VIMAR

Installer manual

Call-way software ver. 2.12

BUILDING AUTOMATION

CALL-WAY

Table of Contents

OVERVIEW

The software for Call-way is compatible with operating systems Windows XP, Windows 7, Windows 8 and 8.1 (pro and basic), Windows 10.

This software has been designed to be able to operate in two modes:

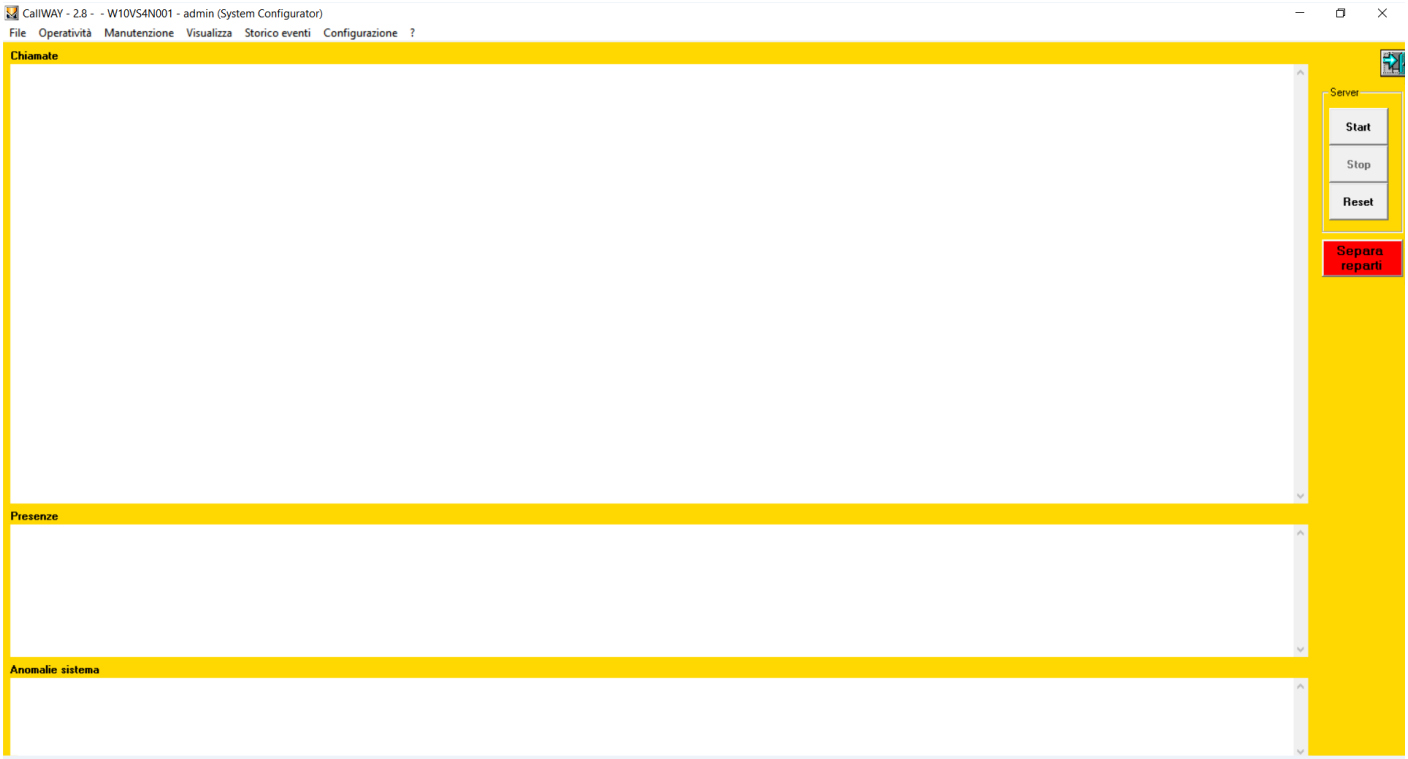
1. **Configuration/maintenance mode.**
   This mode enables configuring the system and its maintenance via the specific windows. System supervision is also enabled in this mode, but compatibility with VDE standards will be invalidated.

2. **VDE mode.**
   In this mode, when the software is put into service, it is capable of running in compliance with the criteria imposed by the VDE standards because it goes into a listening state called a sniffer and it shows events like the corridor display.

Note: For the procedures for putting the software into service, see page 58 under the heading **Mode**

MAIN SCREEN

The configuration / maintenance software enables all the system configuration operations and viewing all the events relating to conducting calls.
The user interface is graphical but it still contains the fields for data input.



Description of buttons:

Start Start call server.

Stop Stop call server.

Reset System reset = VDE mode reinitialization

Associa reparti

Separa reparti

Night ward interoperability (calls are forwarded to other wards too).

Exit the program.

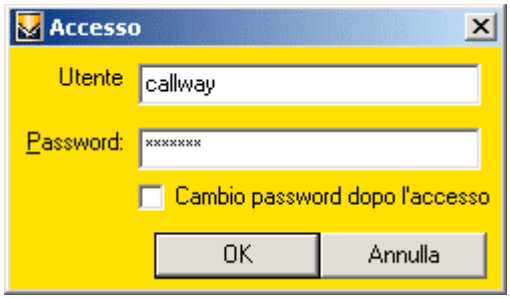
The default settings have most of the buttons and menus disabled. To access any configuration function or even simply viewing (except calls, attendance and failures) you need to login (F5 key) specifying username and password.

MAIN SCREEN

MAIN SCREEN MENU

File Menu. → Esci (Exit). ends the program

Operation Menu. → **Login.** starts the login process, enabling the maintenance functions



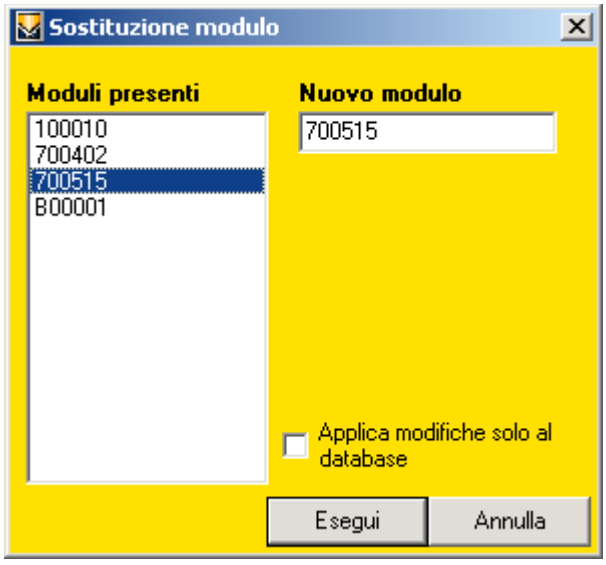
→ Logout. returns to viewing only status. In this state you cannot access any windows whether for configuration or viewing

→ Hide. minimizes the program to an icon in the tray near the clock:

to return to normal view, double-click the icon and select "Mostra" (Show):

Maintenance Menu. → **Module replacement.**

Starts the procedure for replacing a broken module.

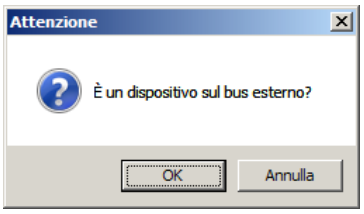


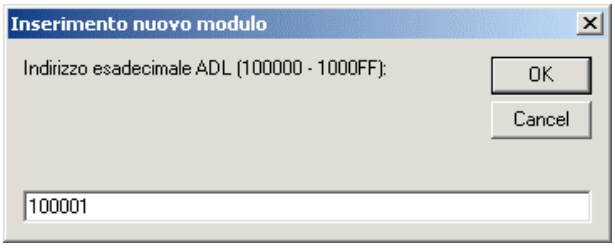
The list on the left (Moduli presenti/Modules present) shows the configured modules. From this list, select the module you want to replace. In the "Nuovo modulo (New module)" text box, enter the address of the module to be installed, of course, it must be the same type as the one being replaced.
Click on "Esegui (Run)" to make the replacement. By ticking the "Applica modifiche solo al database (Apply changes to database only)" check box, the replacement is only made virtually on the database without actually sending any data to the devices involved

Menu Manutenzione (Maintenance Menu)

→ **Inserimento manuale modulo (Add module manually).**

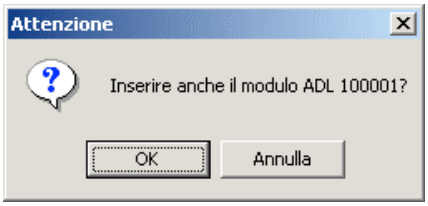
enables adding new modules without having to carry out the self-recognition procedure. At the start of the operation you are asked whether you want to add a module belonging to the external bus (see below):



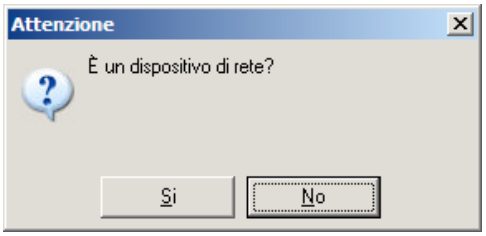


You first have to enter the address of the ADL that generates the secondary backbone to which you plan to connect the new module (eg 100001). N.B. Since the external bus does not require ADL, the address of that module is not to be entered and the previous step is not performed.
You are now prompted to enter the address of the new module (eg 700001):

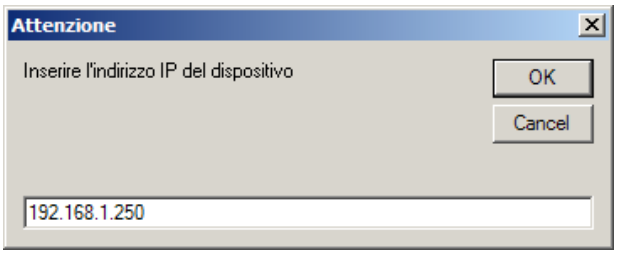
In the case of an external bus, the manual insertion procedure ends here. On the contrary, if the ADL module has not yet been added to the database, the program will prompt for further confirmation:

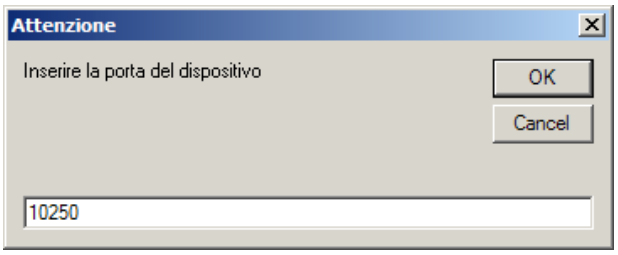


You then need to specify whether the device can be linked to network equipment (see page 57):



If the bus-on-lan mode is not set to "broadcast" you are also prompted for the ip address and port of the device:





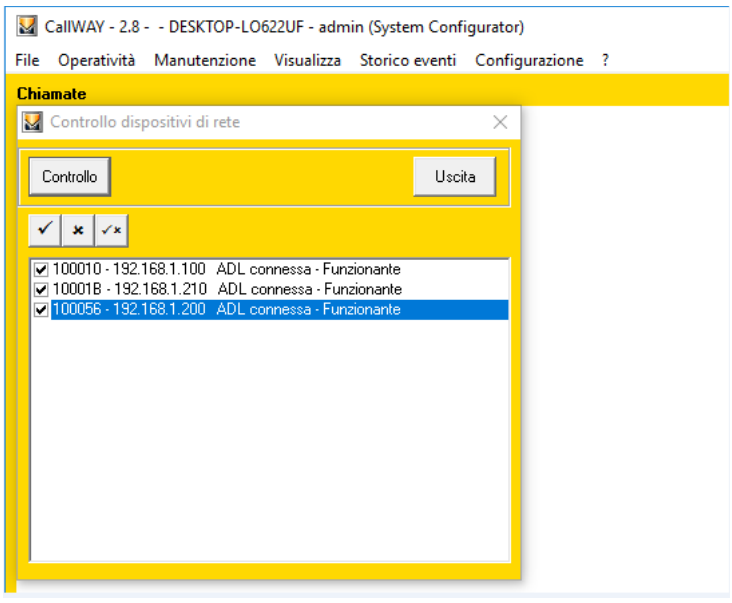
You cannot add a new ADL module without also adding a new module too. Each new module is added by default to ward 1 / room 1.

Menu Manutenzione
(Maintenance Menu) → **Controllo dispositivi di rete (Controlling the network devices).**

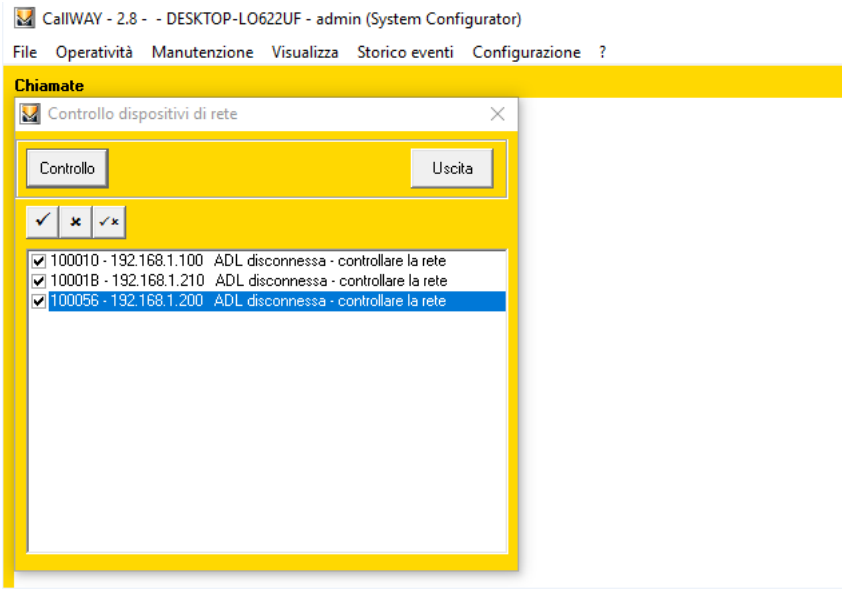
used to check any connection faults to the ADL modules configured in the system. The test flags are used to select/ deselect all the devices in the list. Press “Control” to run the test; wait for a few seconds until the test has ended to complete any transmission timeouts.

The test may give three types of result:

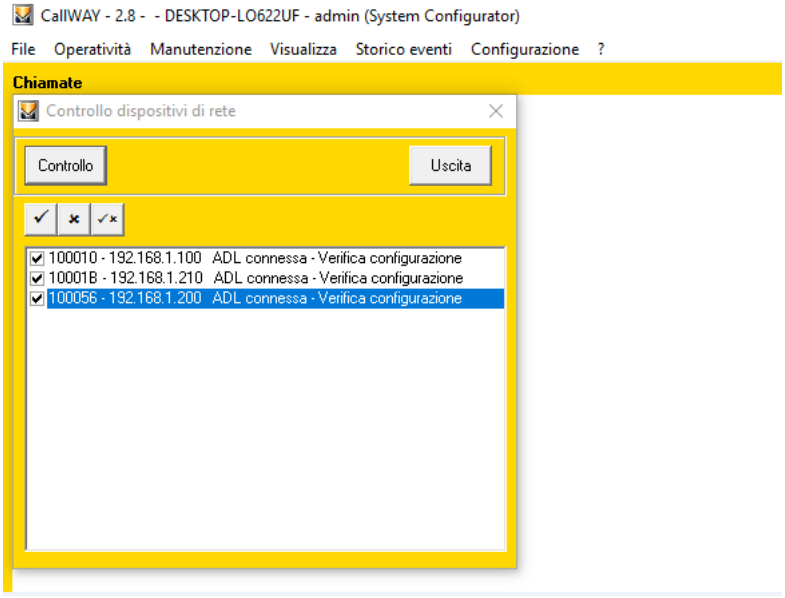
1) “ADL connected – Working” = the system connects and interacts with the connected device.



2) “ADL disconnected – check the network” = the system does not connect to the device. The network cable may be disconnected or the ADL IP address has been changed or there the ADL may not be powered.



3) “ADL connected – check the configuration” = the system connects to the device but cannot interact with it. The ADL Call-way address may have been changed (for example from 1000001 to 100002) and not updated in the system.

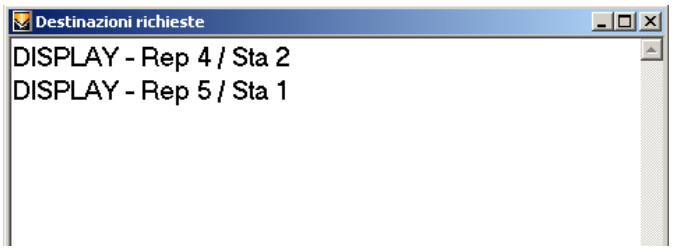


➔ **Modalità prova al riavvio (Test mode on restarting).**

when this is set it lets the program restart with the server off and "System configurator" level user already logged on. To be used in the system configuration phase only. This setting is automatically turned off upon logging out.

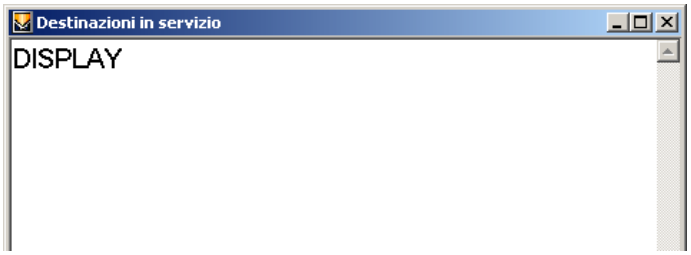
MAIN SCREEN

Menu Visualizza (View menu).→ **Destinazioni richieste (Required destinations).**



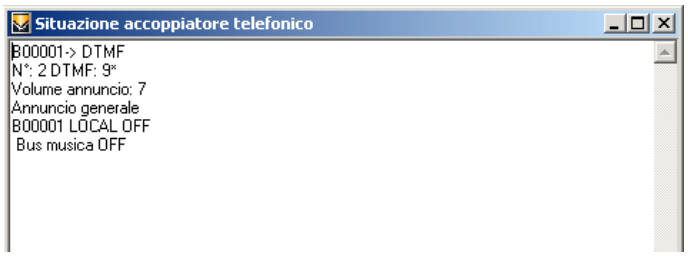
Contains a list of geographical locations from which a call is in progress and its associated destination

→ **Destinazioni in servizio (Destinations in service)**.



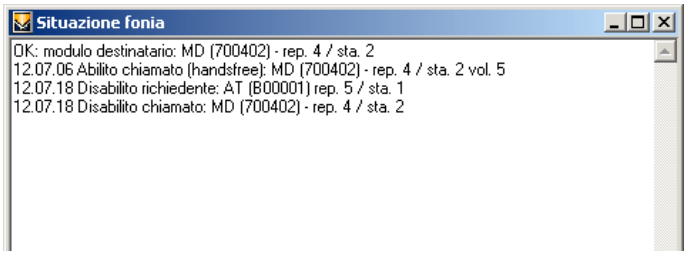
Contains a list of destinations "in service", for which the related check box is ticked in the records (see below)

→ **Situazione AT (AT situation).**



Indicates the operating status of the phone line coupler, the tones received, the volume set for an announcement, etc.

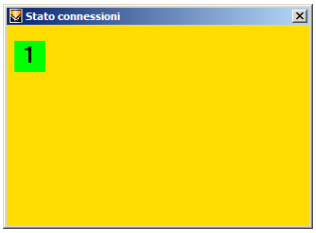
→ **Situazione fonia (Voice unit situation).**



Shows the state of the system's voice unit, ie the caller modules, the called modules, the operating mode of a voice unit connection (push to talk or handsfree), etc.

→ **Coda annunci vocali (Voice announcements queue).**
Contains information on the voice calls still to be processed (see page 42)

→ **Stato connessioni (Connection status).**



Lets you know the status of network connections related to the bus-on-lan mode (see page 57). The square flashes for each event detected. The colours indicate respectively:

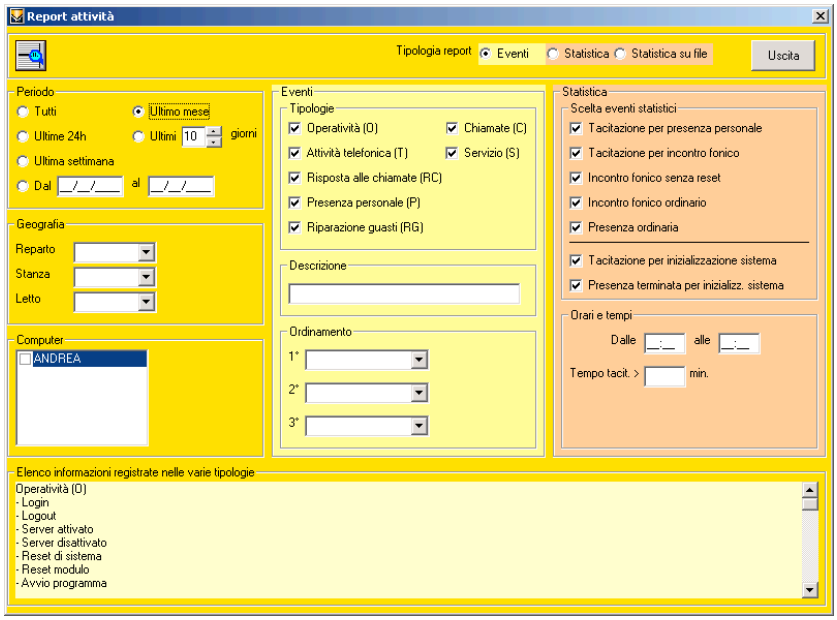
active

connecting / error / closing

closed

→ **Server vocale (Voice server).** This window regulates the operation of the voice messages (see page 73)

Menu Storico eventi (Events log menu). → **Stampa... (Print)** Generates reports of the events occurring in the system.



