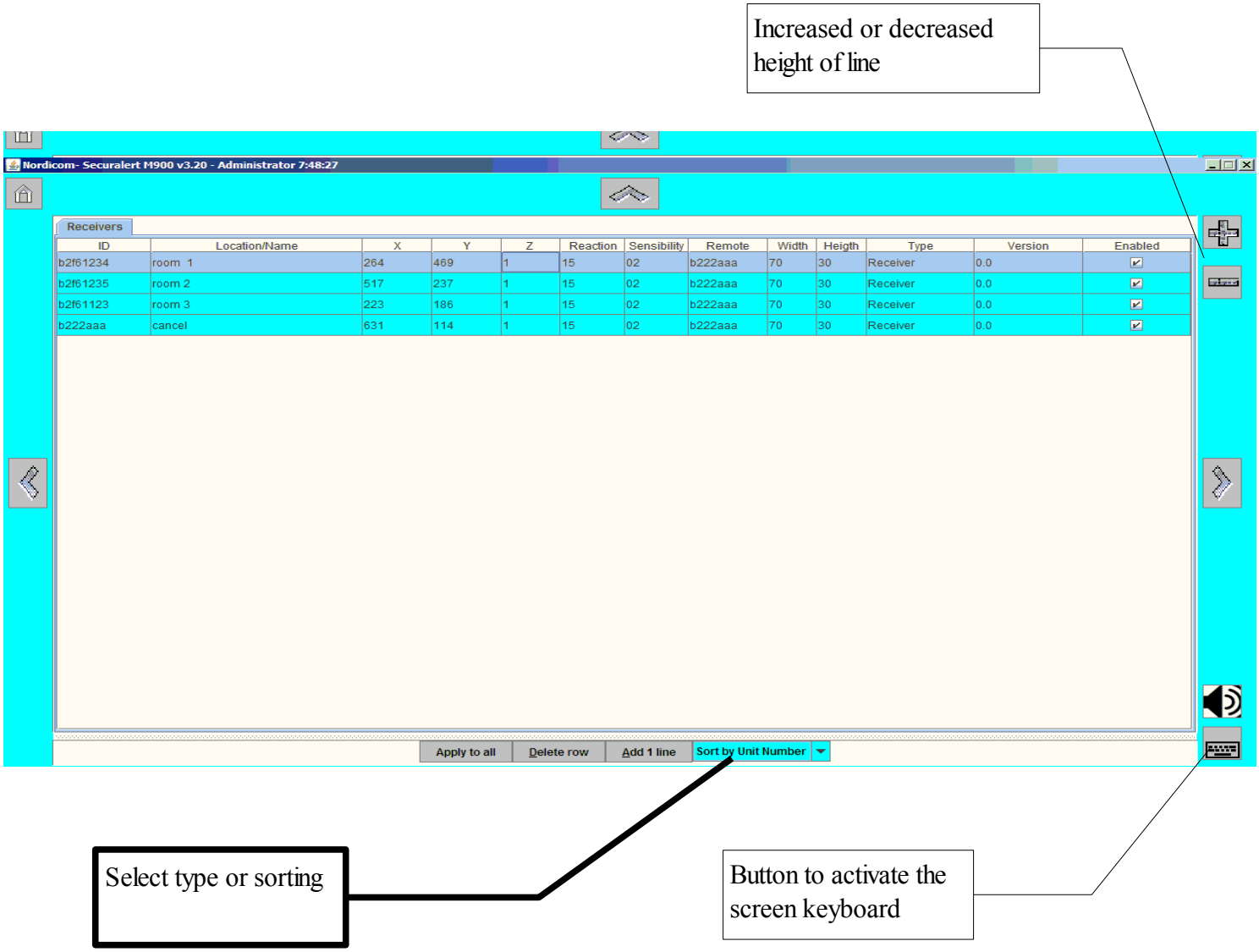
5.2.0 Configuration

There are 2 configuration sections.The first one, Devices Configuration, is related to external components setup (receiver, transmitter and repeater). The second one, Application Settings, is about internal parameters and also the parameters of the output devices.

5.2.1 Devices Configuration

The first section of the main menu can be read or written by the administrator. It is read only by the user.

In this sub-menu, a list of all components is displayed. In this list you will find all parameters that can be adjusted, related to those components. A tab can switch between transmitters and receivers (repeaters are considered receivers on this list)

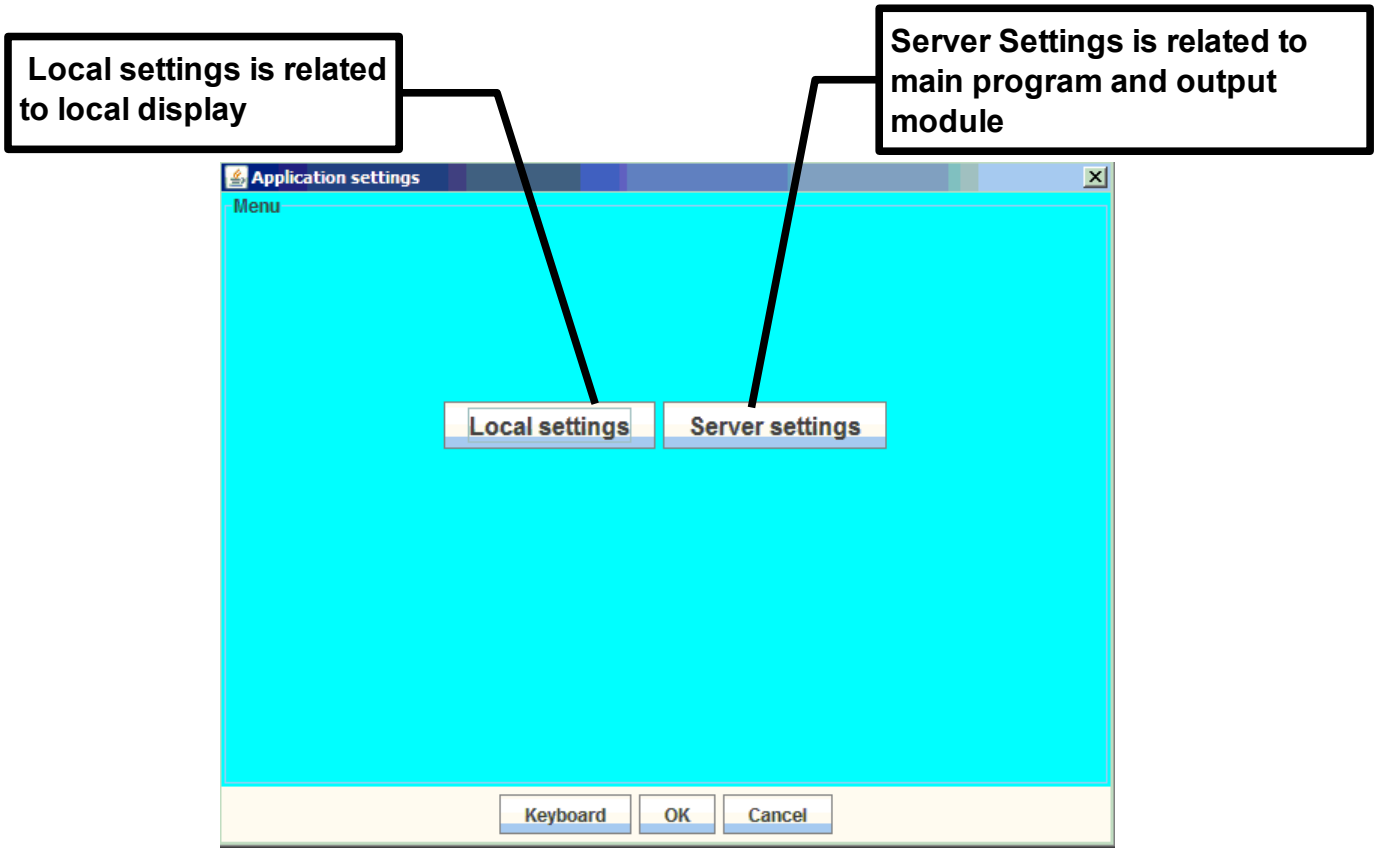


5.2.2 List of receiver parameters:

Column	Description	Extent
ID	Serial number or fix identification address of the device. This number is unique to each device and is factory programmed in the device.	Hexadecimal value
Location/name	Identification and/or description of a component, as defined in the setup by the user/installer. In mode Administrator this field can be changed by the user. This information will be used when in graphic mode as well as when in message view mode. It is also this identification that will be used with pager and alpha display.	Up to 64 characters
X	Icon position on the graphic screen. This value is updated automatically when the icon is moved on the screen with the mouse (drag and drop) when this feature is enabled in the local settings parameters.	Number of horizontal pixel
Y	Icon position on the graphic screen. This value is updated automatically when the icon is moved on the screen with the mouse (drag and drop) when this feature is enabled in the local settings parameters.	Number of vertical pixel
Z	Number corresponding to the floor plan.	1 to 8