You can choose from two types of reports: complete or statistical. There are areas of the window, depending on the choice made, for setting filters dedicated to each type (pale yellow for the full report, orange for the statistical part) or referring to the common parts (standard yellow).

Common parts:
the period to which the desired events refer
the geographical position where the events were generated (useful for statistical considerations);
the name of the computer with which the events were generated.

Full report:
the type of events
the description ie a search term in the events descriptions
sorting of the shown data (if for the period they are shown in reverse chronological order starting from the last one).

Statistical report:
statistical events show the manner in which calls, presences and voice unit inputs are handled by the nursing staff
schedules and times represent respectively the time slot in which the statistical considerations are made and the minimum call silencing time

On selecting the "Statistica su file (Statistics on file)" option, no results appear on screen but a csv file is generated in the format yyyymmddhhmmss.csv, containing the details of the statistical report.

→ **Visualizzazione continua (Continuous display).**
Opens the log display window (see below).

Menu Configurazione (Configuration menu). → **Sistema (System).** Setting the operating parameters of the whole system.

→ **Chiamate (Calls).** association of the various call destinations (telephone, ESPA devices, etc.)

→ **Utenti (Users).** creation / management of users who have access to the functions of viewing / managing the system.

→ **Moduli/geografia (Modules/layout).** setting the parameters of each module

→ **Destinazioni (Destinations).** creation / management of destinations that receive calls

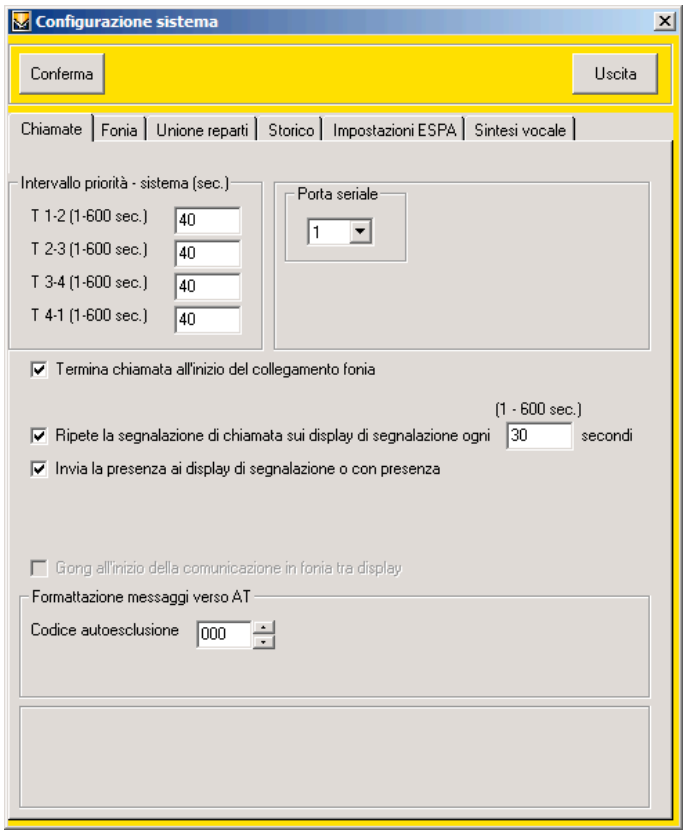
→ **Display di corridoio (Corridor display).**
setting the corresponding graphical operating mode

→ **Bus-on-lan.** configuration of network connections

→ **Lingua (Language).** choice of language

SYSTEM CONFIGURATION

CALL PARAMETER CONFIGURATION



Intervallo priorità (Priority range) (1 – 600 sec.)
The transition from one priority to another during a call is made according to the schedule that can be programmed in this window. We therefore have **T 1-2** indicating how many seconds should elapse during a call in priority 1 before triggering the transition to the next priority; similarly for the other times. In particular, **T 4-1** lets you adjust the waiting time before the priority cycle resumes from the first level.

Porta seriale (Serial port)
This is the communication interface to the bus to which the various modules are connected. On setting the value to 0, the serial port is not used. If you enter an invalid number, an error message is shown.

Termina chiamata all'inizio del collegamento fonia (End call at beginning of voice unit connection).
A call from a room can be automatically reset at the beginning of the voice unit communication without staff necessarily having to go into the room.

It repeats the call signalling on the signalling displays every xxx seconds (1 – 600 sec.)
In the event of a call, you can repeat the beep on the supervision displays and according to the specified time range.

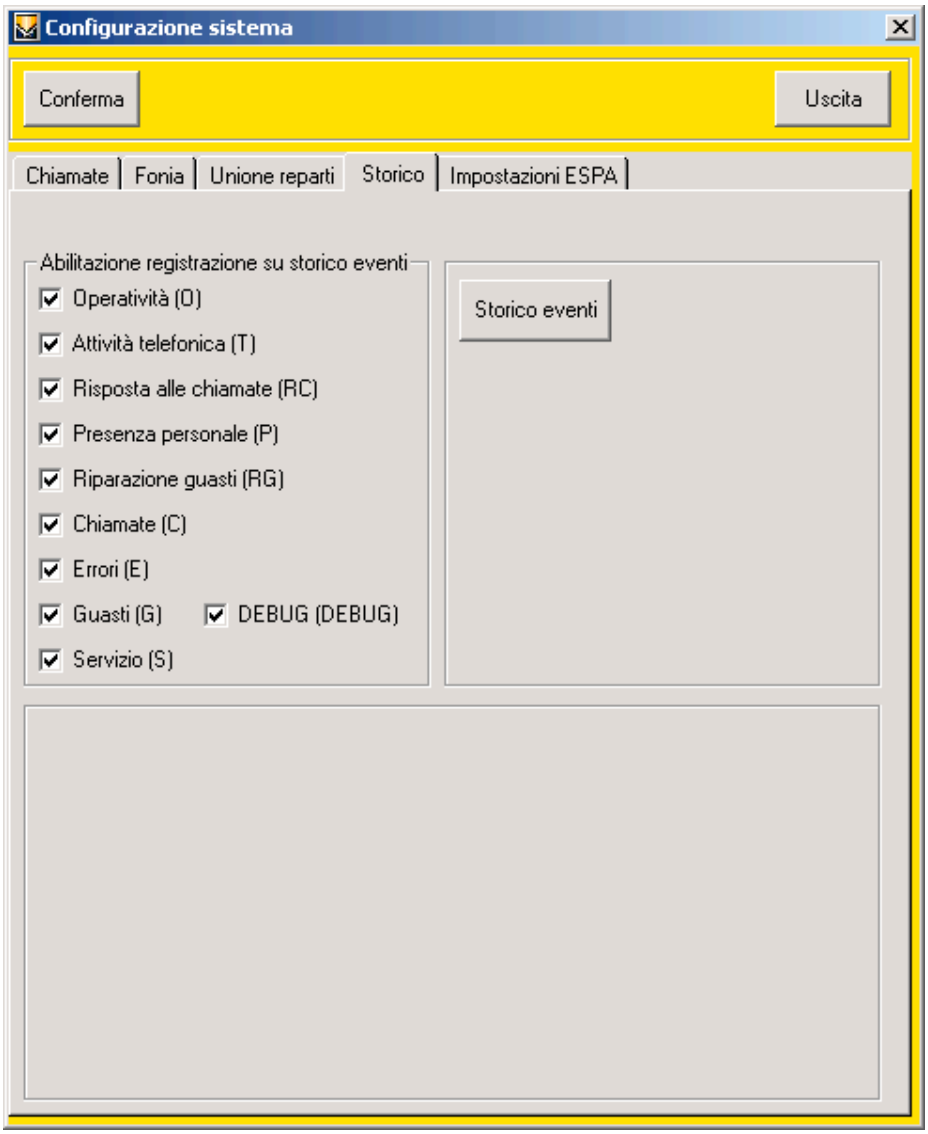
Invia la presenza ai display di segnalazione o con presenza (Send the presence to the displays for signalling or with presence).
This setting forces the system to send the displays not only calls but also presences. On pressing the big button of the voice unit module of a display showing a presence it is possible, similarly to the case of a call, to start a voice unit connection with the room where the staff are present.

Gong at the start of the voice unit communication between displays.
When two displays come into voice communication you can use an AT device to generate an audible signal alerting to the actual start of communication.
If there are no AT modules in the database, this function is disabled by default and cannot be changed (this condition is reached also after adding and deleting all the ATs). Remember then, if necessary, to enable this function manually.

Formatting messages to AT.
For a call to be forwarded to the display, pager, telephone or another device it is necessary for corresponding destination to be considered "in-service"; to be able to include or exclude a certain destination from the service without having to physically intervene on the computer you can use a phone connected to the AT and, with a special key sequence, decide on the status of the destination. Each destination matches a code: with this setting you choose the formatting of the destination code (from one to four digits) contained in the corresponding sequence (see page 44).

SYSTEM CONFIGURATION

ENABLING EVENT LOGGING



This setting tab lets you decide which events to save to memory and which to exclude. The types of event are summarized in the following outline:

Operatività (Operation) (O)

- Login.
- Logout.
- Server on.
- Server off.
- System reset.
- Module reset.
- Program start.
- Program end.

Attività telefonica (Telephone activity) (T)

- Start of tones to AT (from vox or tel.)
- Start of voice communication from AT
- Attempted announcement/voice communication, from AT, with bus engaged
- End of announcements/voice communication, from AT, with 90#
- End of announcement/voice communication, from AT, via handset
- General announcement
- Ward announcement

SYSTEM CONFIGURATION

Risposta alle chiamate (Call answering) (RC)
- Request for voice communication from display.
- End of voice communication from display.
- Reset calls from AT.

Ripristino guasti (Restore failures) (RG)
- Restore module.
- Restore lamp.
- Restore tail call lead

Chiamate (Calls) (C)
- Normal call.
- Call for assistance.
- Emergency call.

Errori (Errors) (E)
- List command error.
- Sending tones to AT incorrect.
- Attempted voice communication, from AT, to modules without voice communication.
- Attempted voice communication, from AT, to beds without voice communication.
- Incorrect command for tones to AT (from vox or tel.).

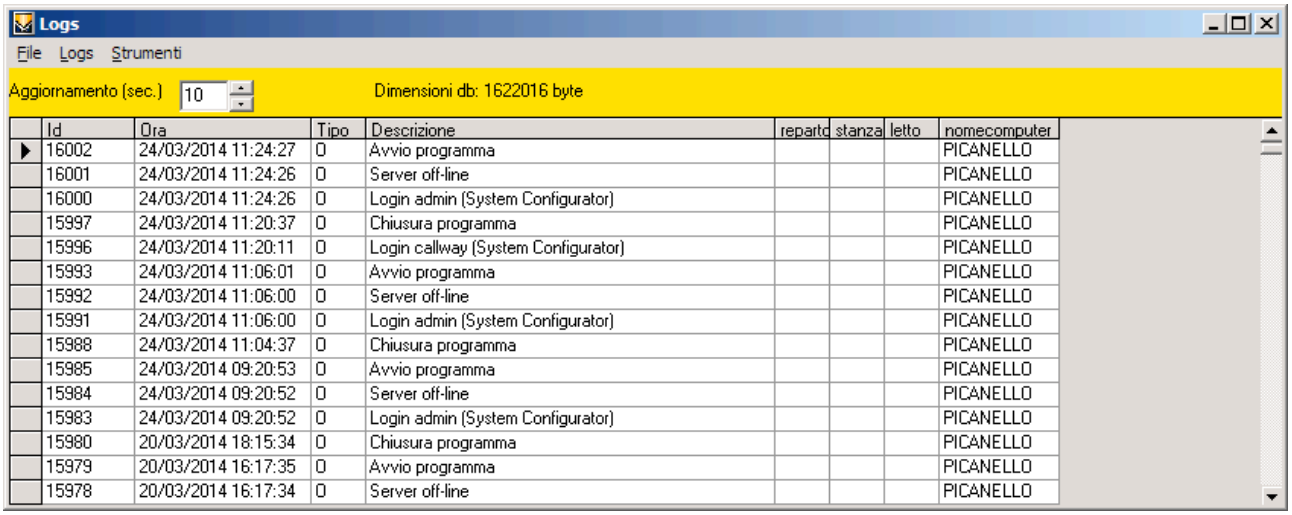
Guasti (Failures) (G)
- Module failure.
- Lamp failure.
- Tail call lead failure.

Servizio (Service) (S)
- Destination entry into service
- Destination exit out of service

SYSTEM CONFIGURATION

Events log.

Opens the event viewing window.



Id	Ora	Tipo	Descrizione	reparto	stanza	letto	nomecomputer
16002	24/03/2014 11:24:27	0	Avvio programma				PICANELLO
16001	24/03/2014 11:24:26	0	Server off-line				PICANELLO
16000	24/03/2014 11:24:26	0	Login admin (System Configurator)				PICANELLO
15997	24/03/2014 11:20:37	0	Chiusura programma				PICANELLO
15996	24/03/2014 11:20:11	0	Login callway (System Configurator)				PICANELLO
15993	24/03/2014 11:06:01	0	Avvio programma				PICANELLO
15992	24/03/2014 11:06:00	0	Server off-line				PICANELLO
15991	24/03/2014 11:06:00	0	Login admin (System Configurator)				PICANELLO
15988	24/03/2014 11:04:37	0	Chiusura programma				PICANELLO
15985	24/03/2014 09:20:53	0	Avvio programma				PICANELLO
15984	24/03/2014 09:20:52	0	Server off-line				PICANELLO
15983	24/03/2014 09:20:52	0	Login admin (System Configurator)				PICANELLO
15980	20/03/2014 18:15:34	0	Chiusura programma				PICANELLO
15979	20/03/2014 16:17:35	0	Avvio programma				PICANELLO
15978	20/03/2014 16:17:34	0	Server off-line				PICANELLO

The event viewing window enables listing all the records in memory that were made upon the occurrence of certain events; this representation is updated continuously (if the "Logs" / "Visualizzazione continua" (Continuous display) menu item is checked) according to the set time period, from a minimum of 1 second up to a minute; the database size (in bytes) is also updated in the same period. The representation is made in reverse chronological order, from the most recent to the oldest, regardless of any time differences set on different computers.

Note: All the events are always recorded (both on-line and VDE with corridor display) as enabled in the "system configuration" window described above, regardless of whether its type is made visible or not; in particular, failures are displayed only by "AD" users

Menu.

Logs.

All categories. → Selects all the categories present.
No category. → Deselects all the categories.

Operatività (Operation). → Selects whether to display the records of this type.
Chiamate (Calls). → Selects whether to display the records of this type.
.....
.....
Servizio (Service). → Selects whether to display the records of this type.

Solo questo computer (This computer only). → Filters the events displaying only those generated by the computer in use.
Visualizzazione continua (Continuous display). → Used to continually update the display of events.

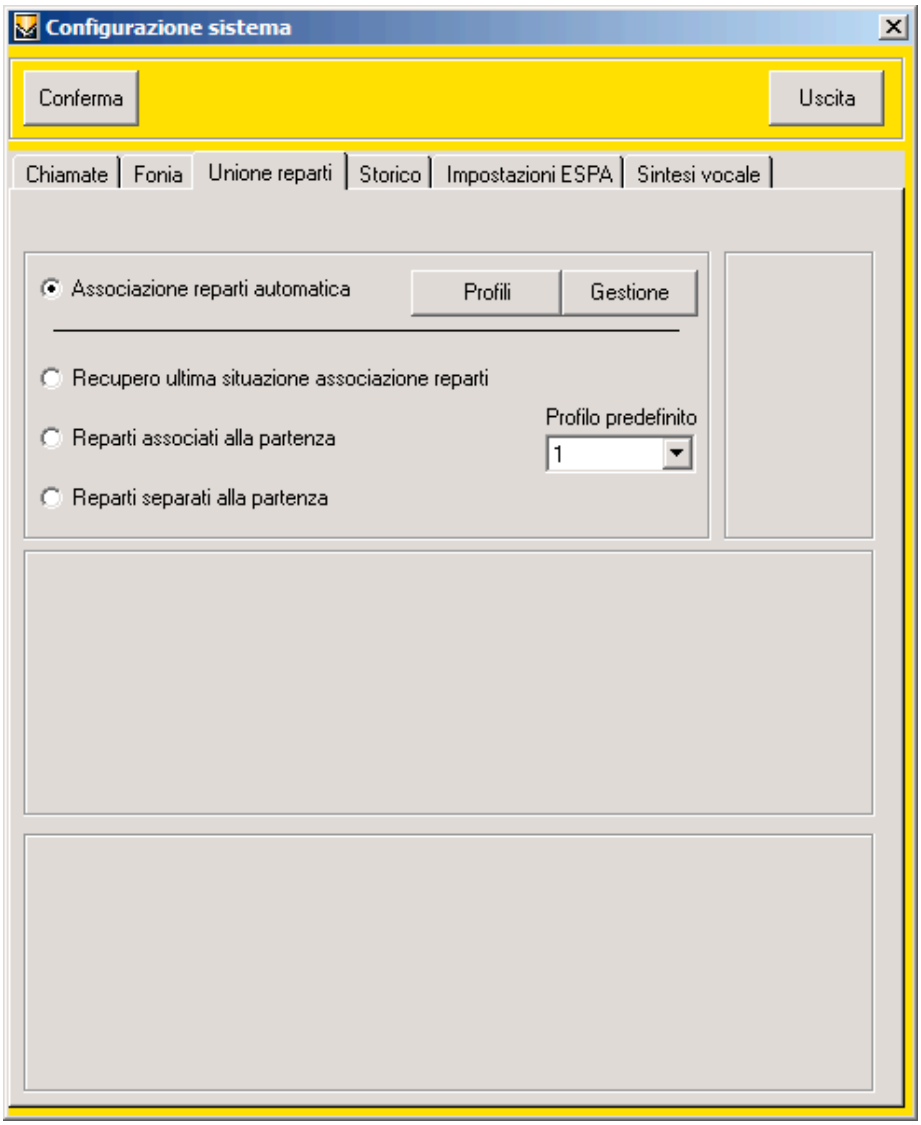
Strumenti (Tools).

Cancella (Delete).
Mantieni solo gli ultimi 30 giorni (Keep the last 30 days only).
Mantieni ultime 24 ore (Keep the last 24 hours).
Tutto (All).

Compatta database (Compact database). → recommended option; continuing to record events, the database increases in size, with this utility the database is compacted to a minimum, while keeping the data and ensuring smoother and more secure operation.

SYSTEM CONFIGURATION

WARD ASSOCIATION PROFILES



Associazione reparti automatica (Automatic ward pairing).

With this setting, wards are paired completely automatically without any need for an operator; in this case, the button on the main screen for manual pairing is disabled. To be able to plan automatic management it is necessary to use another two windows, accessible via the "Profili" (Profiles) and "Gestione" (Management) buttons, respectively for managing the pairing profiles and the time slots.

Recupero ultima situazione associazione reparti (Recover last ward pairing).

If you choose to manually adjust ward pairing (via the button in the main window) it is necessary to be able to choose what to do if the computer is restarted, for example after a power failure. With this setting, the computer restarts with the same state of pairing that was planned before the interruption; the default profile is clearly the one that will be used for any pairing.

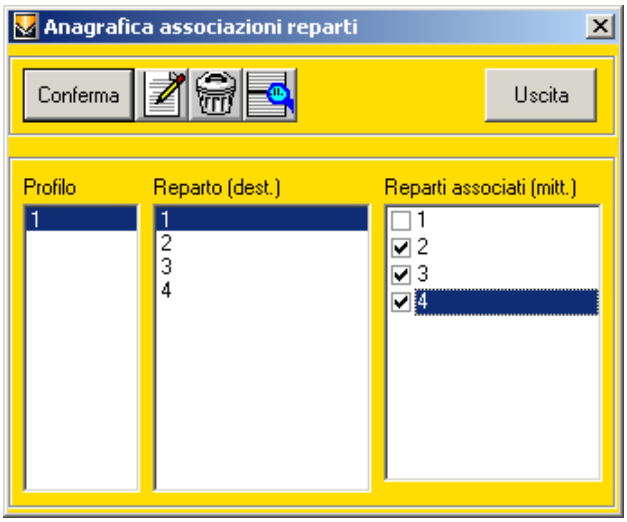
Reparti associati / separati alla partenza (Wards paired / separated at the start).

Regardless of how the computer has been switched off, you can choose a fixed state of pairing to take up on restarting, according to the default profile.

SYSTEM CONFIGURATION

Profili (Profiles).

The window that opens shows three lists: profiles, destination wards and sender wards. The first one shows all the profiles stored in the system: by clicking on one of these (number 1 in the example), the second list is populated with all "destination" wards of the system (eg, 1, 2, 3 and 4) . Clicking on a ward populates the third list, formally similar to the previous one but containing the sender wards, individually selectable via check boxes. The destination ward is the one that is enabled to receive calls from sender wards; in the example in the figure with profile 1 ward 1 will receive the calls of wards 2, 3 and 4 (1 is implicit). Closing the window without pressing the "Conferma" (Confirm) button after making changes to the settings causes all the changes to be lost and the system returns to its state prior to any operation carried out in this context.



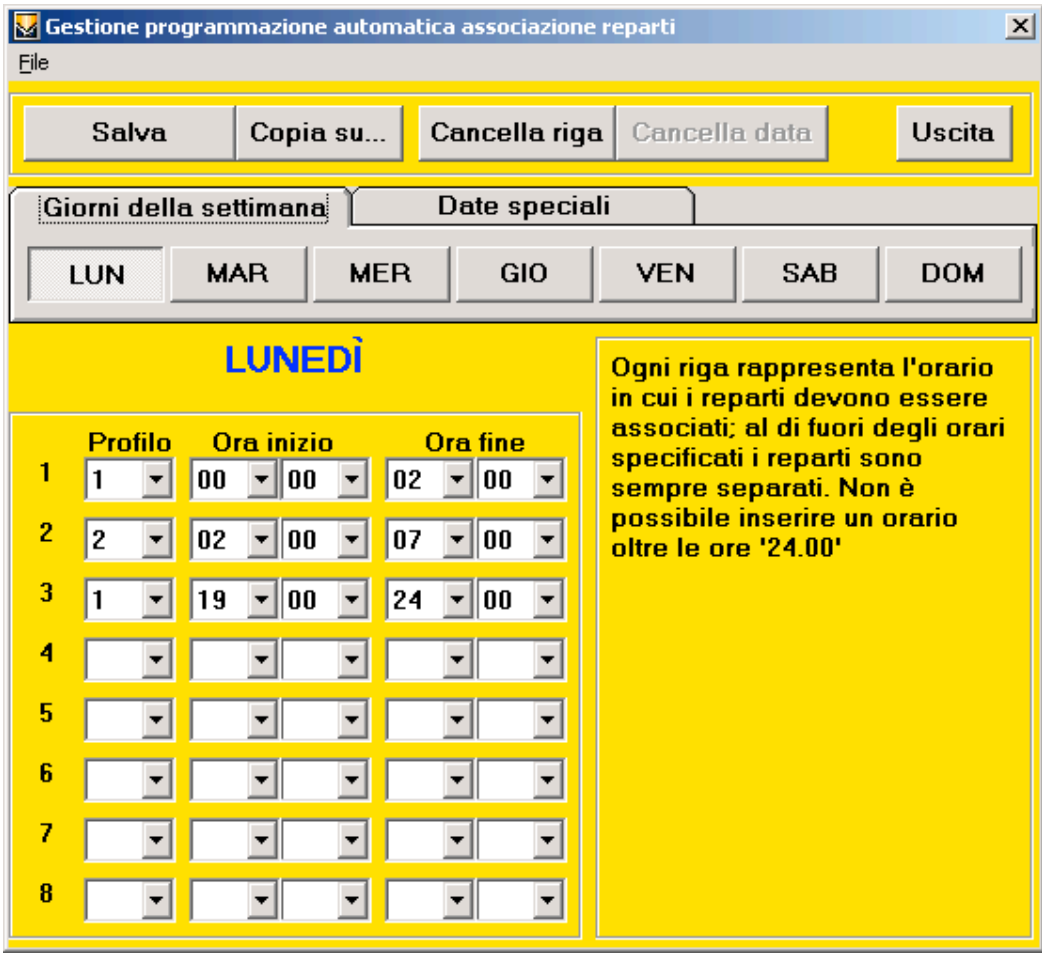
Buttons on the "anagrafica associazione reparti" (ward pairing registry).

1. Inserimento nuovo profilo (Add new profile).
2. Cancellazione profilo selezionato (Delete selected profile). You cannot delete a profile that is already used in the time slot management (see "Profile Management" section), in which case it will generate an error message.
3. Print preview of the ward pairings.

SYSTEM CONFIGURATION

Profile management.

The real management window of the automation system lets you decide for each day of the week and/or for special dates throughout the year (which could be Christmas, Easter, etc.) time slots in which the wards should be considered grouped, with the profiles specified in the manner explained above. The state of the wards, unless otherwise specified with this window is that of separation; the window therefore sets only the moments of grouping; if the current time is not in one of the set time slots the wards will be completely separate. The grouping will in any case be made on the basis of saved profiles; therefore, each time slot can have a completely different pairing status to that of the other slots.

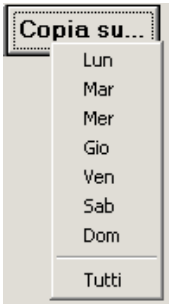


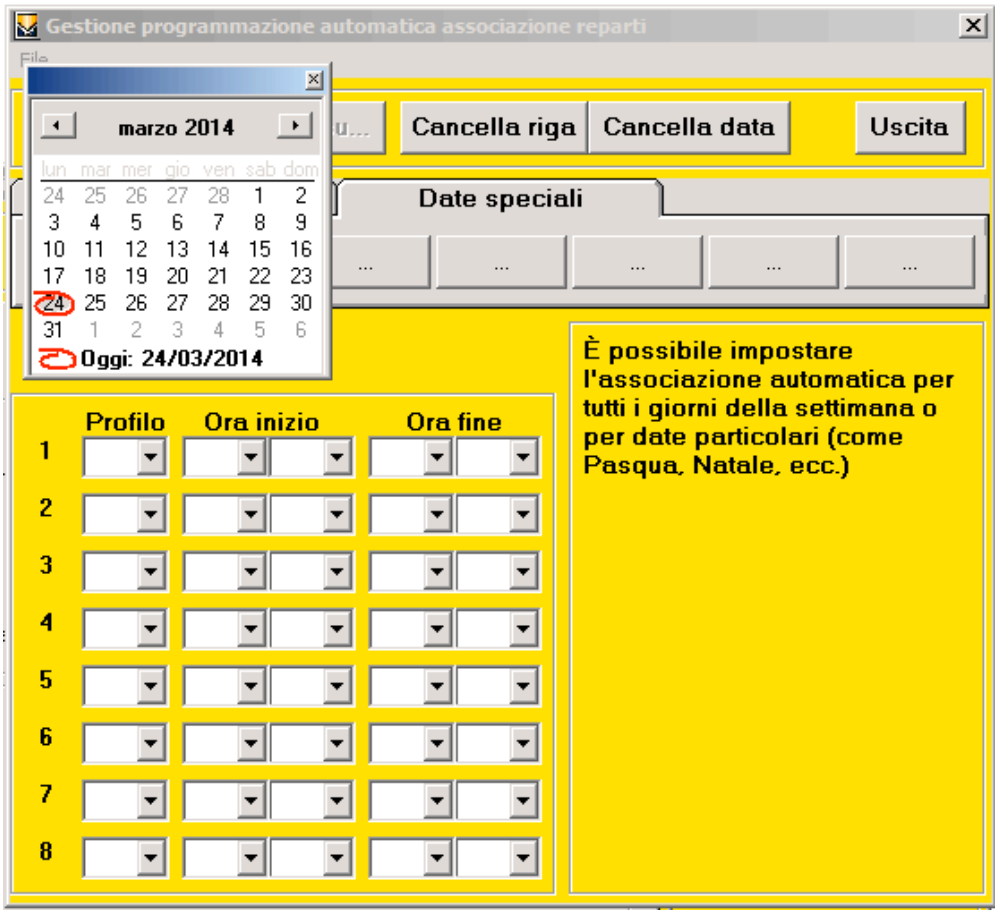
Operation

At nighttime the staff of nursing homes and hospitals are typically drastically reduced; in this case it may be necessary to convey all the calls of a ward to the ward where there is someone who can rush there and take action. In the example in the figure from midnight until two in the morning of Monday, the wards are paired according to profile 1 (where for example *everyone sees everything*); from two to seven in the morning the wards are still paired, but this time with profile 2 (which for example could mean *everyone sees everything but the psychiatry ward no longer receives the calls of the intensive care unit because the support of another specialist nurse arrives at two*); from seven in the morning until seven in the evening the wards are completely separate; finally, from seven in the evening until midnight, the pairing is still the type of everyone sees everything according to profile 1. For each day of the week there are eight time slots; in each time slot the grouping end time cannot be earlier than the start, likewise each correctly specified time slot cannot be later than the next one. N.B.: The profile represented by an asterisk "*" means "all wards paired"; it is to be used solely for off-line operation (see below).

SYSTEM CONFIGURATION

You can "copy" the settings for one day of the week to another day or even to all of them with the "Copia su..." (Copy to...) button. To delete a time slot (only the last one), press "Cancella riga" (Delete Row). In addition to the days of the week you can specify particular dates; the procedure is quite similar, the only difference is that in order to pick a date, you have to click on one of the buttons labelled "..." to bring up the calendar object and double click on the desired date.





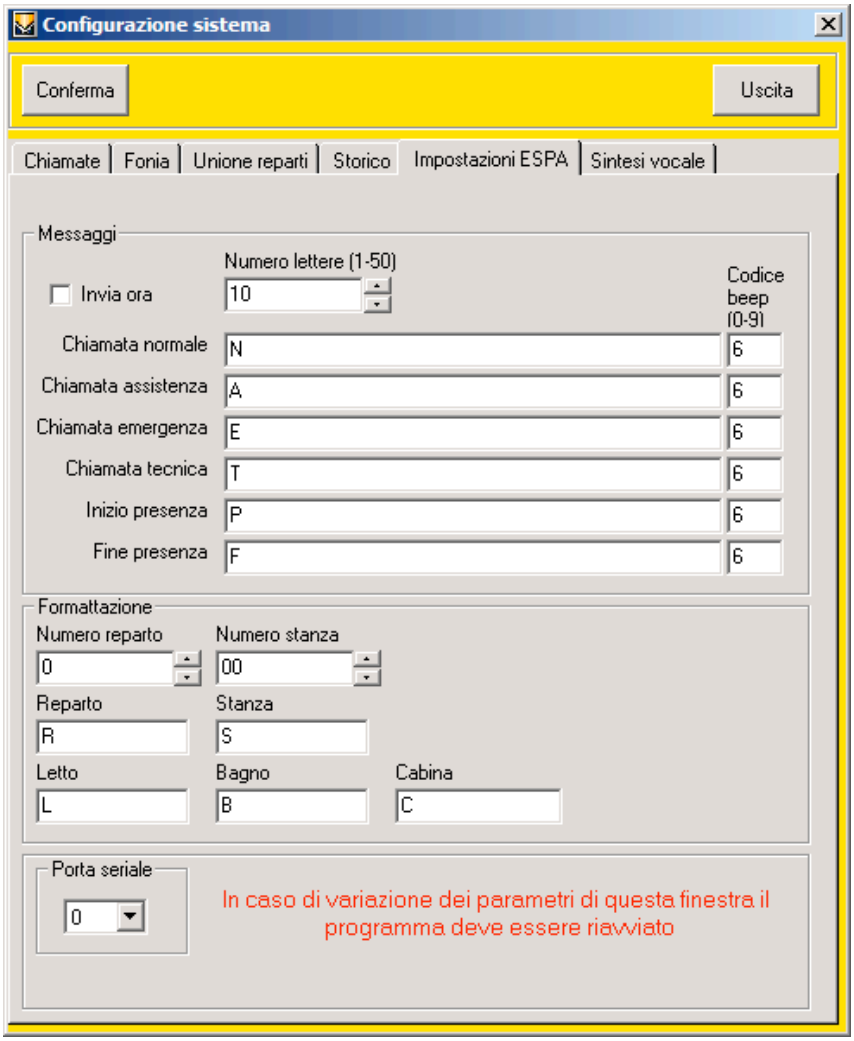
To delete a time slot press "Cancella riga" (Delete Row), and to delete a date press "Cancella data" "Delete date"; you cannot change a date: to change it, you need to delete the date, with its settings, and add another one; it is also not possible to set a date without a time slot.

N.B. The settings for a day of the week are ignored if that particular day coincides with one of the special dates.

Note: The condition of "reparti associati" (paired wards) or "reparti separati" (separate wards) is stored in the configuration file (see page 22).

SYSTEM CONFIGURATION

ESPA SETTINGS



The ESPA protocol is a widely used communication standard that enables CallWAY to interface with other systems and perform mutual data exchange. One typical use of ESPA is in the case of paging systems that, with proper programming, enable integrating the power and operation of the CallWAY system.

Numero lettere (Number of letters).
This is the maximum number of letters that can be used for call and presence messages.

Invia ora (Send time).
If you wish, the pager display can show the time of the call or of the presence.

Chiamata normale, ecc. (Normal call, etc.).
These are messages that appear on the display in conjunction with the various types of calls and presence.

Codice beep (Beep code).
The ESPA protocol also lets you differentiate the sound of the buzzer according to the type of call.

Numero reparto (Ward number). Numero stanza (Room number).
With these settings, you can decide how many digits must be used for the number of the ward and of the room from which the call comes; if the number consists of fewer digits then a number of zeroes will be added to reach the specified number (eg number 14, formatting 000 → view 014).

Reparto (Ward). Stanza (Room). Letto (Bed). Bagno (Bathroom). Cabina (Cubicle).
In place of the word "Reparto" (Ward) you can make the display show any other word or phrase, likewise in place of "Stanza" (Room), "Letto" (Bed), "Bagno" (Bathroom) and "Cabina" (Cubicle).

Porta seriale (Serial port).
As for the system's serial port. To make the serial port change operative you need to restart the program.

Note: If you enter an invalid value the program will exit with an error, on restarting the serial port will be set to "0" therefore inactive.

SYSTEM CONFIGURATION

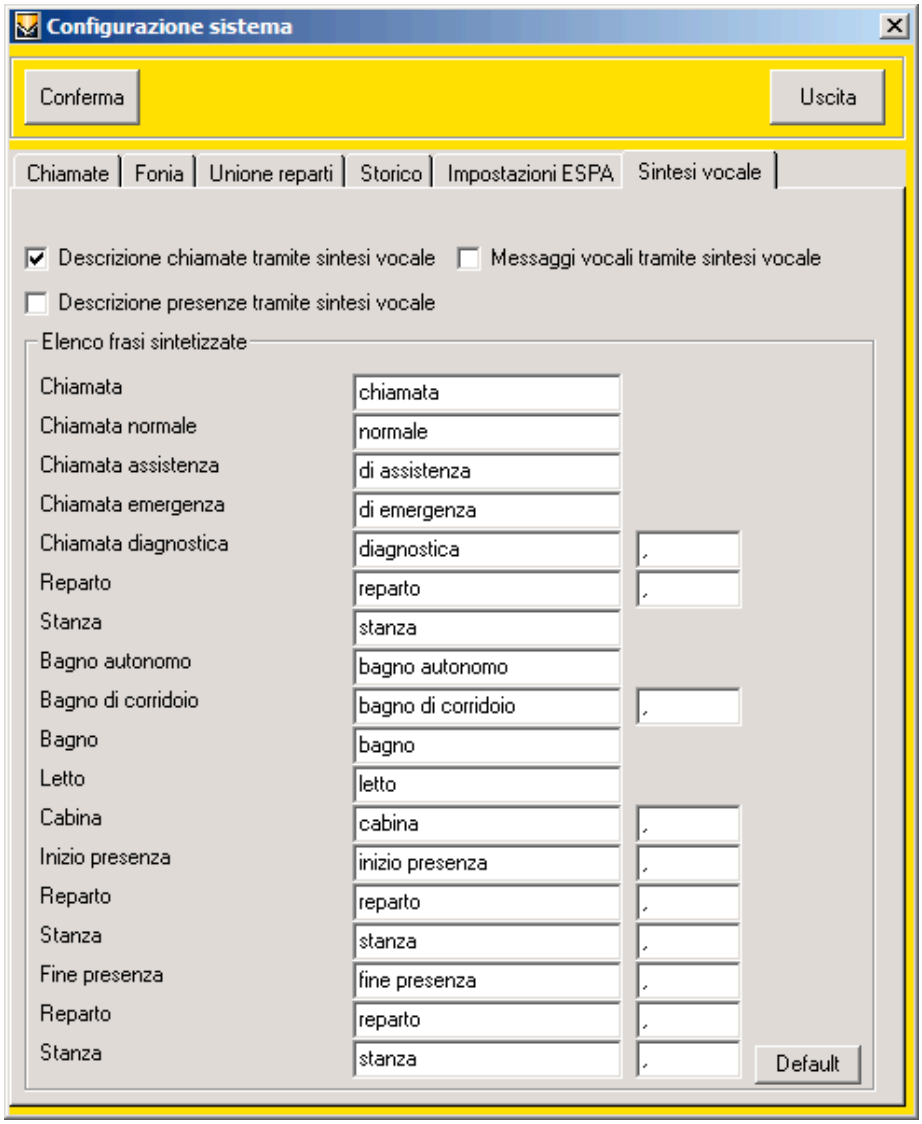
VOICE UNIT MODULES

Volume.
This is the volume of the voice unit modules when you want the same volume for all of them (see below).

Timeout fonia / annunci (Voice / announcements timeout) (0 – 999 sec.).
This is the time after which a voice communication or an announcement (general or ward) is automatically cut off, allowing access to their buses for later use.

SYSTEM CONFIGURATION

SPEECH SYNTHESIS



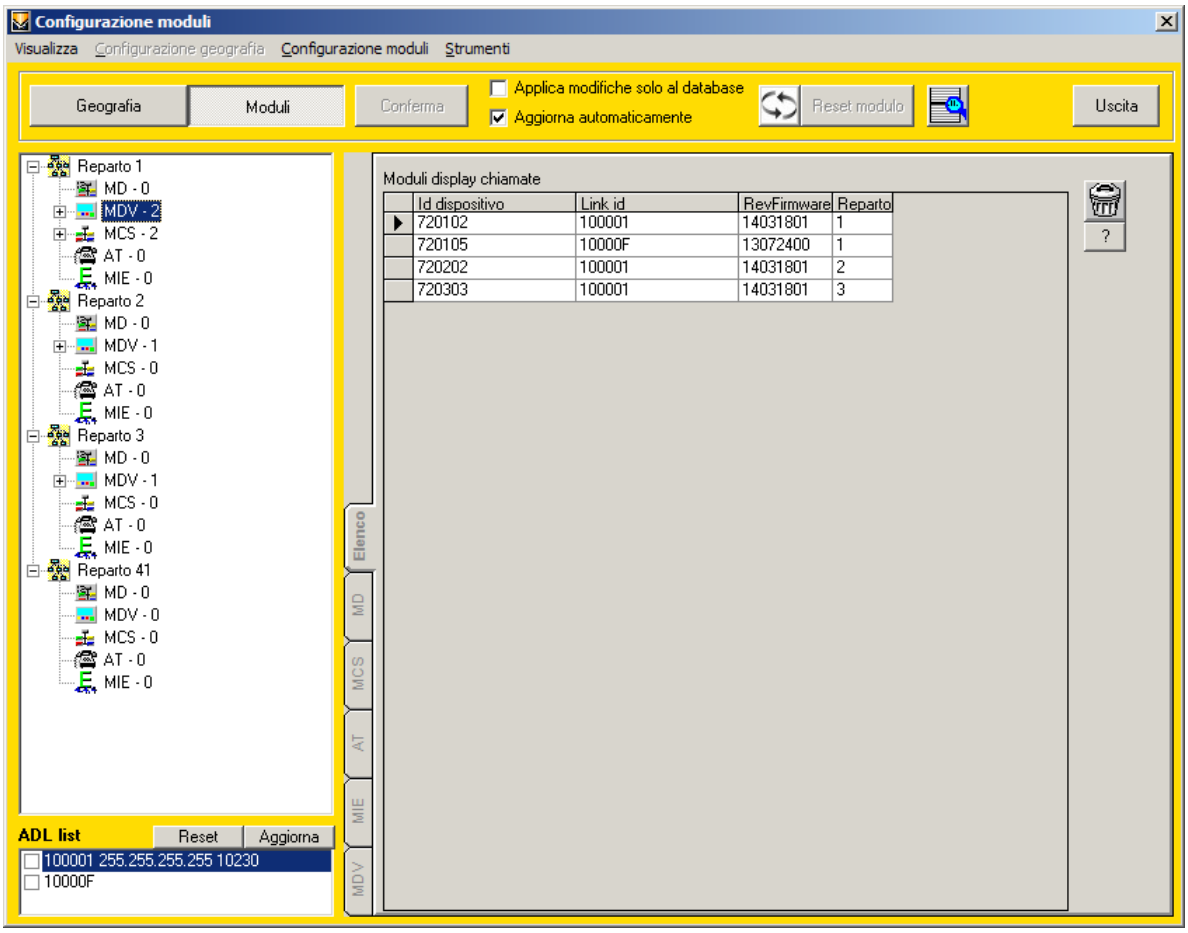
The program is able to utilise highly realistic speech synthesis technology with which to "say" certain events.