Reaction	Number of seconds that the receiver will indicate to the user an acknowledge signal after an alarm.	1 to 99
Sensibility	A combination number that affects sensivity and reaction time of receiver.	See Annex 1
Remote	Id of a dedicated transmitter/receiver that will act as a remote cancellation of alarm state coming from this device.	Hexadecimal value
Type	Select the type of device or its functions.	Select CANCEL to convert the unit into a remote cancel
Version	Version number of the unit (if available).	Format= Version.Revision
Enabled	When checked, this componant is part of the whole system and will be supervised. Disabled module may appear in this list if the option AUTO-logging is ON. Any module trying to transmit will be added to list with enabled uncheck. Those modules may appear (in blue) if the option Show disabled module is checked in the local setting menu.	Enabled (check) or disable (uncheck)

5.3 Application setting

The second section of the main menu has 2 sub divisions, **Local settings** and **Server settings**. **Local settings** is read/write for **administrator**, and read only for **user. Server settings** is only available for administrator.



5.4 Local Settings

Local settings related to local display, visual interface parameters (size of icon, font,etc.).

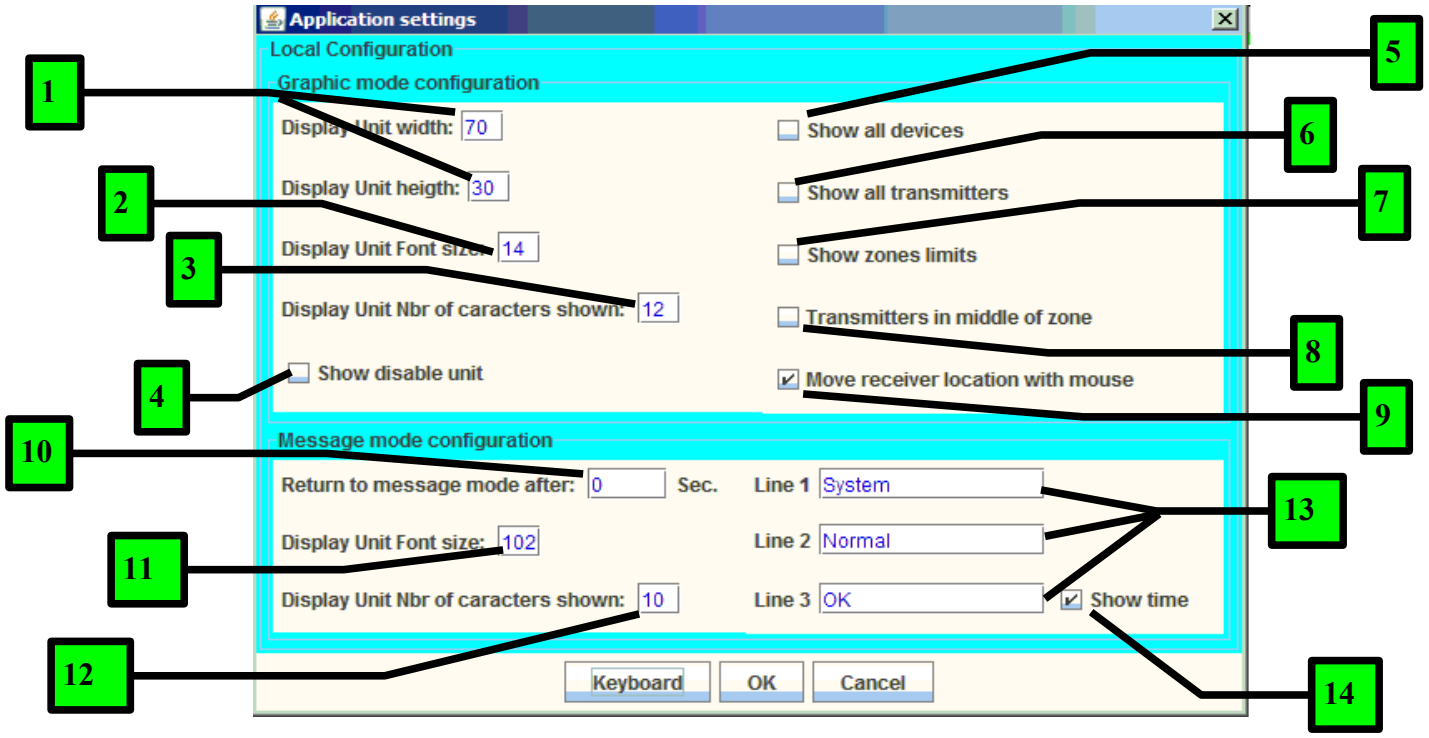
More than one computer may run the visual interface for one server. Parameters ajdusted for one computer will not affect others.

1-Height and width of the rectangle icon used to represent receiver/fixed transmitters in graphic mode. The value represents a number of pixels (so the final result will vary with the display used).

2- The size of the characters that appear inside rectangle icon (this is the font size).

3- Number of characters printed in the icon.

4- Show or not on the map disabled components. Those units will appear in blue.



5-Show all device types and status (include device detected by the M900 but not activated). Check this box when adding new units or when you want to troubleshoot the system.

6- Used with Securalert generation II only. Show all transmitters in their real time position.

7- Used with Securalert generation II only. Show on the graphic screen the border of the radio zone.

8- Place transmitter in the middle of the radio zone instead of their estimated real position.

9-When this box is checked, you can move the icon on the graphic screen simply by drag and drop (mouse cursor over the center of the icon, click and hold left button, move the mouse and release the button when the icon is at the desired position. Once all the icons are properly placed, uncheck the box to avoid moving the icon by error.

10- The auxiliary message mode can be chosen manually from this menu but can be activated automatically after a certain time. Enter 0 as a timeout will disable the automatic activation of the message mode. Manual activation will always be possible.

11- Font size of the auxiliary message display.

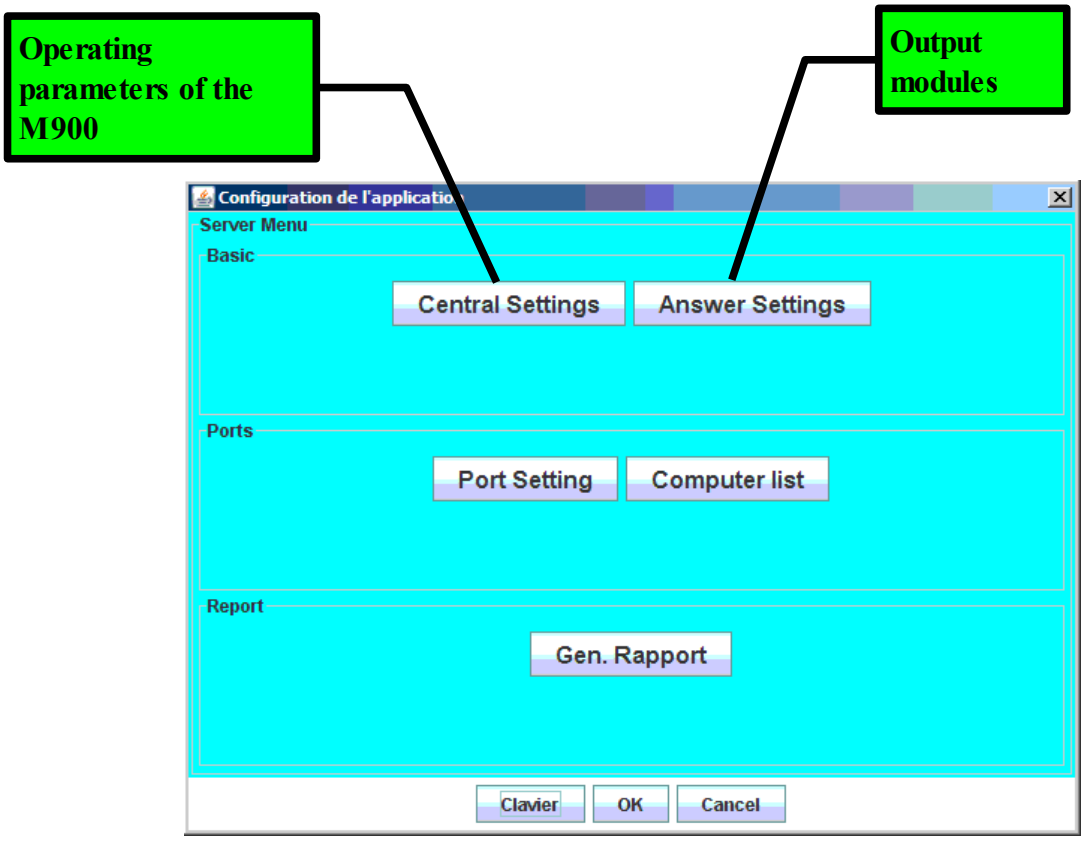
12- Number of characters per line in the auxiliary message display mode.