Descrizione chiamate/presenze tramite sintesi vocale (Description of call/presence via speech synthesis).
If there is an event such as a call or presence you can choose to have the computer compose a sentence via the single fragments and utter it via the available audio output.

Messaggi vocali tramite sintesi vocale (Voice messages using speech synthesis).
As will be seen later, in the case of a call the software is able to make a phone call and communicate the event with a voice; this setting is required if you do not want to use the pre-recorded messages

Default.
This is used to take/return the corresponding values of the sentence fragments to be used during speech synthesis to the default settings

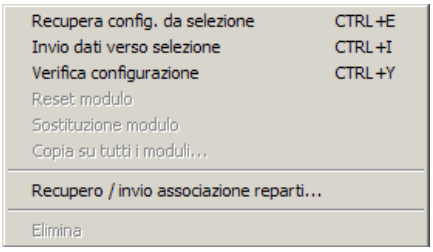
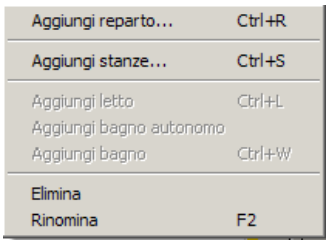
TECHNICAL SETUP



This is probably the most complex window of the whole system; with this window you can add, delete, or configure not only every device on the bus, but also every room, bed or bathroom of the building. There are two different viewing modes, from the point of both graphics and content: **layout** or **modules**. On opening the window the default view is by modules (but with the configuration file you can choose a different starting state), using the pair of corresponding buttons (or via menu), you can toggle the two modes at will.
The drop-down **ADL list** lists the link tabs in the system. On the left, the viewing tree contains the various modules grouped by category (in module mode) or the various wards and rooms of the building (layout mode), while on the right the grid contains a list of devices; you can sort alphabetically by clicking on a column header. Depending on the chosen mode and the selected node in the tree the view changes dramatically; with the following outline we can understand the various situations better:

Mode.	Tree.	Selected node.	View.
Modules.	All wards; modules of ADL and of wards.	Reparto (Ward).	On the grid: all the modules of that ward (any ADL).
		Category.	On the grid: all the modules of that category (any ADL, any ward).
		Module.	On the tab: the configuration parameters of that module.
Layout.	All the wards; rooms and modules of the wards; beds, bathrooms and modules of the rooms (any ADL).	Reparto (Ward).	On the grid: the layout of all the rooms in the ward.
		Stanza (Room).	On the grid: the layout of that room.
		Module.	On the tab: the configuration parameters of that module.
		Letto (Bed).	–
		Bagno (Bathroom).	–

Depending on the display mode and the selected node, there are contextual menus (right click of the mouse) that allow you to access various configuration features:

Mode.	Menu
• Modules	
• Layout	

Here is a summary of the features:

Module configuration.

- **Recupera configurazione da selezione (Recover configuration from selection)**: lets you recover the configuration not necessarily of all the modules but just those you really want; the feature is therefore different depending on the selected tree node:
  - ward → all the modules of the ward (any ADL).
  - category → all the modules in the category (any ADL, current ward or all wards as preferred).
  - module → selected module.

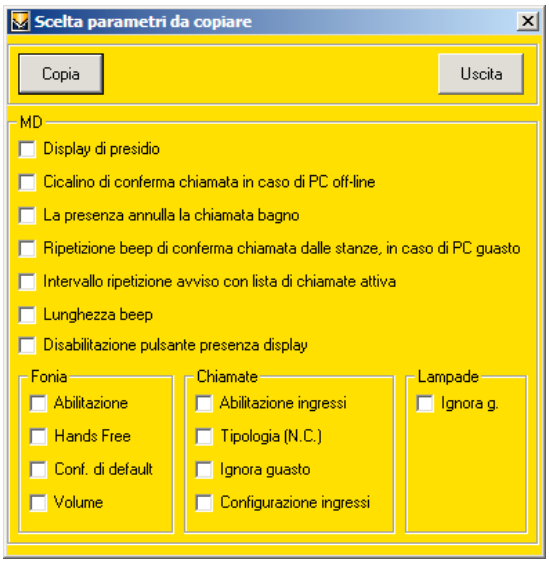
- **Invio dati verso selezione (Send data to selection)**: with the CallWAY software you can "plan out" the configuration of a system or part of it and actually program the desired modules only at the end of the planning; depending on the chosen node, similarly to the previous one, this function sends the database data to the selected ward modules rather than to those of the category or to the single module.

- **Verifica configurazione (Check configuration)**: lets you compare the contents of the memory of the desired devices with the data stored in the database; for each verified module the message "Configurazione ok" (Configuration ok) will appear if it has been programmed correctly, or "Configurazione non conforme" (Configuration not compliant) when there is a mismatch between the memory and the database

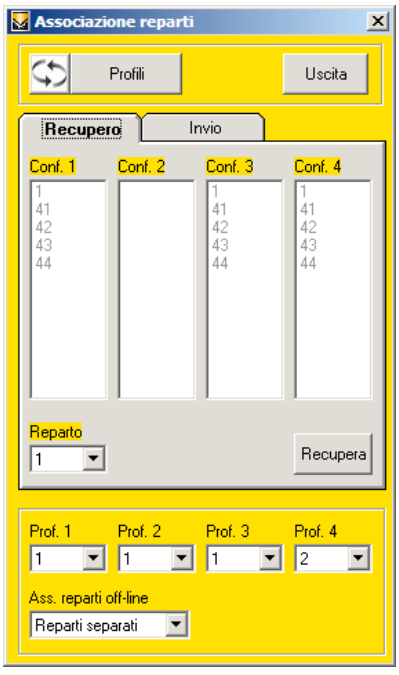
- **Reset modulo (Reset module)**: restarts the firmware of the selected module.

- **Sostituzione modulo (Replace module):** as for the menu item of the main window.

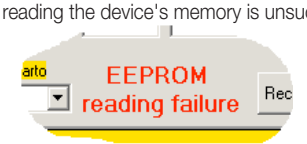
- **Copia su tutti i moduli (Copy to all modules)**: opens the corresponding window that from the current device lets you copy the desired parameters to all the other devices in the same category, regardless of the ward where they are located and the ADL board to which they are linked; for obvious reasons the ward and room are not copied. Depending on the category of the module the copy window can graphically look different. It is important to note that the parameters are copied only at the database level; therefore, at the end it may be necessary to send the data to the devices via the "Invia configurazione a tutti i moduli" (Send configuration to all modules) option or even "Invio dati verso selezione" (Send data to selection), depending on the expected result.



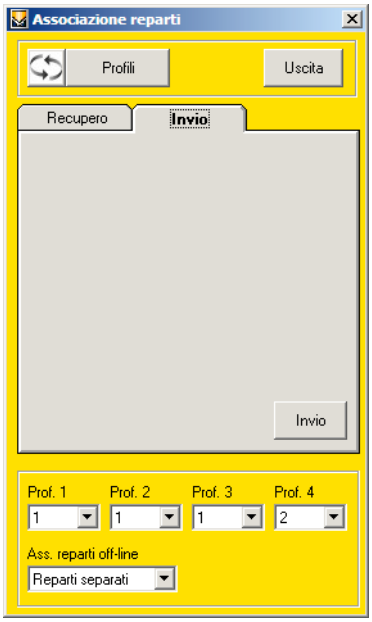
- **Recupero / invio associazione reparti (Recover / send ward pairing):** during off-line operation, MDV devices must "know" the state of pairing of the wards in the various profiles, so you can switch from one profile to another with a quick command sent by the software without having to be reprogrammed each time. The window.



opens, displaying the status of the selected display; if the current selection is the group of ward MDVs the window will not contain any data. In the example, configurations 1, 3 and 4 indicate that the ward of the display is able to receive events from wards 1, 41, 42, 43 and 44, while configuration 2 corresponds to a profile in which the display does not receive anything. Recovery is performed on only one ward - not necessarily the one the display belongs to - and on four profiles; if only one profile is used several times, each recovery operation overwrites the effects of the previous one. The drop-down list shows the current status of the display; the available options are "Reparti associati" (Paired Wards) (all see all), "Reparti separati" (Separate Wards) (none see none), "Secondo profilo n" (According to profile n). If for any reason the operation of reading the device's memory is unsuccessful an appropriate message is shown:



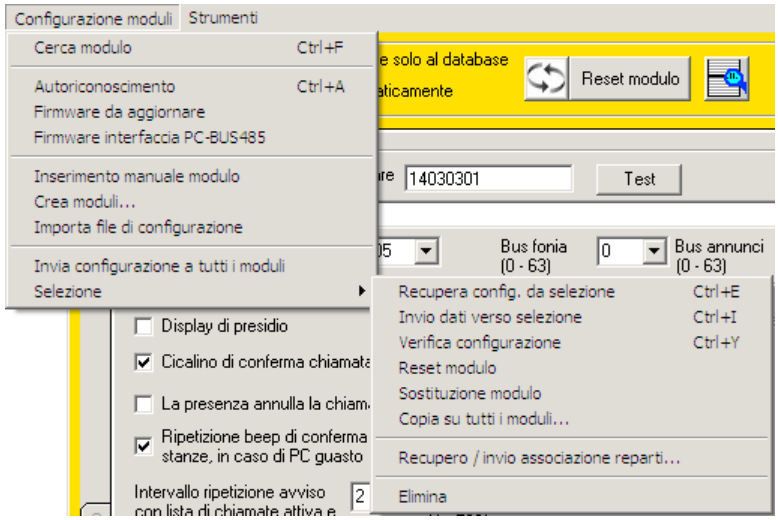
Via the **Send** tab of the window



it is instead possible to program the module (or modules of the ward) by pressing the Send button.

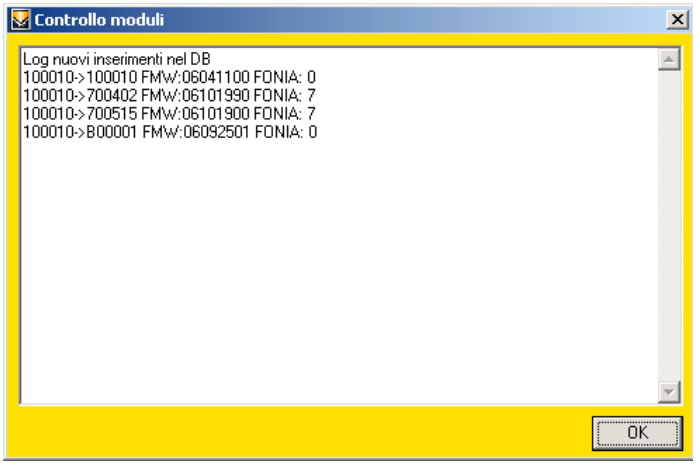
- **Elimina (Delete)**: deletes the selected module from the database.

These functions can moreover be accessed from the window's main menu (Module configuration → Selection), where there are also the other items:



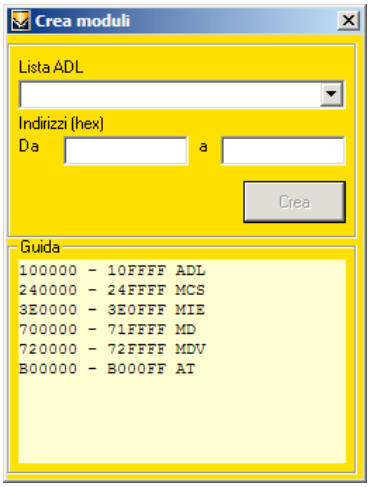
- **Cerca modulo (Find module)**: searches the tree for any string and makes every node containing it visible.

- **Autoriconoscimento (Self-recognition)**: starts the procedure for recognising the modules connected to the system; if successful, at the end a window opens showing the recognised ADL modules and the devices connected to them



This operation is carried out using any available connection, whether serial or network.

- **Firmware da aggiornare (Firmware to update)**: indicates which modules have firmware that is not updated to the latest release in each category.
- **Firmware interfaccia PC-BUS485 (PC-BUS485 interface firmware)**: provides information on the firmware of the protocol converter.
- **Inserimento manuale modulo (Add module manually)**: manually add a module to the database; it is also possible to add an ADL module.
- **Invia dati a tutti i moduli (Send data to all modules)**: the configuration data are sent to all the modules connected to the system.
- **Crea moduli (Create modules)**: (database only) at the database level this lets you quickly create any series of devices starting from the hexadecimal address of the ADL specifying the range of addresses to be created, regardless of the category of the devices. When the window opens



simply select the ADL module you want and, in the two text boxes, enter the start and end addresses. **This function is to be used very carefully because there are no checks on the required activity.** The on-line guide in yellow specifies the ranges that can be used for the various categories of devices.

TECHNICAL SETUP

- **Importa file di configurazione (Import configuration file)**: using a simple duly completed text file we can add the desired devices to the database and quickly configure them. No check is made on whether a ward or room exists, but there is only a check on the correctness of the input range (for devices, rooms and wards) and in general on the correct compilation of the file. From the example given

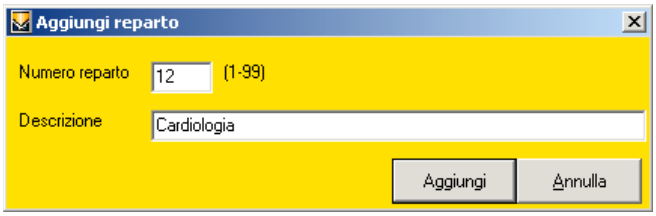
  100002,241853,192.168.1.250,10250,2,3
  100001,241854,,,2,3
  100002,700002,,,3
  100002.700003
  100004.100009

  we see that the first line shows different data separated by commas: the first number is the code of an ADL, the second one of an MCS; the third and fourth data represent respectively the address and the remote port of the network ADL and lastly the fifth and sixth the ward and the room. Processing the first line of the program merely adds the MCS 241854 to the database and configures it to work in room 3 of ward 2; if the ADL which is connected to the module is not yet in the database it is automatically added before the module, together with its network characteristics, if any. If you do not specify the network data the ADL to which the device is connected will be considered traditional, as in the second line of the example. In the example again we see how on the third line only the ward (3) has been specified; in this case the room will become number 1; on the fourth line the device will be added to ward 1 room 1, since neither has been specified. The fifth line instead cannot be processed because the device in the second position you are trying to add is the ADL type, not included in the range; in this case a corresponding message is given in the list of operations performed.

- **Invia configurazione a tutti i moduli (Send configuration to all modules).** As can easily be understood it is used to program all the modules with the current data in the database.

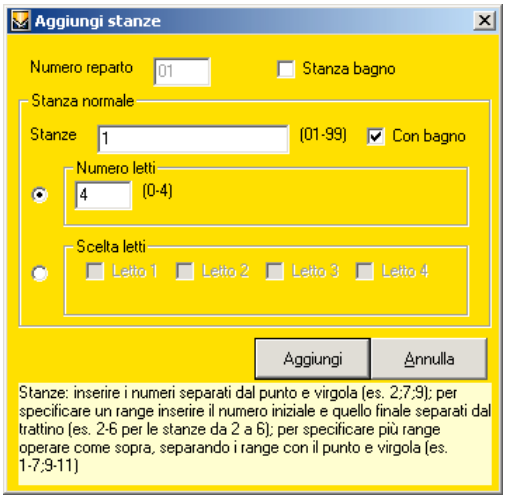
Layout configuration.

- **Aggiungi reparto (Add ward)**: adds a ward in the system.

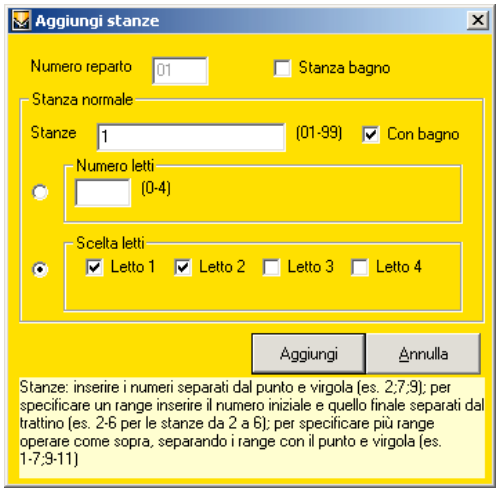


- **Aggiungi stanze (Add rooms)**: adds one or more rooms within the selected ward. If the rooms are normal, you can specify:

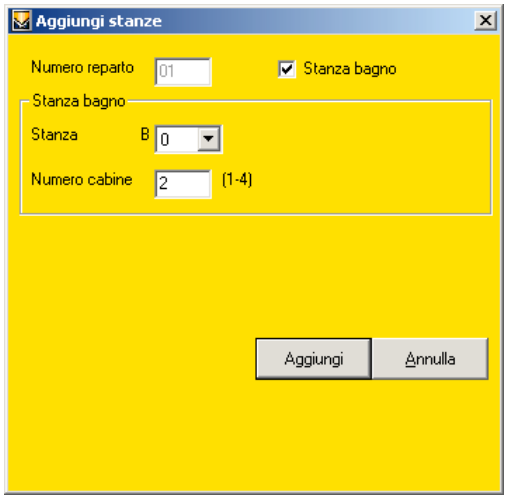
  - single and/or ranges of numbers, separated by semicolons (see also the on-line help on the window);
  - whether there is a bathroom;
  - how many beds are provided (you can specify the number of beds or specify exactly which beds to include; in the second case the predefined beds are number 1 and number 2); rooms without beds and/or without a bathroom are also tolerated. The number of beds specified manually can vary from zero to four.



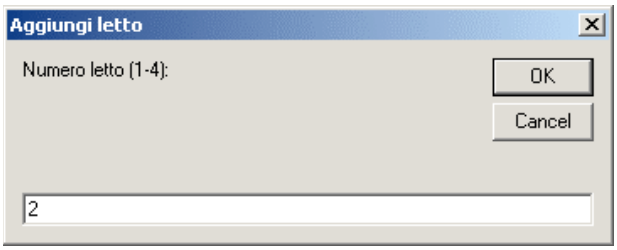
or



Whereas, if the rooms are corridor bathrooms, you can only specify one number at a time and how many cubicles are contained, a number from 1 to 4:

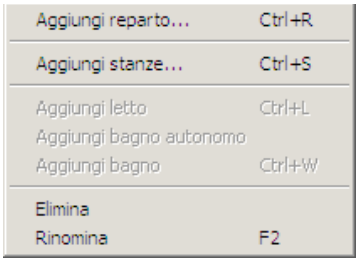


- **Aggiungi letto / cabina (Add bed / cubicle):** adds a bed (or a cubicle in the event of a corridor bathroom) to the layout of the selected room



- **Aggiungi bagno autonomo (Add private bathroom)**: adds a private bathroom to the layout of the selected room; you cannot add a private bathroom if there is already a normal bathroom. The private bathroom is completely independent from the room with which it is paired, as regards both presences and calls, so it absolutely requires an input configured as a dedicated reset.
- **Aggiungi bagno (Add bathroom)**: adds a normal bathroom to the layout of the selected room; you cannot add a normal bathroom if there is already a private bathroom.
- **Elimina (Delete)**: deletes the selected item in the tree list (ward, room, bed, module).
- **Rinomina (Rename)**: changes the description of the selected node, ward or room (not bed or cubicle).

Similarly to the module display also in this case the various functions are accessible from the main menu:

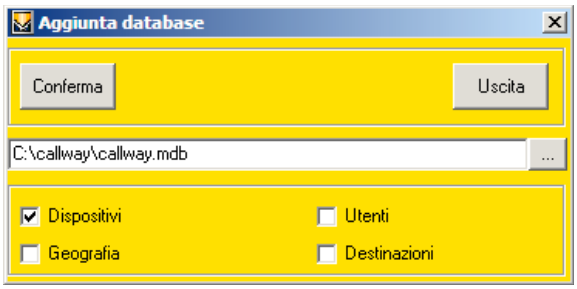


View.

- **Moduli (Modules)**: sets the view sorted by type of device.
- **Geografia (Layout)**: sets the system's layout.
- **Espandi tutto (Expand all)**: displays all the items in the tree list.
- **Espandi funzionanti (Expand working ones)**: displays all the working items in the tree list.
- **Espandi non funzionanti (Expand non-working ones)**: displays all the failed items in the tree list.
- **Comprimi tutto (Collapse all)**: collapses the tree list displaying only the main categories.

Strumenti (Tools).

- **Cancella tutti i moduli (Delete all modules)**: deletes all the modules in the database.
- **Cancella tutti i reparti (Delete all wards)**: deletes all the wards and all the rooms in the database.
- **Recupera geografia impianto (Recover system layout)**: reconstructs the system layout starting from the configuration data retrieved from the modules.
- **Aggiunta database (Add database)**: lets you combine the data from the current database with the data from another database. This window lets you choose which types of data to process.



- **Backup database**: make a backup of the current database; the name of the new file, produced in the format [originalname yyyymmdd hhmmss].mdb, is reported by a confirmation message at the end of the operation.