13- Message shown when there is no trouble and no alarm in the auxiliary message display mode.

14- Display or not the time of the day in the auxiliary message display mode.

5.5 Server Setup

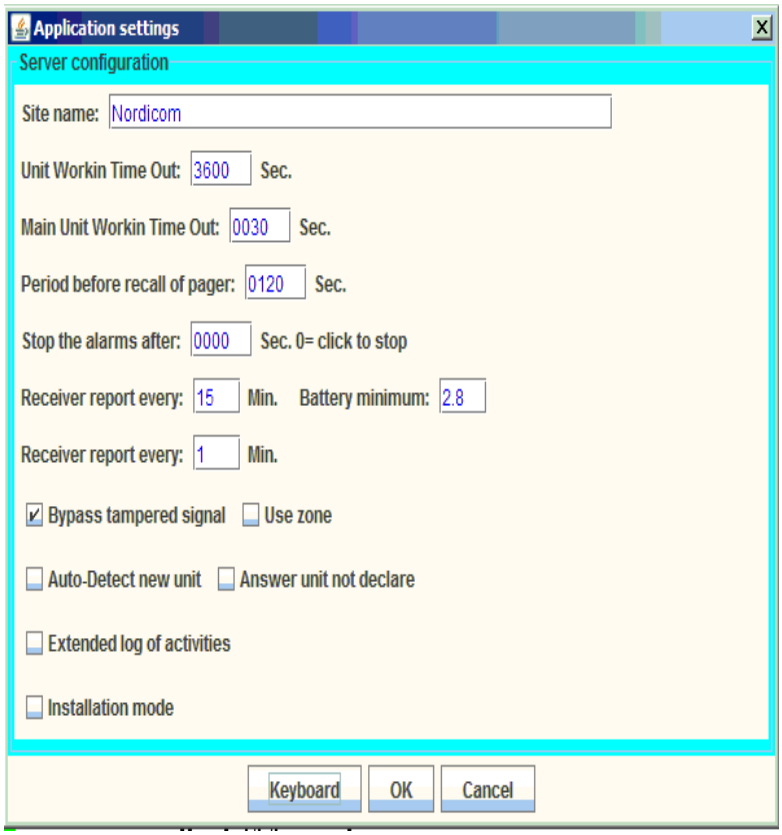
The server setup is subdivided in many parts. The main section is divided in 2 parts: One is related to the operation and general setup of the server, the other one is related to the differents possible output modules.



5.6 M900 Operational parameters

Site name

The data in this field is not sensitive to the operation of the program. The string entered here will simply be printed at the top left corner of the main screen.



Units verification timeout

Maximum timeout allows to a receiver to report itself. If no communication is received by a unit for more than this timeout, the unit will be considered in trouble and be put in the trouble list.

Main unit working timeout

If no communication is received by any components during this timeout, a pop up message will appear informing that communication may be lost (means that problem may have occured with the master radio).

Recall time for pager

When an alarm is present, the message will be sent periodically to the pager and also the display. Voice wave messages will also be re-played.

Stop the alarms after

Alarm state may be cancelled automatically after the time specified. Enter 0 will have the alarm stay on until reset (by clicking on it, or by a remote components).

Receiver and or Trasmitter report time

Supervision period of components. From 1 to 255 minutes.

Battery minimum

Voltage threshold will be considered a battery component low. As the component may work with different types of batteries, this value can be fine tuned.

Check box

Bypass tampered signal

When the tampered switch of the component is not installed or used, disable this feature to avoid false alarm.

Auto-detect new unit

When enabled, the ID of any component reporting itself will be added to the list of components (the status of the component will however become disabled). See section 5.2.2 to enable a device. Check this box to add a new unit in the system. Uncheck it after installation to avoid too many units in the list.

Answer unit not declare

Give an answer to unit not in the list. Reserved for special use.

Extended log

Add additional information to the logs. This function is used for troubleshooting mainly. It is recommended to leave this box un-checked as the logs generated could contain a large amount of information and then fill more rapidly the disk space.

Installation

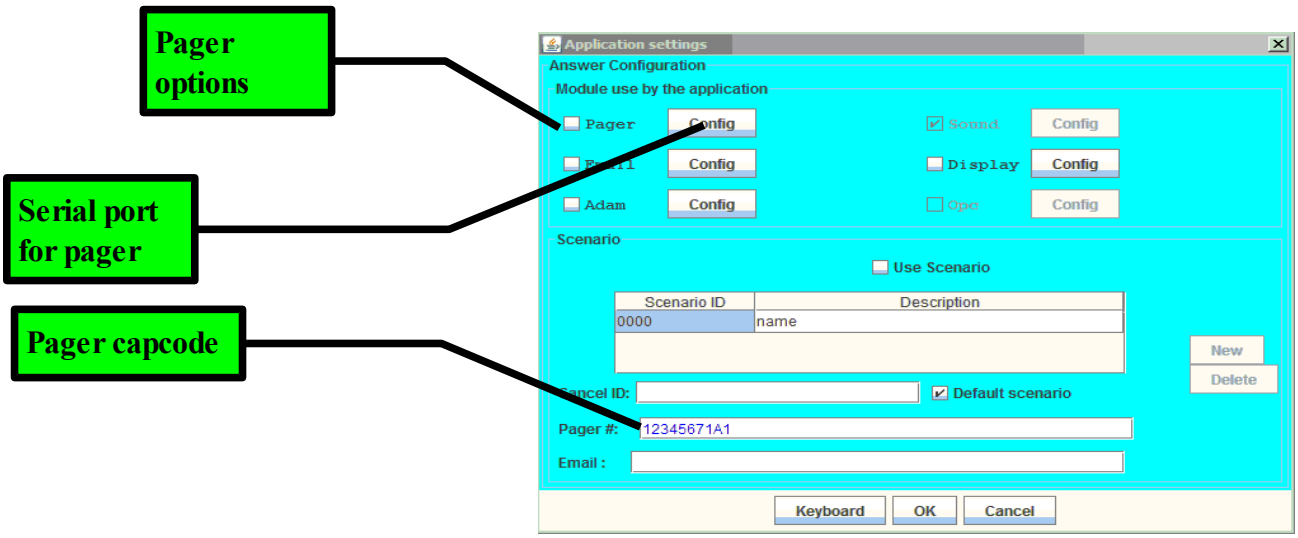
Disabled alarm processing. Special use.

5.7 Output modules parameters

The output modules are all the possible feedback the system can generate when alarms and troubles states are detected. The licence of the system determine witch options are available or active.

Configurable modules are:

1- Private pocket pager
2- Email
3- Dry contact output (ADAM module)
4- Speech or sound wave files (Wave files sent to the audio connector).
5- Giant LED display
6- OPC compatible commande.



5.7.1- Private pocket paging

This module is used to send a message to a pocket pager interface thru a serial port.