- **Rinumerazione (Renumbering)**: (database only) with the corresponding procedure you can "transfer" the settings of all the paired modules with certain locations of the system to other locations without having to work manually on each module. Before performing the operation it is necessary to prepare a text file containing the instructions that the procedure must follow; this text file will have content type

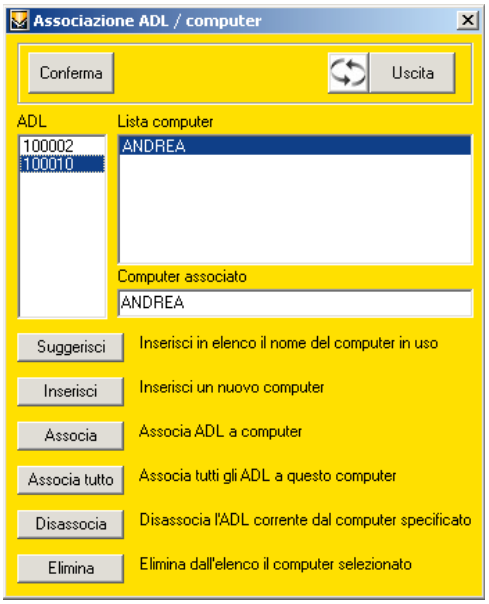
  ;rv sv rn sn
  50,2,1,2
  1,3,1,5
  ;2,4,2,6

  In the example **rv**, **sv**, **rn** and **sn** mean respectively **old ward**, **old room**, **new ward** and **new room** (lines starting with a semicolon are considered "commented" and do not come into play); the second one means: return all the devices located in room 2 of ward 50 to room 2 of ward 1; the third row: reset all the devices in room 3 of ward 1 to room 5 of ward 1, and so on. Note that in one step you cannot perform renumbering of type

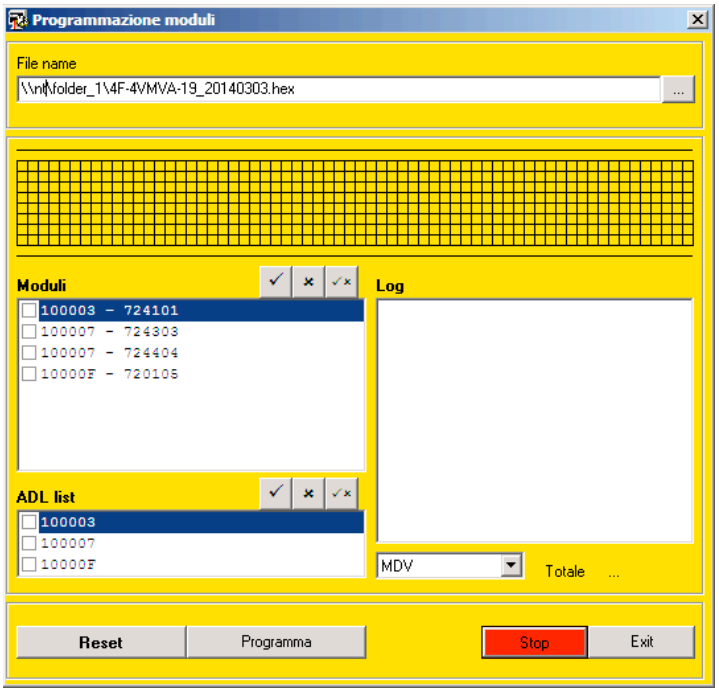
  1,1,1,2
  1,2,1,1

  or an "**exchange**" of information between rooms because the rows are processed sequentially, and once the devices are returned from room 1 to 2, in the next step not only would the devices originally in room 2 be returned to room 1 but also those just returned from room 1 to 2 (and in room 2 there would no longer be any devices!).

- **Associazione PC / ADL (PC / ADL pairing)**: in order to implement the concept of "**computer network**" it is necessary to specify how to pair the ADL modules and computer, so that each computer controls only the devices of the ADL modules connected to it. In the window assigned to this management there are two lists: the ADLs in the system and the computers used in the network. To pair an ADL with a computer, simply click on the ADL, click on the computer in the list and press the "**Associa**" (Pair) button (the opposite is obvious: to unpair, press the "**Disassocia**" (Unpair) button). If the computer is not in the list it can be added manually by pressing the "**Inserisci**" (Add) button (max 20 characters); to add the current computer instead press the "**Suggerisci**" (Suggest) button. If you want to change the name of a computer, you need to select it in the list, delete it (with the "**Elimina**" (Delete) button) and add it again. If you want to unpair a computer from an ADL simply select the computer and press the "**Disassocia**" (Unpair) button. Finally, to pair all the ADLs with the current computer press the "**Associa tutto**" (Pair all) button. Any changes made in this window will be lost if the "**Conferma**" (Confirm) button is not pressed before closing.



- **Programmazione moduli (Module programming).** This menu item opens a window that lets you load the desired firmware on the display modules, Ethernet line coupler with voice unit, VDE phone coupler and card with 8 inputs/8 outputs:



First of all, choose the type of device from the drop-down menu: MDC, MDV, ADL, MCS or AT; the text box at the top shows the name of the last "**hex**" file used for that category, you can keep it, specify it manually or it can be chosen by pressing the button next to the text box. Once you have selected the devices that need to be programmed by clicking the "**Programma**" (Program) button, the firmware will be downloaded onto them. The "Reset" button has the same functions as the button of the same name in the main window.

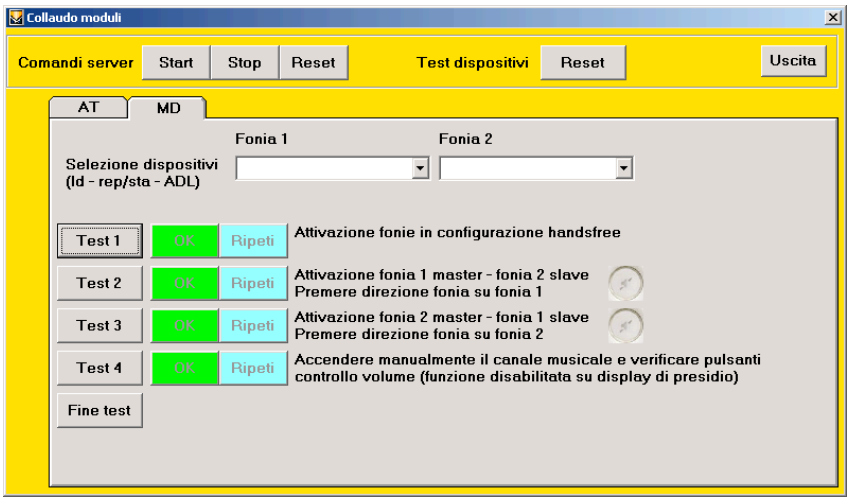
- **Collaudo moduli (Testing modules)**. The purpose of this window is to outline a standard for the operation testing to be performed on the modules that make up the heart of the CallWAY system. Since most of the tests require the server to be running, at the top of the window the set of three buttons on the program's main window has been replicated, with which you can start and stop the communication with the bus and reset the entire system. There is also the "**Reset**" button to cause only the firmware of the modules involved in the test phase to restart. To choose the type of module you need to use the "**AT**" and "**MD**" tabs located just below the "**Start**", "**Stop**" and "**Reset**" buttons.

TECHNICAL SETUP

Test AT

A room call or ward announcement requires a system management phone communication; the phone call is however made in the opposite direction. In the first case if the phone is connected directly to the AT the room call or the announcement is made simply by dialling the corresponding code (e.g. 90101#); but if the AT is instead connected to a switchboard, you must first dial the number to which the line coupler is connected, wait for the voice message confirming the call and then dial the usual code; to end the call, the code is 90#. The received tones are shown in the corresponding "Toni. ric." (Rec. tones) test box. To conclude each test you need to press the associated "**OK**" button; the test is not considered successfully completed if you have not received a tone. As regards the call, instead, on pressing the "**Test 4**" or "**Test 5**" button the telephone coupler dials the specified number and makes a call (there is no need to lift the handset); it is therefore mandatory to specify the phone number to call, otherwise the test cannot take place. The telephone number may also contain a pause, in the form of a comma, which is useful if for example there is the need to "exit" from the switchboard to the outside (e.g.: 0,029372315, where the zero before the comma enables the call and the number that follows is actually the phone to call). The "**Play**" and "**Stop**" buttons control playback of the music file test.mid contained in the program setup and automatically installed in the same folder as the program; to be able to hear this file there must be a connection between the audio output of the computer and the audio input of the AT; alternatively to the aforementioned music file you can use any other media file on your computer, controlling its opening with the default program.

Test MD



As for testing the AT, also for the MD to go in sequence from one test to another in both cases it is sufficient to repeatedly press the space bar on the keyboard because depending on the time buttons "**Test 1**", "**Test 2**", etc. will be activated rather than the "**OK**" and "**Repeat**" buttons; you can still skip from one test to another without necessarily having to respect the established sequence. For voice unit tests between displays, on pressing button "**Test 4**" you need to wait for a few seconds for the corresponding "**OK**" and "**Ripeti**" (Repeat) buttons to be enabled.

TECHNICAL SETUP - DESCRIPTION OF BUTTONS AND OTHER OBJECTS

Geografia

Sets the system's layout view.

Moduli

Sets the view sorted by type of device.

Conferma

Transfers the data displayed in the configuration window of the single modules to the database and to the current module (the one selected in the tree list). If the associated check box is selected, the data will only be applied to the database. This function is useful when you are in the phase of configuring the database with the system disconnected.

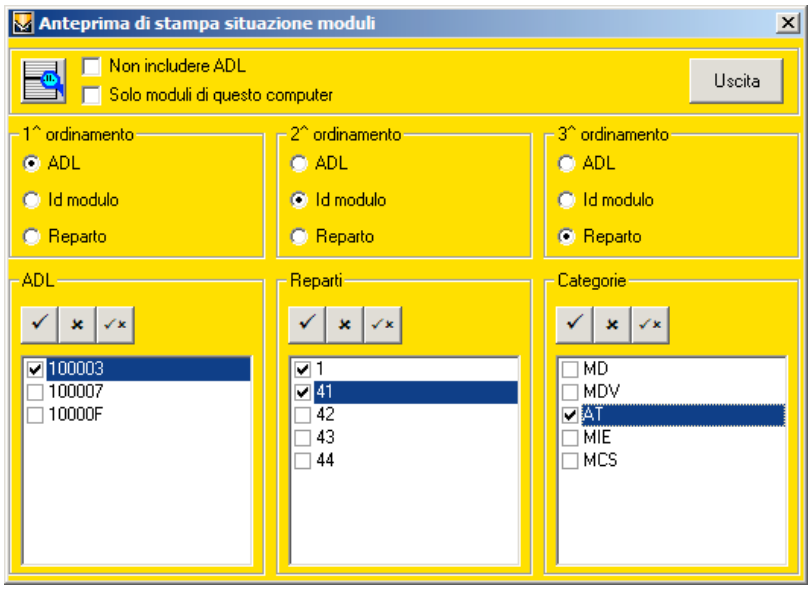
Applica modifiche solo al database

Refreshes the view of the tree list on the left of the setup window.

Reset modulo

Restarts the selected module.

Opens the window for selecting the filter criteria for the print preview of the list of devices in the system. In the example figure you want to have a list of all and only the ATs connected to the ADL 100003 located in wards 1 and 41. If no box is selected in a list the filter should be understood as "all elements", ie none excluded. You can also sort the view according to three cascading criteria (in the figure we have chosen to order first by ADL address, then by module address, and finally by ward).



The buttons with the "✓", "✗" and "✓✗" signs are used respectively to select or deselect all the items in a list and to invert the selection.

Do not include ADL – to avoid including the ADL modules in the view, with the aim of obtaining an exact count of the connected modules.

Only modules of this computer – to filter only on the modules connected to ADL controlled by the computer being used (see below).

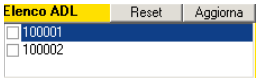
Uscita

Exits the window.

Aggiorna automaticamente

After making any changes to the database, you can choose to automatically redisplay the nodes of the tree, rather than leaving the view fixed and manually refreshing the data at the end of a series of operations. Especially useful (if not set) with a slow computer that takes several seconds to redraw the layout or device tree every time.

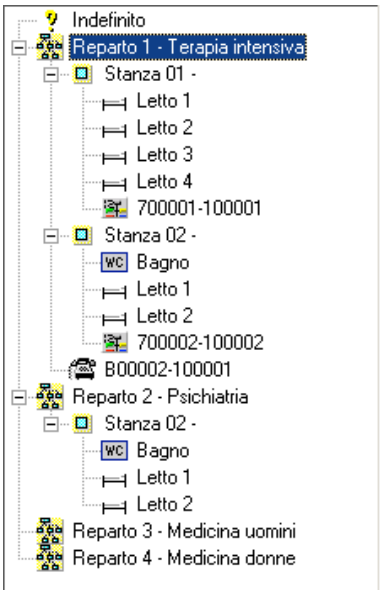
TECHNICAL SETUP



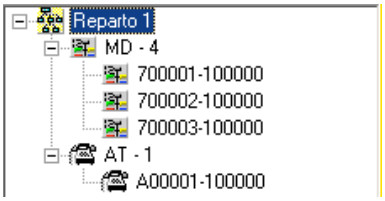
This list is used to decide to view the modules of which ADL. With each click, if desired, the tree view is updated immediately. As in the window for setting the filter for the print preview seen above, also in this case not choosing anything is equivalent to choosing everything. The "Reset" and "Aggiorna" (Update) buttons are used respectively to control rebooting the selected ADL module firmware and updating the list of listed modules.

In some cases there may be a need to use a special additional network bus; the "Bus ext." box lets you choose whether to display and configure the modules connected to this bus or all the others.

View by layout and by module



by layout



by module

In the view by layout you want to emphasize the location of the devices in the system. It is therefore immediately clear which modules correspond to the configured devices in the room. The meaning of the numbers that appear after the symbols is:

700001-100001

700001 module address
100001 ADL address

With the view by module you essentially obtain the same information, starting however with their grouping by category. The only difference lies in the fact that for each category represented the total number of devices in the ward is also given, regardless of the ADL module to which they are connected (in the figure in ward 1, for example, there are 2 MD and 1 AT); if the number of devices of a category is other than zero but there are no modules in the tree it means that a filter has been set on the ADLs (see above).

Symbols.

Layout:

 Ward, room, bed

Modules:

 telephone interface (AT)

 display with inputs (MD)

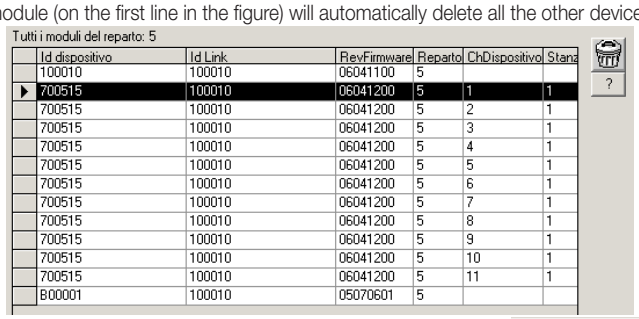
 display with inputs (MDV)

Failures:

 The device is not working properly.

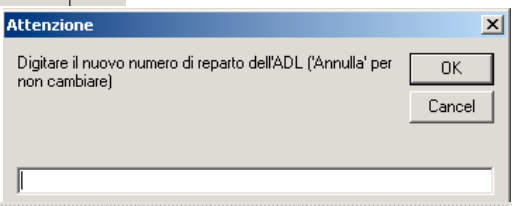
Other features of the module configuration window.

When you see the grid with a list of modules you can delete one or more modules at the same time; simply select the chosen module(s) on the grid (hold down the CTRL key) and press the button with the image of a trash can; after performing this step the modules can no longer be recovered, except via self-recognition or manual addition. Note that when deleting devices with channels it is not necessary to select all the channels but only one per device, since deletion is based simply on the address shown in the first column. The example figure shows channel 1 of device MD 700515: pressing the button with the trash can will delete not only channel 1 but the complete device. Whereas, deleting an ADL module (on the first line in the figure) will automatically delete all the other devices connected to it.

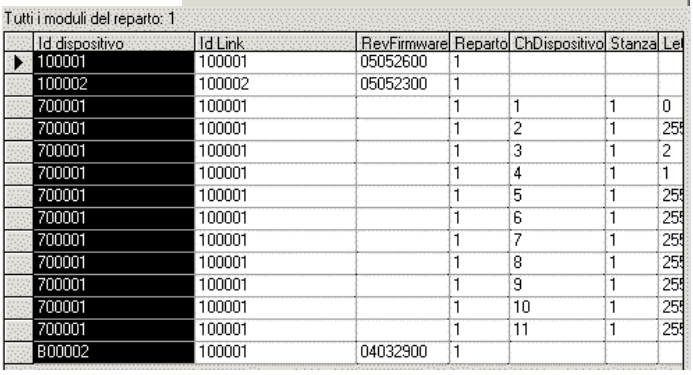

Tutti i moduli del reparto: 5

Id dispositivo	Id Link	RevFirmware	Reparto	ChDispositivo	Stanza
100010	100010	06041100	5		
700515	100010	06041200	5	1	1
700515	100010	06041200	5	2	1
700515	100010	06041200	5	3	1
700515	100010	06041200	5	4	1
700515	100010	06041200	5	5	1
700515	100010	06041200	5	6	1
700515	100010	06041200	5	7	1
700515	100010	06041200	5	8	1
700515	100010	06041200	5	9	1
700515	100010	06041200	5	10	1
700515	100010	06041200	5	11	1
B00001	100010	05070601	5		

Pressing the button with the question mark "?" in the view by modules can have a double effect: if the current row is an ADL it lets you change the ward of the device via the window in the figure, otherwise it lets you quickly find a module shown in the grid.



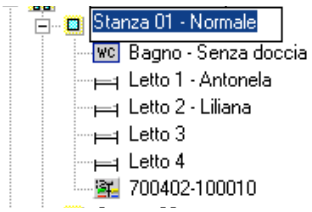
You can sort the data displayed in the grid by simply clicking on the required column heading; in the example in the figure, the data presented have been sorted by device address (the column in question is highlighted in black).


Tutti i moduli del reparto: 1

Id dispositivo	Id Link	RevFirmware	Reparto	ChDispositivo	Stanza	Le
100001	100001	05052600	1			
100002	100002	05052300	1			
700001	100001		1	1	1	0
700001	100001		1	2	1	255
700001	100001		1	3	1	2
700001	100001		1	4	1	1
700001	100001		1	5	1	255
700001	100001		1	6	1	255
700001	100001		1	7	1	255
700001	100001		1	8	1	255
700001	100001		1	9	1	255
700001	100001		1	10	1	255
700001	100001		1	11	1	255
B00002	100001	04032900	1			

In viewing by layout, the description of a ward or room (but not a bed) can be changed easily by selecting the corresponding node and following different procedures:

- clicking a second time on the node without moving the mouse
- pressing the F2 key
- clicking with the right mouse button and selecting the menu item "**Rinomina**" (Rename).



When the desired node goes into edit mode, with the selected text in blue, simply write a new description and press the "Invio" (Send) button or click with the mouse on any other object in the window. By assigning a description to the room the same information is saved also on the alias of the device contained in it (if it exists in the database), and vice versa; this information appears in the grid respectively in columns "**Descr. stanza**" (Room description) and "**Alias stanza**" (Room alias).

	Stanza	Descr stanza	Alias stanza	Letto	Alias letto
▶	01	Normale	Normale		
	01	Normale	Normale	1	Antonela
	01	Normale	Normale	2	Liliana
	01	Normale	Normale	3	
	01	Normale	Normale	4	
	01	Normale	Normale	Bagno	Senza doccia
	02				
	02			1	
	02			2	
	02			3	
	02			4	
	02			Bagno	
	03				
	03			1	
	03			2	
	03			3	
	03			4	
	03			Bagno	
	04				

The descriptions of the beds or bathrooms in a room can instead be added via the window of the MD device contained in the room (see below); as for the room information, the descriptions of the beds also appear in the grid in the column "Alias letto" (Bed alias). As with modules, also for the system layout you can delete one or more items by simply selecting the corresponding records on the grid (hold down the Ctrl key and pressing the button with the trash can after making the selection. Keep in mind that every row whose bed contains no information represents the entire room: deleting the row deletes the entire room.

SYSTEM EQUIPMENT CONFIGURATION

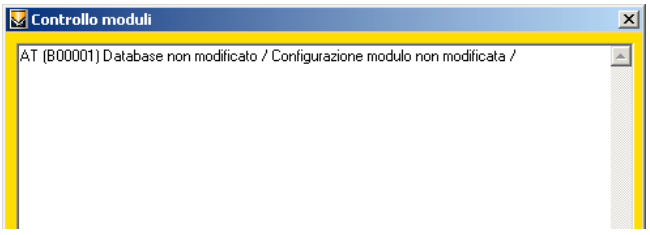
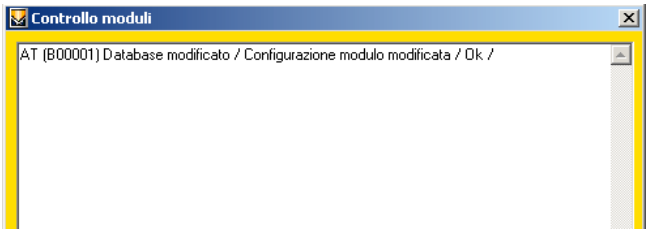
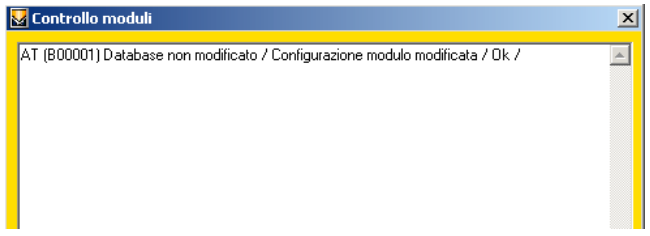
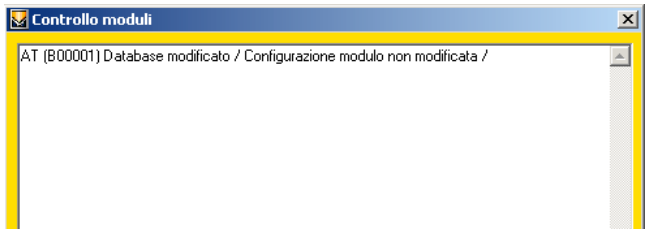
OPERATIONS

The configuration of the system database comprises three distinct phases of operation:

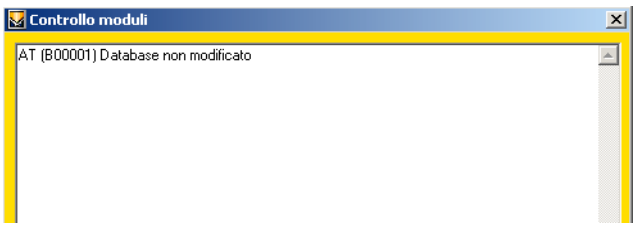
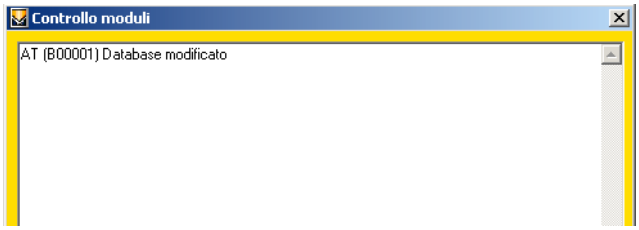
1. setting the system layout by creating all the rooms that make up the system (wards, rooms, bathrooms, etc.).
2. acquisition of all peripheral modules connected to the system and their configuration.
3. configuration (where applicable) of the sequence of calls to telephone equipment and/or pagers.

SETTING DEVICE PARAMETERS

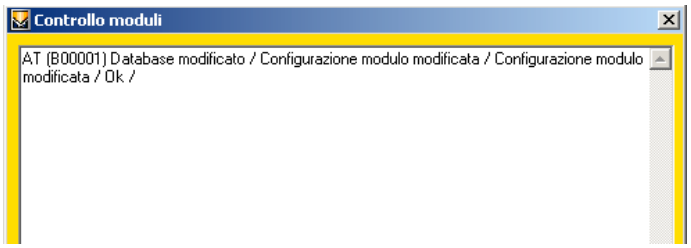
- To configure a device, either in view by module or by layout, you need to find it on the tree, select it and set the parameters on the tab.
- After setting the parameters, you can make the changes to the database effective and transfer the data to the module using the "Conferma" (Confirm) button; tick the "Applica modifiche solo al database" (Apply changes to database only) check box and the changes made are only recorded in the database without being sent to the module, with the convenience of being able to configure an entire system without having a real connection with the system and sending all the data in a fell swoop only at the end of the preparation phase. Depending on whether changes have been made to the database rather than to the device memory and whether the aforementioned checkbox is ticked, the returned messages can be the following:

Without "Applica modifiche solo al database" (Apply changes only to the database)		
Change to the db	Memory edit	Message
		
●	●	
	●	
●		

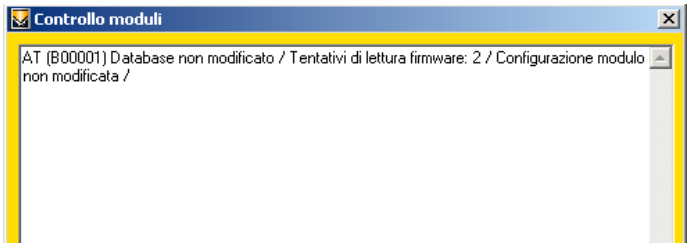
SYSTEM EQUIPMENT CONFIGURATION

With "Applica modifiche solo al database" (Apply changes only to the database)	
Change to the db	Message
	
•	

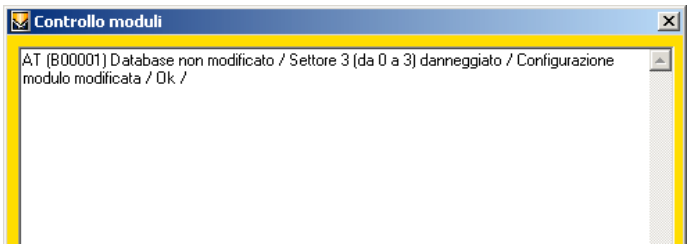
If the device receives a different configuration to the one already stored in memory, the "OK" message indicates that the module memory has been reread to compare it with the data you have just entered and the operation has been successful. If the "Configurazione modulo modificata" (Module configuration modified" message appears more than once for the same module it means that the write / reread operation has been performed more than once:



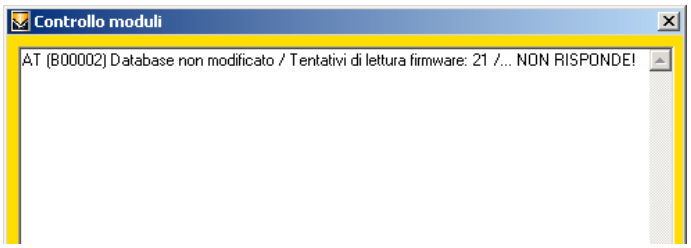
If for various reasons, not necessarily due to a malfunction of the device or connection errors on the bus, the communication with a module is "attempted" several times, the message will contain a reference to the number of attempts made, as reported below.



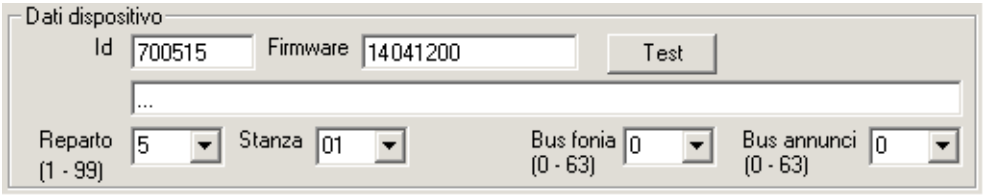
Sometimes it can happen that a device has problems in reading or writing to memory; in this case the message will contain the memory sector that is damaged:



Finally, if the device is not functioning properly or is even missing, the response will be unequivocal.



Common parts

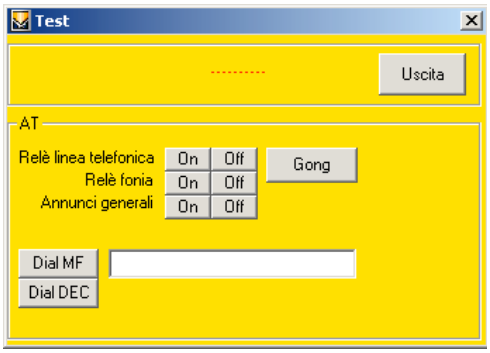


ID.
This is the address of the module, a unique identification code that enables not only distinguishing it from the other modules but also recognizing the category to which it belongs, depending on the range, according to the outline already seen in the module creation window:

100000 - 10FFFF ADL
240000 - 24FFFF MCS
3E0000 - 3E0FFF MIE
700000 - 71FFFF MD
720000 - 72FFFF MDV
B00000 - B000FF AT

Firmware.
This is the version of the firmware stored on the selected device. It should be read in the yymmddaa format, where aa is the version of the current revision.

Test.
The "Test" button opens a window containing tools for verifying the operation of the current module. The example in the figure shows the test commands of the phone line coupler, with the on and off controls of the various relays, the multi-frequency and pulse dialling test buttons, etc.



Note: The test window of the 8 input/8 output card only checks that the outputs work properly and only the configured ones appear. It can be useful for correctly configuring the landing lamps.

Notes.

It is a free text field where you can enter notes about the device

Reparto (Ward). Stanza (Room).

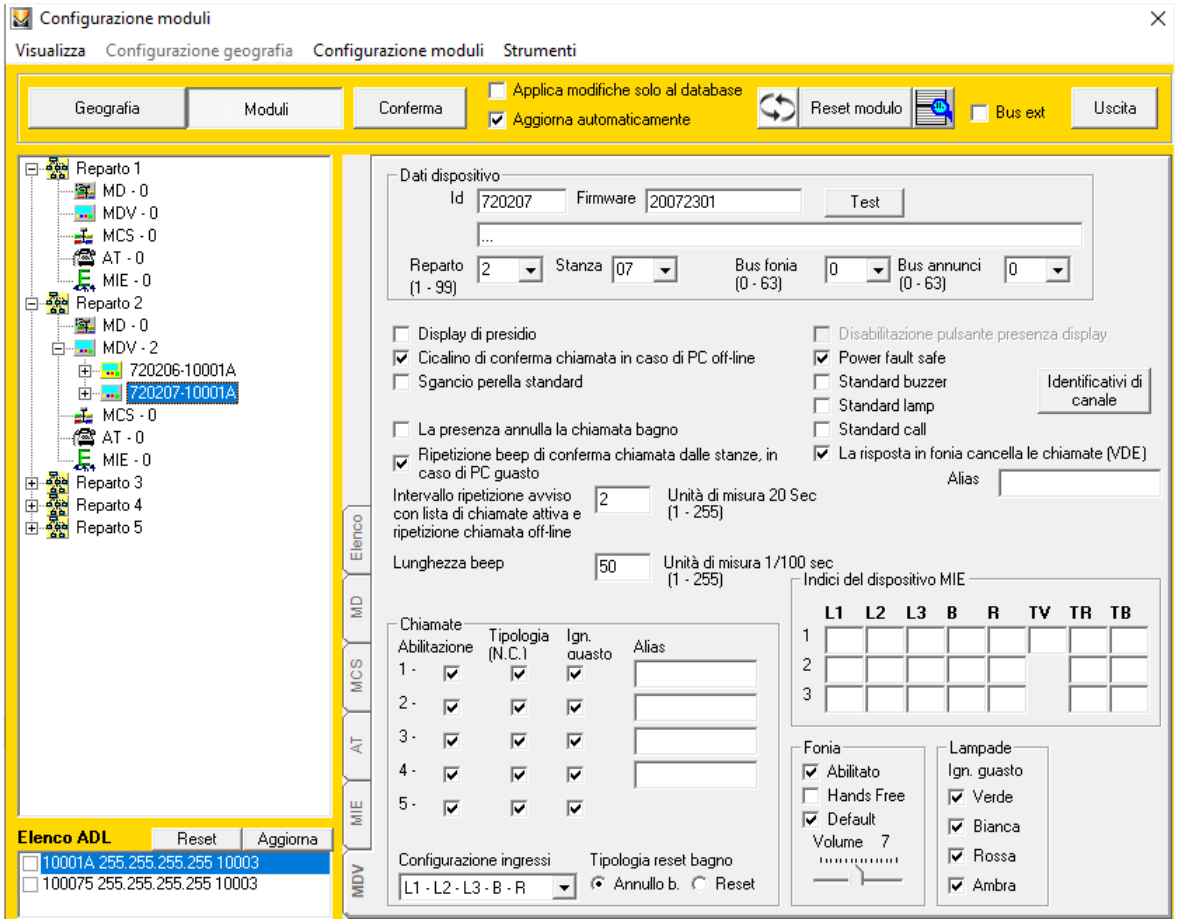
These are the location of the device. When saving, a check is made on the existence of the input data; if the specified ward does not exist you are asked whether to create it in real time; the room instead must necessarily exist.

Bus fonia / Bus annunci (Voice Bus / Announcements Bus) (0 – 63)

The software is able to handle up to 64 voice buses and 64 announcement buses separate from one another. For devices with the possibility of speech it is essential to set these values correctly as the system allows any "audio" communication only between modules belonging to the same bus; also you need to be very careful in assigning values consistent with the actual electrical situation because there is no control (nor could there be) on the actual correspondence between the real bus and the virtual bus.

SYSTEM EQUIPMENT CONFIGURATION

TECHNICAL SETUP (MD display)



Display di presidio (Supervision display).

With this setting, the display still receives all the calls of its ward (as well as those of its associated wards), even though the usual supervising staff are not present. Conversely, if the display is not for supervision, call viewing is subject to there being a presence and obviously to the call configuration, as explained below. We should clarify the operation of the display buttons in the two different conditions:

	Normal display.	Display di presidio (Supervision display).
Green button	Adds a presence or removes a call	Disabled.
Red button	Makes a call.	Disabled.
Yellow button	Scrolls through the list of calls and presences.	
Blue button	Makes an emergency call, if held down and with presence added	Disabled.

Cicalino di conferma chiamata in caso di PC off-line (Call confirmation buzzer if PC off-line)

With this setting, you can choose whether to have the display emit a sound signal when a call is made through another configured device in the same room; if the call is made from the display the sound signal is emitted anyway.

Sgancio perella standard (Standard tail call lead unhooked)

With this setting, you can decide whether to have the display emit an acoustic signal if the tail call lead is unhooked from its socket outlet; the control display, the corridor display and the software management screen will show a tail call lead fault message.

The signal can then be reset in a similar way to that of a normal call.

SYSTEM EQUIPMENT CONFIGURATION

La presenza annulla la chiamata bagno (A presence cancels a bathroom call).

If the bathroom reset input is used as "cancel" the green button on the display will not cancel a bathroom call, precisely because one of the inputs has been configured for this purpose. However, if you still want to cancel a call from the bathroom with the green button on the display regardless of how the reset input has been configured it is essential to use this property.

Ripetizione beep di conferma chiamata dalle stanze in caso di pc guasto (Repeat call confirmation beep from the rooms in the event of PC failure).
Intervallo di ripetizione avviso con lista chiamate attiva (Warning repeat interval with call list active) (1 – 255).

This lets you periodically repeat the sound signal when a call is present and set the duration of the intervals between sound signals in multiples of 20 seconds.

Lunghezza beep (Beep length) (1 – 255).

This indicates the duration of the acoustic signal (in 1/100 of a second).

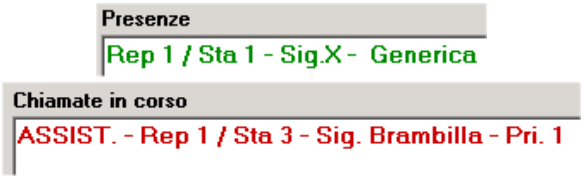
Disabilitazione pulsante presenza display (Disable display presence button)

This setting, which can only be used with firmware revisions as of 2/3/2011, completely inhibits the operation of the green button on the display. As a result it will no longer be possible to insert a presence and/or cancel a call with the device, except via the specific inputs for this function.

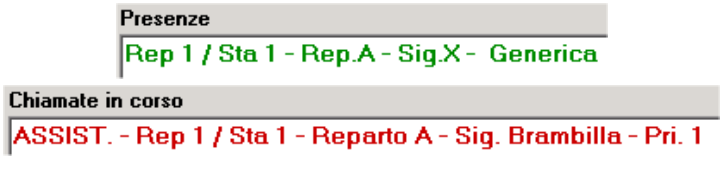
Alias.

The display can be paired with a name to appear on the main window if there is a presence or a call.

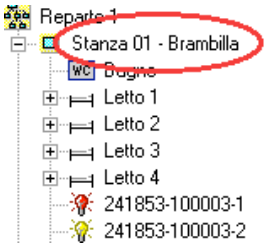
This for example lets you be able to immediately identify the origin of an event in the system and adequately prepare for the corresponding action:



If a description has been entered for the ward where an event occurs it will appear before the alias of the room:



As already mentioned, on saving the data any alias is automatically set to the description of the room:



If, however, you change the description of the room starting from the corresponding node, as specified in the description of the tree in layout view (see above), the alias of the display contained in the room is also updated. The ward, room and bed aliases set in this window are also used in the corridor display.

SYSTEM EQUIPMENT CONFIGURATION

Riquadro fonia (Voice unit box) (only displayed when a voice unit is physically present)

Abilitato (Enabled).
Enables switching on the voice card connected to the display.

Hands free.
When selected, it sets the operation of the voice unit to hands-free; otherwise the direction of the voice is determined manually by the unit that starts the phone connection.

Configurazione di default (Default configuration).
This sets the volume level of the voice module according to parameters that are common to the entire system (see program setup).

Volume.
This is the volume of the voice unit connected to the display. Setting active only if the default configuration has not been selected.

Chiamate (Calls) box.

Abilitazione (Enable)
Enables the corresponding input.

Tipologia (Type) (N.C.)
Indicates that the input is normally closed.

Ign. guasto (Ign. failure)
This makes the system ignore any failure in connection with the connected button (button ripped off, blown LED, etc.).

Alias
This has the same functionality as the room alias, with the difference that it represents the description of a bed or a bathroom; as already seen, this indication appears on the tree of the layout next to the name of the node.

Configurazione ingressi (Input configuration).
For the module assigned to work in a normal room (1, 2, etc.) or in a corridor bathroom (B0, B1, etc.) there are respectively five and two preconfigured settings that allow you to determine the function of its inputs:

normal room

L1 L2 L3 B R three beds, one bathroom and a reset
L1 L2 D1 D2 R two beds, two diagnostics and a reset
L1 L2 D1 D2 B two beds, two diagnostics and one bathroom
L1 L2 L3 L4 B four beds and one bathroom
L1 L2 L3 L4 L5 five beds

corridor bathroom

C1 C2 C3 C4 R four cubicles and a reset
C1 C2 C3 C4 C5 five cubicles

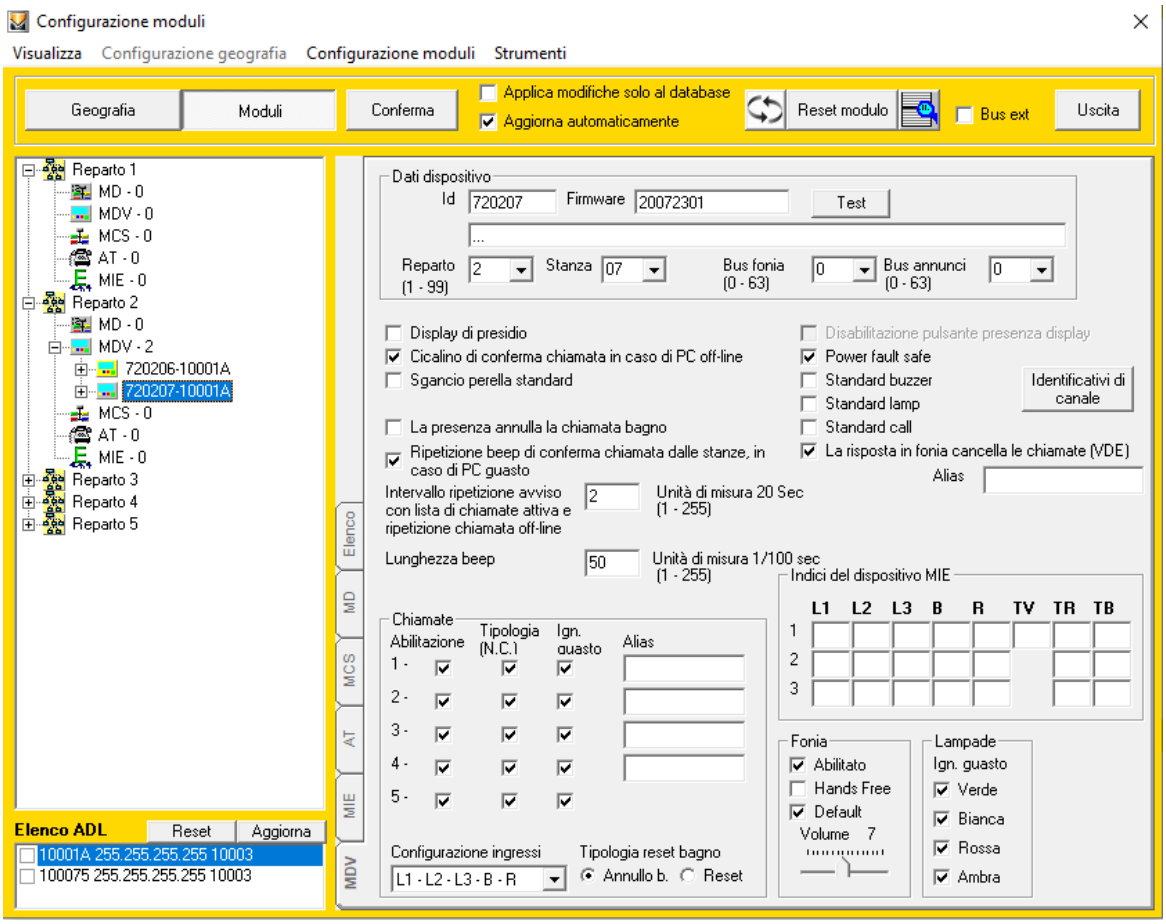
If the reset function is assigned to one of the inputs (normal room) it is also possible to further refine its behaviour, ie depending on the chosen type the input will act as "Cancel" bathroom or "Reset" room. In the first case, this input will be able to cancel all calls (including of course those from the bathroom) adding a presence in the room, but it will not be able to remove the presence; if there are no calls in progress, cancellation will not even be able to add any presence; in addition, the green button on the display will not be able to cancel a bathroom call, unless otherwise specified via the "La presenza annulla la chiamata bagno" (Presence cancels bathroom call) setting. In the second case, instead, the input will act as a room reset, or as the green button on the display, it will then be able to reset any call by adding a presence and it can then independently add a presence even if there are no calls in progress; in this case the green button on the display will be able to reset a bathroom call even if the "La presenza annulla la chiamata bagno" (Presence cancels bathroom call) setting is not be used. On a configured display in a corridor bathroom the reset input takes on the characteristics of a room reset, to which the above considerations apply.
N.B.: On using the "Disabilitazione pulsante presenza display" (Disable display presence button) setting seen above, the only possible configurations will be those containing a reset input; in this case its behaviour will be equivalent to that of a room reset.