The config button is used to select the serial port.

The actual output message is a Nordicom AL800 protocol.
The output type is full alphanumerical.

5.7.2- Email message

The details to have email messages sent (server parameters, email addresses, etc.) are set in the file APPCONFIG.INI.

5.7.3- Dry contact output (ADAM module)

The use of Advantech's ADAM module can be used with this function. The detail button is used to select the serial port.

The output ID triggered by trouble or alarm states are listed under the SCRIPT column in the configuration table. (see 5.2.2 parameters list).

5.7.4- Wave file generation

When an alarm is triggered, a wave file (.wav extension) can be sent to the audio output of the system. This output can be connected to external audio amplifier or pre-amp and sent to speaker or PA system. For more details on the wave files organisation, see annex 3.

5.7.5- Giant LED display.

Active the giant LED display. The display communication is done thru the same master radio.

5.7.6- OPC command.

This option activates OPC command generation.

5.8 Report menu

This function gives access to a list of different reports that can be read with a simple notepad program.

Once the Report menu is clicked, a list of reports will be shown. Click on a specific report to read it (a viewer will open).

Reports are generated as needed every days.

The report name is normalized following thoses rules:

-3 or 4 first characters indicate the report type
-4 number representing the years
-2 number representing the month of the year (01 for January, 12 for December)
-2 number representing the day
-Ending with the file's extension .TXT.

Alarm Report example for the 25 October 2006: ALR20061025.TXT

There are 5 types of reports. Here are the typical names for each other:

Types	Name format	Description
Alarm	ALR(year, month, day).TXT	Alarm only list
General	LOG(year, month, day).TXT	Comments generated by the program (opening and closing of files, sessions, port). Contain also the alarm list + timing of answer sent back to units.
Message	MESS(year, month, day).TXT	Only created if the option EXTENDED LOG is selected. All the radio communications are stored in this files.
Trouble	TRB(year, month, day).TXT	Trouble list.
Error	ERR(year, month, day).TXT	Abnormal situations are listed here. Events concerning output module, network and port operation.

5.8.1 Log files organisation

Reports are saved in the directory c:\AC900BIN\BIN\LOGS.

They are then classified in sub-directory, based on the date. A directory for years and then for months.

A typical directory may contain up to 31 files (1 for each day).

Usually, if no event occur for a specific type on a specific day, no report will be created for this day.

Files are text formated with TAB as fields separators and CARRIAGE RETURN as lines or records separators. So theses files can easily be imported in a spreadsheet or a database as well as any basic word processor.
(Windows Notepads, wordPads, Office WORD, Open office, Openoffice Calc, Microsoft ACCESS, EXCELL, etc).

6.0 Troubleshoothing

7.0 ANNEXES

7.2 APPCONFIG.INI file setup

Operational parameters of the system are located in a file named APPCONFIG.INI.
This file is located in the following directory:

c:\AC900BIN\BIN\

7.3 Audio files usage

The audio wave file, triggered by the alarm are located in the following directory:

c:\AC900BIN\BIN\SOUNDS

Two types of files are used. A general one (for situation alarm or trouble) and a specific one (associated to each component.

7.3.1 Messages generation

Trouble

1-When trouble occurs, The M900 searches for a file named **notify.wav** in the sound directory. If his file if found, it is played (send to audio output). If no such file is present, the system proceeds with next step.

2-The M900 seach for a file named ABCD.wav, where ABCD stands for the ID number of a unit. If no such file is present, this step is aborted.

Alarm

1-When an alarm occurs, The M900 searches for a file named **ringin.wav** in the sound directory. If his file if found, it is played (send to audio output). If no such file is present, the system proceeds with next step.

2-The M900 seach for a file named ABCD.wav, where ABCD stands for the ID number of a unit. If no such file is present, this step is aborted.

Example1: The ringin.wav file is an alarm bell sound and there is no specific file (default installation):
-In case of alarm, no mater the unit, an alarm bell is heard

Example2: The ringin.wav contains a vocal message saying « White code, white code... ».
The file 2341.wav contains a vocal message saying « ROOM 347B ».
-In case of alarm with the unit 2341, the folowing message will be heard:
« White code, White code, ROOM 347B ».