Lampade (Lamps) box.

Ign. guasto (Ign. failure).
This has the same functionality as the ignore failure for the inputs.

SYSTEM EQUIPMENT CONFIGURATION

TECHNICAL SETUP (MDV display)



It is physically and conceptually very similar to the MD display, but it was actually designed to be used with a very different operating philosophy, typically off-line, according to the exacting German standards of the VDE institute. Aside from the number of available inputs (5 against 4 of MD) and outputs (there is also the amber lamp for support calls), there are the following additions:

Power fault safe.

The change of state (call or presence) is saved in the device in a non-volatile manner; in the event of system failure, when the power supply returns it is able to communicate this state to the software and to the other devices on the bus.

Standard buzzer / lamp.

In accordance with VDE standards, the sound emitted by the display when there is a call and the way in which the lamps light up follows specific rules; with these two settings, you can make the display behave so as not comply with those rules, basically adapting to the known behaviour of the MD displays.

Standard call (VDE).

The MDV device, unlike the MD displays, is able to manage the call levels in VDE operation too; this setting lets you "downgrade" performance basically making it similar to that of the above-mentioned MDs.

A voice response cancels the calls (VDE).

In on-line mode this function is regulated by a single system parameter for all the devices; in off-line mode the ending of a call upon voice input can instead be set separately from display to display

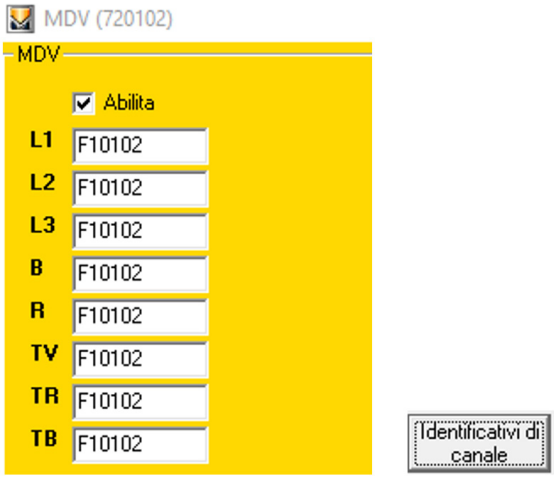
Indices of the MIE device.

When there is any off-line event, the MDV display is able to tell the ESPA Interface Module (MIE, see page 44) to which the receiver the corresponding message must be sent. The abbreviations above the text boxes mean: Bed 1, Bed 2, Bed 3, Bathroom, Reset, Green Button, Red Button and Blue Button. When an event occurs (eg. as in the figure a call from the bathroom), the module tells the ESPA interface that the portable device with a certain code (in this case 10, which in its turn will correspond to a certain phone number stored in the MIE device) must receive a message containing the information that a call has been made from the bathroom. If the call is not reset, it will be resubmitted to the MIE device after a number of seconds determined by the "Intervallo ripetizione avviso con lista di chiamate attiva e ripetizione chiamata off-line" (Alert repeat interval with list of active calls and call repetition off-line); after three times, it will be forwarded to the second specified number (11 in the example), and so on.

SYSTEM EQUIPMENT CONFIGURATION

Channel identifiers (Free-Text).

This function can be used for the VDE and OFFLINE modes only.
In an ONLINE system, the Free-Text function is deactivated automatically and only the standard room/ward is displayed.
Configuration can only be done using the software (Call-way ver. 2.10 and later) e successive) via an additional screen that can be seen from the main screen of the MDV display using the **Channel identifiers** push button (see figure below).



The that is assigned to the display module is paired by the TR function (red button).

Description of functions:
L1: bed 1
L2: bed 2
L3: bed 3
B: bathroom
R: reset bathroom
TV: presence
TR: call
TB: emergency

You will find the following on this new screen:

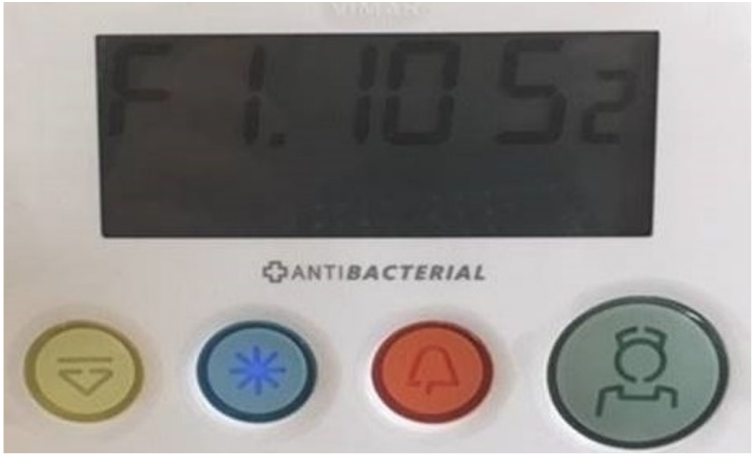
- a function enabling flag (Enable)
- eight boxes to assign - to each channel of the display - six ASCII characters tied to the possibilities offered by the seven-segment characters, i.e.: A, b, c, C, d, E, F, G, h, H, J, i, I, l ("i" lower case, "i" upper case, "L" lower case), L, M, (displayed as an upside-down "U"), n, o, O, P, q, r, S, t, u, U, numbers 0 to 9.

The configuration software automatically limits to the only characters that can be represented.

There is complete compatibility between new fw (Free-Text) and the previous one; if it originates from a module with new and configured firmware, the Free-Text displays will show the incoming call, whereas they will only display it according to the traditional (geographic) system if the incoming call is from a Free-Text module that has not been configured or from a module with previous firmware.

Non-Free-Text displays will always and in any case display the incoming call with the geographic mode, Ward, Room, Bed.

Below is an example of the Free-Text mode active on a display module 02081.AB.

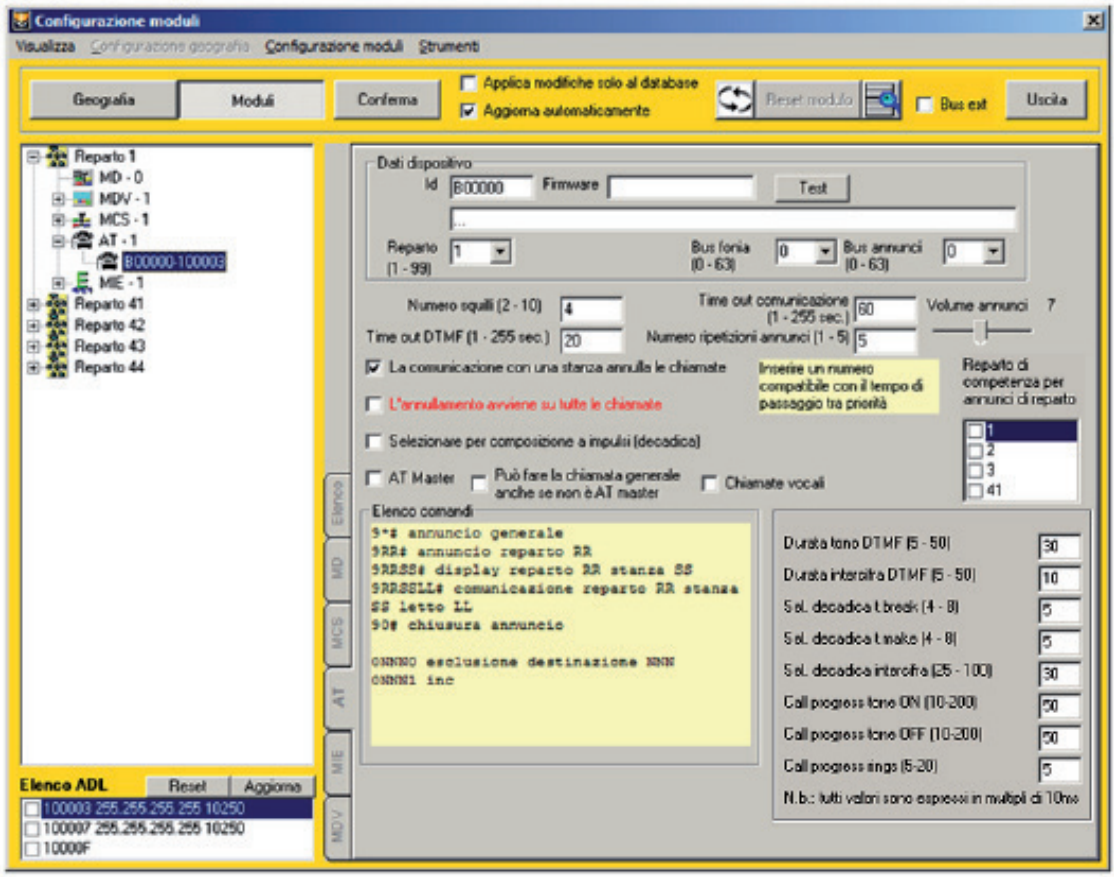


N.B. The Free-Text function is available on the Call-way software ver. 2.10 and later and on the display modules art. 02081.AB fw ver. 2019.

SYSTEM EQUIPMENT CONFIGURATION

TECHNICAL SETUP (AT telephone coupler)

The telephone coupler module (AT) is the link between the system and any telephone equipment. Through this interface it is possible to make general or ward announcements and voice communications with rooms and beds, as well as voice calls to telephones and system configuration operations. A VDE version of this device is also available (code 02078) and works paired with the Callway software in VDE mode (sniffer).



Numero squilli (Number of rings) (2 – 10).

This is the number of rings there must be between the start of the phone call to the AT (via switchboard) and its response.

Timeout DTMF (1 – 255 sec.).

This is the maximum time that can elapse between two successive DTMF tones sent to the AT before the communication with the telephone is interrupted. The interface is designed to receive DTMF tone sequences and to perform certain operations accordingly; this setting thus limits the length of time that can pass between pressing one key and the next on the connected telephone.

Timeout comunicazione (Call timeout) (1 – 255 sec.).

At the end of this time the communication to and from the AT is in any case cut off.

Numero ripetizione annunci (Announcement repetition number) (1 – 5).

When the system is configured to make voice calls to a phone this setting adjusts the number of repetitions of each message. The call timeout, the number of announcement repetitions and the time for passing between priorities (see below) are parameters to be configured carefully, otherwise you run the risk of getting truncated announcements, too many repetitions or high waiting times.

Volume annunci (Announcement volume).

If the telephone coupler is used to make general or ward announcements it corresponds to the volume set on the voice modules involved in the call.

Selezionare per composizione a impulsi (decadica) (Select for pulse dialling).

To be used when you cannot use tone dialling.

Durata tono DTMF / Durata intercifra DTMF (DTMF tone duration / DTMF interdigit duration).

During DTMF dialling they denote respectively the length of the tone sent and the duration of the pause between one tone and another.

Sel. decadica t. break / Sel. decadica t. make / Sel. decadica intercifra (T. break pulse dial. / T. make pulse dial. / Interdigit pulse dial.).

In pulse dialling, whose principle is based on controlled breaks in the line engagement current within preset values, each number is a grouping of one or more of these breaks. Therefore, for each single pulse t.make and t.break respectively indicate the duration of the opening of the line and the pause between one opening and the next, while the interdigit measures the interval between one group of breaks and another that make up each single digit.

Call progress tone ON, Call progress tone OFF, Call progress rings relate to the busy tone recognition window and represent respectively the duration of the tone, the pause between tones and the number of tones.

N.B.: The group of settings described above is valid only for AT devices whose firmware has a revision later than 26/1/2007.

Sequenze DTMF (DTMF sequences).

The tone sequences to AT are categorized according to the first digit of the message sent.

1. **Exclusion of destinations**. As already mentioned earlier, for a destination to be able to receive a call it must be in service. If for any reason, for example at the end of a shift, the destination (that is the person physically paired with that destination) should not or does not want to receive calls, typically in the case of a pager or cordless phones, she can exclude herself by entering a sequence containing:
   - 0 (operation code);
   - own code formatted according to the setting stored in the system setup window in the section for Calls / Formatting messages to AT
   - 0 (to be excluded) or 1 (to be included).

   Example: the destination with code 12 in a system with three-digit formatting must, in order to come into service, send **00121**, to be excluded **00120**.

9. **Annunci (Announcements):**
   - **9*#** general announcement
   - **9RR#** ward RR
   - **9RRSS#** ward RR room SS (room display)
   - **9RR*S#** ward RR corridor bathroom BS (B0, B1, etc.)
   - **9RRSSL#** ward RR room SS bed L
   - **90#** announcement close (via switchboard).

The next parameters are relevant only if you plan on running the system in on-line mode:

La comunicazione con una stanza annulla le chiamate (Communication with a room cancels the calls).

By starting a voice communication with a room or a bed from which a call has been generated, you can cut off that call without any staff needing to be physically present. It often happens that the patient's request can be met simply by listening to the voice of her request; with this setting, you can then end the call coming from a room without having to go there to press the green button.

Cancellation takes place on all the calls (displayed only if the previous one is active).

You can decide if on calling a room with AT all the calls need to be cancelled, including the bathroom calls, or only that of the room made directly via the display or input configured as a room reset. To prevent misuse of this functionality when you click on the checkbox you are prompted for further confirmation so that the user is warned of the possible consequences.

AT master.

This is the telephone coupler device capable of making only general announcements. In each system you can only have one master AT: any others that may be present are automatically set as slave ATs, that is they are not able to make general announcements. During a general announcement the communications made by other ATs are cut off and, thanks to the connection of the buses in cascade with the master AT, the audio communication is taken to all the system's announcement buses. The master AT cannot make any ward announcements and voice communications to rooms and beds.

It can make a general call even if it is not the master AT.

In the case of small systems, there might be only one voice bus and one announcement bus, managed by a single AT. In this case the only telephone coupler present must necessarily be able to make both voice communications and announcements of any type, including general ones, while not having the status of a "**master**".

Chiamate vocali (Voice calls).

As already mentioned, each call from a bed or room can be paired with a voice call generated by AT to a phone. In every system there can be only one AT assigned to carry out this task.

While the relevant Ward concerns exclusively the VDE systems.

Relevant ward for ward announcements

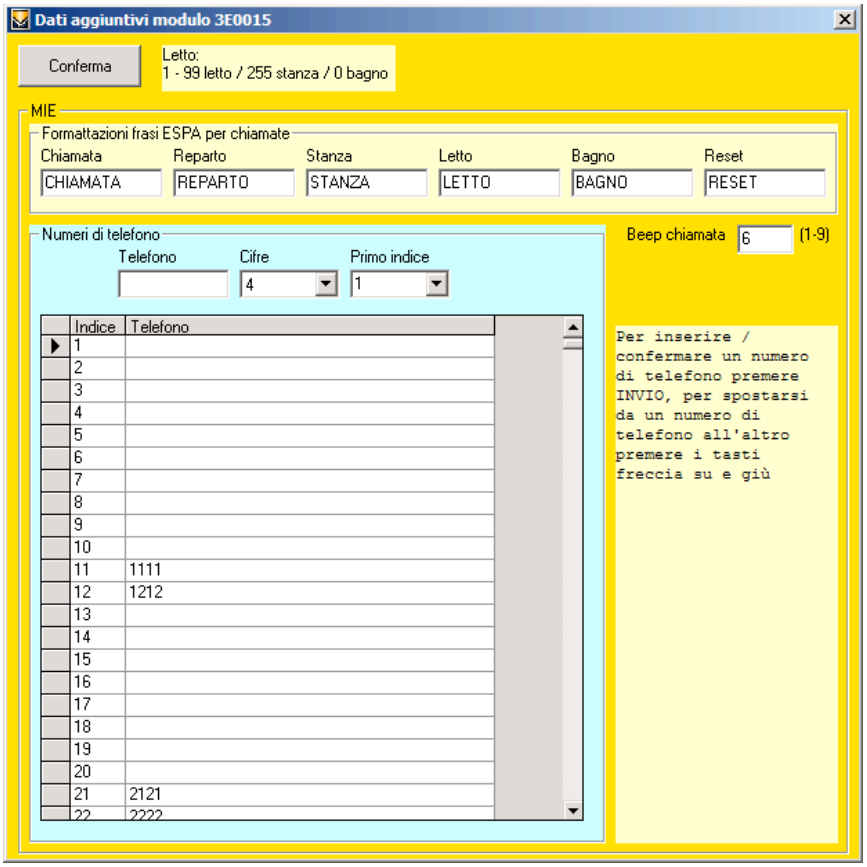
In VDE operation the coupler must be assigned the wards to which announcements can be made; if you try making an announcement to an unauthorized ward the characteristic "busy" sound is generated

Note: The phone couplers configured in the "bus ext." are ancillary functions so the parameters for on-line and "relevant ward for ward announcements" are not considered.

SYSTEM EQUIPMENT CONFIGURATION

TECHNICAL SETUP (MIE ESPA interface)

As already mentioned above, with the occurrence of certain events, the MDV display is able to "warn" the ESPA interface and this in turn sends a message to the receivers involved to describe what happened.



Formattazioni frasi ESPA per chiamate (Formatting of ESPA phrases for calls).

Each message sent to the relevant receivers has a well-defined structure in which the fixed parts relate to a description of the event and the location where it occurred. The figure shows the default settings, which can be varied at will by the user according to the requirements of the displays which will appear.

Numeri di telefono (Phone Numbers).

When the MDV display communicates with the MIE device it simply gives it the code of the destination portable device where the message is to be sent; according to the conversion table resident in memory the MIE is able to know the number of the portable device to be called.

- **Telefono (Telephone)**: to make an entry simply go onto the grid at the desired code, enter the new number in the box and press the Enter key; to delete a previously entered phone number simply select it on the grid and delete the data in the box
- **Cifre (Digits)**: the number of digits that make up each number must be set in advance in order to properly prepare for subsequent saving on the device. Any change to this data will delete all the numbers already entered
- **Primo indice (First index)**: if desired, the encoding of the phone numbers to be entered can start from a number greater than 1 (up to 255)

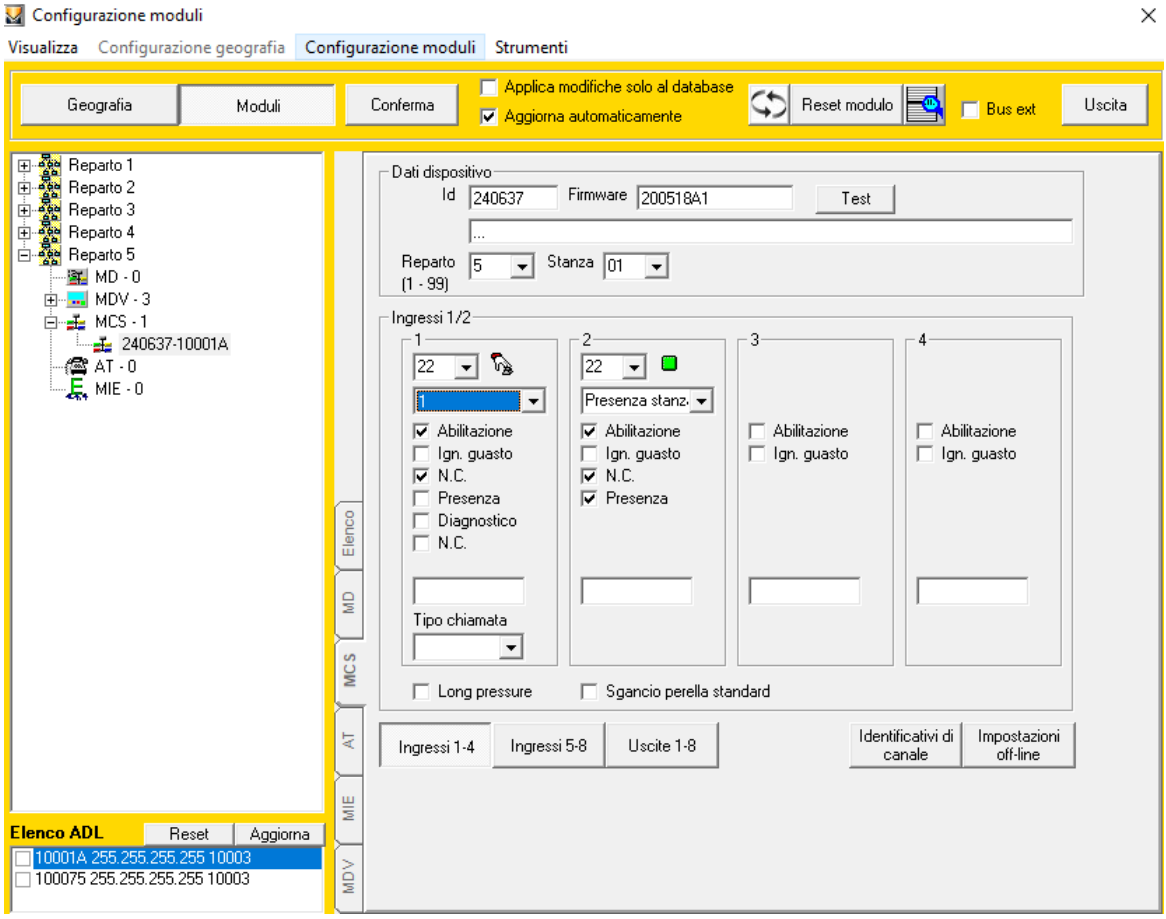
Beep chiamata (Call beep)

According to the ESPA standards you can specify the sound that the receiver emits on receiving a message. For the same code the sound may be different depending on the connected equipment.

SYSTEM EQUIPMENT CONFIGURATION

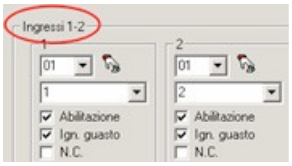
TECHNICAL SETUP (MCS signalling/connection module)

The 8-channel signalling / connection module has the same capacity for connecting the displays (except of course for the number of available inputs) but unlike MD and MDV it has no user interface and can only be configured via software. Call/reset inputs and lamps can be configured independently in term of the room they are associated with and the function they need to perform. The only constraint is that all card channels must belong to the same ward.



The eight inputs are divided into two screens with four connections each. For each input (or channel) and for each output (or lamp) there is a series of settings whose operating principle is the same for all of them.

First, the three buttons at the bottom let you choose whether to display the first four input channels, the second four or the output channels. The button pressed in the figure is **Inputs 1-4**



INPUTS

For each channel the first drop-down list represents the number of the room in which the input must be operational and is therefore the primary layout information; the room number of the module instead has exclusively descriptive functions

Each channel can be used as either a call or a presence input. For it to be a presence input, the Presence check box highlighted in the figure should be ticked

SYSTEM EQUIPMENT CONFIGURATION

If the input is a presence input the second list represents the type of presence.

Presenza stanza (Room presence).
The input has the same functionality as the green button on the display, that is it adds the presence in the room and removes any calls that may be present (including bathroom presences).

Annullo bagno (Cancel bathroom).
It is similar to Room presence, but unlike this it is not able to remove the presence; to do this you need to use the room display or another input configured as Room presence.

Note. In the case of a private bathroom it is not possible to configure an input as *Cancel bathroom* since it would not be possible to remove a presence, as the bathroom would be completely independent from the corresponding room and the presence inputs of this room would have no effect.

If the input is not a presence input, the second drop-down list contains the list of locations in the room and represents the entity from which to originate the call. From the figure we can see that room 1 has a bathroom and two beds: the input can be configured either on the bathroom or on one of the beds or as *Collective*, that is as a room call (equivalent to the red button on the room display). You cannot manually enter values that are not contained in the list.

Abilitazione (Enable).

Enables channel operation.

Ign. guasto (Ign. failure).

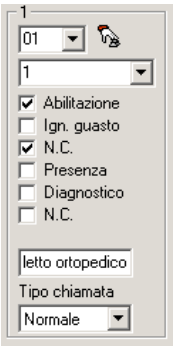
If one channel fails, the software is able to generate a corresponding normal level call. This setting is used to prevent a malfunction of the input (typically a bed tail call lead or a bathroom ceiling pull off the hook) causing the corresponding call. Such a failure will not even appear in the list of failed modules in the main window.

N.C.

Indicates whether the normal input must be considered normally closed; otherwise it is normally open.

Diagnostico (Diagnostic).

The system is able to manage dialogue with external machines too, such as dialysis machines or equipment for measuring pressure, designed to close (or open) an electrical contact at the end of a particular operation. The diagnostic input is designed to acknowledge the change in status of this contact and communicate this change to the rest of the system, generating a call.



N.C.

Similar to the previous one, but only for the diagnostic input.

Alias.

This is a text box where you can enter additional information regarding the channel with which it is paired.

Tipo chiamata (Call Type).

You can "fix" the call level associated with a channel, regardless of the actual situation. With the example in the figure, when there is an event coming from channel 1 of the device the displayed call will always be the "Normal" level.

Sgancio perella standard (Standard tail call lead unhooked)

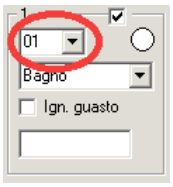
With this setting, you can decide whether to have the display emit an acoustic signal if the tail call lead is unhooked from its socket outlet; the control display, the corridor display and the software management screen will show a tail call lead fault message.

The signal can then be reset in a similar way to that of a normal call.

SYSTEM EQUIPMENT CONFIGURATION

OUTPUTS

As regards the lamps instead the following considerations apply. As for the input channels, the first drop-down list represents the paired room:

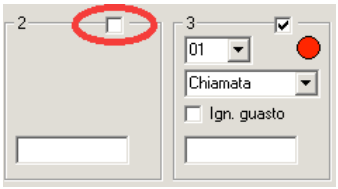


The second list instead sets the type of event for which the lamp is to light up:

Call:	red lamp	call from room or bed
Bathroom:	white lamp	call from normal or private bathroom
Presence:	green lamp	room presence
Diagn./assist.:	amber lamp	diagnostic call or call for assistance

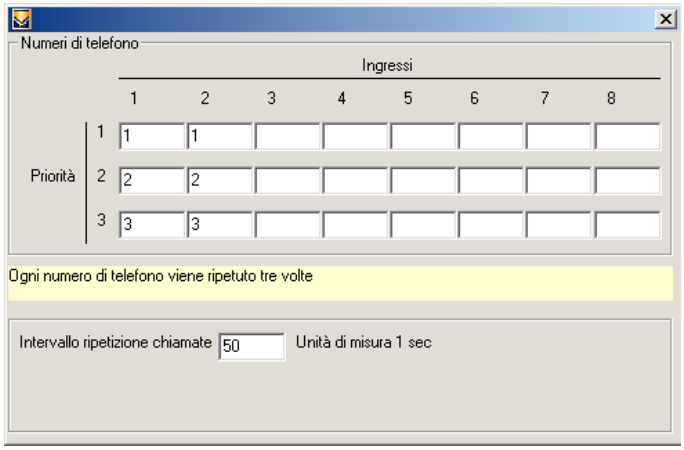
The checkbox indicates enabling the signalling channel; if the checkbox is not ticked the corresponding lamp will never be turned on.

Ign. guasto (Ign. failure)
has the same meaning as above, with regard to the input channels. A lamp failure is never reported.



Note that the colour shown on the setting window does not necessarily match the colour of the lamp physically connected to the input, since there is no (and there could be no) corresponding control

The **Impostazioni offline (Offline settings)** button takes you to another configuration window



that allows you to enter all the parameters that are required for the module to operate in offline mode, ie:

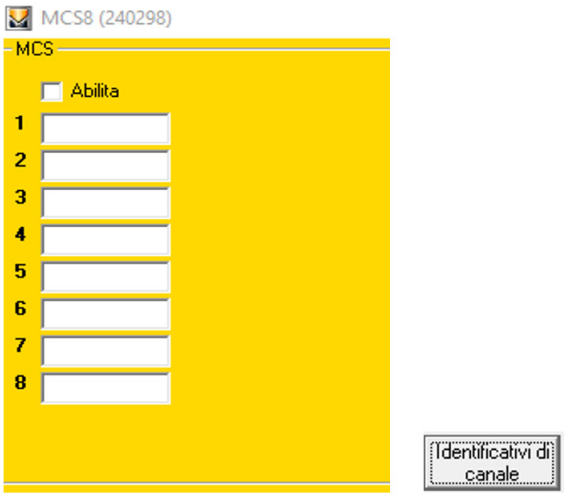
- the phone numbers stored in the MIE device
- the call repetition interval

Note: The screen shows only the enabled inputs.

SYSTEM EQUIPMENT CONFIGURATION

Channel identifiers (Free-Text).

This function can only be used for the VDE and OFFLINE modes (the MCS 8-channel module does NOT have an ONLINE mode)
The geographic configuration of the module (Ward/Room) remains compulsory to retain retro-compatibility with the Call-way system operating mode; it will therefore always be necessary to assign a geographic "Ward/Room" position to the modules.
Configuration can only be done using the software (Call-way ver. 2.10 and later) e successive) via an additional screen that can be seen from the main screen of the MCS display using the **Channel identifiers** push button (see figure below).



You will find the following on this new screen:

- a function enabling flag (Enable)
- eight boxes to assign - to each channel of the module - six ASCII characters tied to the possibilities offered by the seven-segment characters which can be viewed on the display, i.e.: A, b, c, C, d, E, F, G, h, H, J, i, I, l ("i" lower case, "i" upper case, "L" lower case), L, M, (displayed as an upside-down "U"), n, o, O, P, q, r, S, t, u, U, numbers 0 to 9.

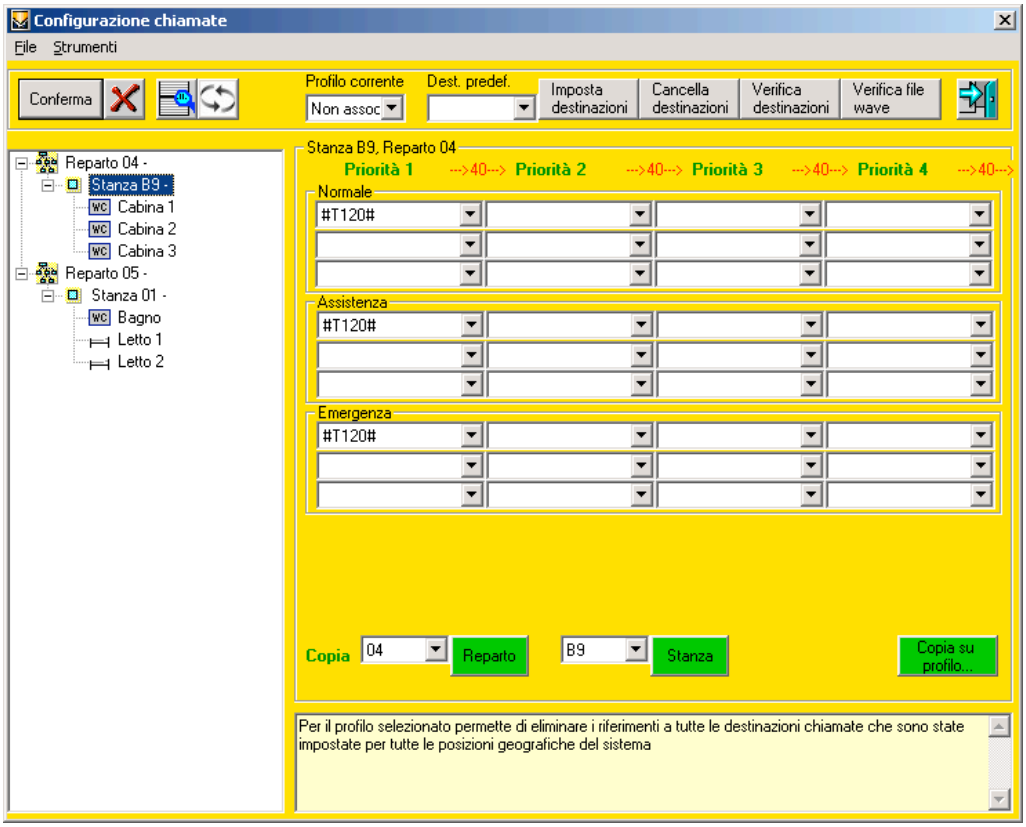
The configuration software automatically limits to the only characters that can be represented.

N.B. The Free-Text function is available on the Call-way software ver. 2.10 and later and on the MCS 8-channel modules art. 02096 fw ver. 2019.

SYSTEM EQUIPMENT CONFIGURATION

CONFIGURING CALLS

It can be said that much of the operation of the system depends on correctly setting call redirecting to the displays, phones and pagers. The window dedicated to these settings allows you to manage the call "traffic" with priority timing and levels of urgency according to the most widespread needs of the facility.



On the left the classic tree object represents the system layout, as already seen in the technical set-up window. On the right the drop-down lists contain a list of the various destinations that can be paired with each call level, each priority and each condition of pairing wards; depending on what is selected on the left tree (room, bed or bathroom) the drop-down lists display the destinations that must respond to a call from the corresponding geographical entity, according to the following scheme:

Selected object.	View.
ward	you cannot pair any destination because there is not the concept of a ward call
room	you can set the destinations for normal, assistance and emergency but not technical call levels
bed	as the room, but with the ability to set destinations for the technical level too

It is important to underline that the object with the tree structure of the call configuration window has identical features to those of the similar object in the module configuration window in layout mode, in particular with regard to the change in description of the wards and rooms.

SYSTEM EQUIPMENT CONFIGURATION

Buttons.

OK (CTRL+S)

Used to confirm any changes made to the various configurations of beds, rooms and wards. Closing the window without confirming will result in the cancellation of these changes and restore the previous situation.

ANNULLA (UNDO) (CTRL+Z)

After making some changes to the call configuration it may be necessary to return the situation to the last confirmation: this button produces this result. The restored data are not immediately re-displayed (see below).

PREVIEW (CTRL+A)

You can get a print preview of the situation of wards / rooms / beds; the call configuration is not shown for reasons of space.

REFRESH (F5)

This is used to refresh the display, if you are not sure that the data shown correspond to what is actually saved; especially useful when any configuration changes have been undone with the dedicated button (see above).

ESCI (ESC or ALT+F4)

To exit the window.

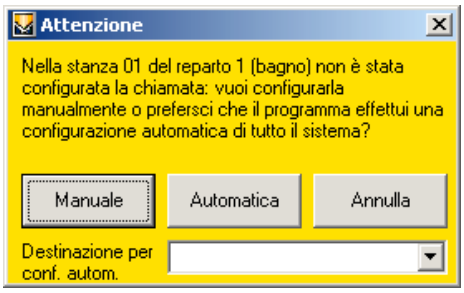
It lets you automatically set the destinations for all those locations that do not have them. That is, for each room, bed and bathroom in the system (the pairing profile is chosen via the window

that appears during the operation) it sets a generic destination that is able at least to send calls to the supervision display; unless specified via the drop-down list

the program uses the first one it finds in the registry, if it does not even find one it creates it automatically.
If for a location, a call level and a priority, there is the setting of even just one call destination then the automatic setting is not performed.

This button is used to clear the settings of the call destination (the profile is chosen in a similar manner to what happens during the setup phase); both the automatically entered settings and those entered manually are deleted.

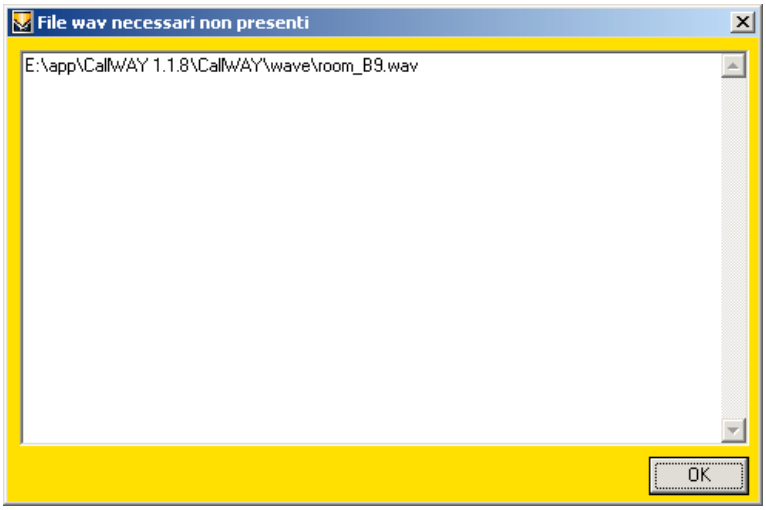
You can use this button to be able to quickly check whether there are any locations for which no destination has been set. If the configuration is correct, a corresponding message is shown, otherwise another window will open



which shows the first location where no destination has been set. On pressing the "Manual" button the call configuration window beneath refreshes the view automatically going onto the location indicated by the relative profile. Otherwise, on pressing the "Automatic" button the software sets the selected destination (if none is selected it takes the first one it finds in the registry, if necessary it creates one if there is none) on all the locations and for all the profiles on the first level of priority; any settings already present on that priority will be overwritten, while on the other levels the settings are left unchanged. This automatic mechanism also creates profile "1", if it does not exist, and ensures that in this profile all the wards see all; in addition, it sets the pairing time slots so that for profile "1" the wards are paired from 00:00 to 24:00 hours every day, that is they are always paired (any settings already made on the time slots are overwritten). The above-mentioned window is opened in any case when the server starts if there is at least one location for which no setting has been made.

Verifica file wave

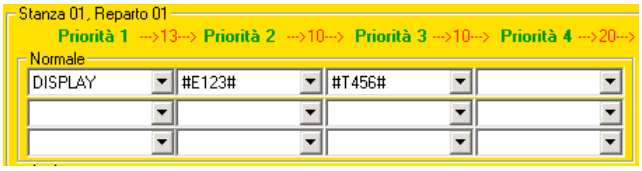
When the telephone coupler is used to make phone calls when calls are made by the patient ("chiamate vocali" (voice calls) setting on), if you do not use speech synthesis, the "wave" subfolder must contain appropriately constructed media files (see below for the voice server). Depending on the configuration of the calls these files might only be required for certain locations of the system and not for all of them; this button provides the opportunity of checking in advance whether the required files are actually present in the "wave" subfolder or, alternatively, it provides a full list of the files needed and not present, as in the example figure:



Similarly to what happens for the window for controlling the call settings for the locations, when the server starts, an automatic check is also made on whether there are these files and the window could therefore open if this check fails.

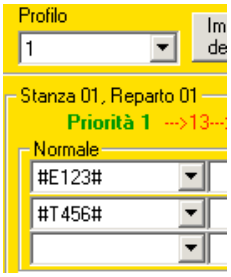
Priority cycle.

The program requires that, at the end of the priorities set for each room or bed/bathroom, the cycle of calls resumes from the beginning. The various times can be set with the program setup window (see above); in particular, it is important to note how the time associated with the last priority corresponds to the waiting time for the transition from that priority to the first one in the cycle. If for a given priority the destinations to call are not entered, the cycle will simply be shortened, basically "skipping" the priority that has not been set and passing on to the next one, respecting the time associated with the previous one. In the call configuration window the numbers in red indicate the various transition times in seconds. In the example in the figure for the first priority, with a duration of 13 seconds, the destination "Display" has been set; for the second one, lasting 10, destination "Espa" with code 123, etc. If no destinations are entered the call will only be shown on the supervision displays.



SYSTEM EQUIPMENT CONFIGURATION

It should be stressed that the specified destination or destinations for a given location, given priority and given call level may vary depending on the time slot, according to the current wards pairing profile. For example, the following figures show that



in the case of a call from room 1 of ward 1 when the wards are not paired during the first priority the call destination will be the generic display, while during the same priority with the wards paired according to profile 1 the call destinations will be the espa device 123 and phone 456.

Copy Settings.

With a few simple steps you can configure the calls of the entire system. Simply set a bathroom or a bed and a room and copy the situations of all the other entities using the buttons shown in the figure:

- **Letto/bagno (Bed/bathroom)**: this is active only by selecting a bed or a bathroom of a room, private or otherwise; it is used to copy the selected node, whether a bed or bathroom, to all the other beds or bathrooms in the room; if the selected bed does not contain any settings, the copy will delete any settings already present on the other beds.

- **Stanza (Room)**: you can copy the selected room (ie the room where one of the beds is selected) to any other room. The copy works by taking the first bed in the room as a sample and overwriting the settings of the beds in the destination rooms; if there are no settings for the sample bed or the selected room, any existing settings for the destination rooms will be deleted; room and beds are copied separately. due to the fact that the room settings may differ from those of the beds it contains. You can copy a room simultaneously to all the rooms in the ward; the original room and the relative sample bed are not overwritten in this phase. Finally, you can also copy the room to a selection or a range of rooms specifying the desired destinations in the text box (use a comma to specify single room numbers and a hyphen "-" to separate the starting number and the final number of a range)

- **Reparto (Ward)**: equivalent to copying the selected room to all the rooms in the chosen ward; the difference lies in the fact that in this case the first room in the ward is taken as the sample; as in the cases described above, if there are no settings for a source entity, any existing settings in the destinations will be deleted; furthermore, a ward cannot be copied onto itself. You can finally copy the selected ward to all those present in the building; in this process the original ward is not overwritten.

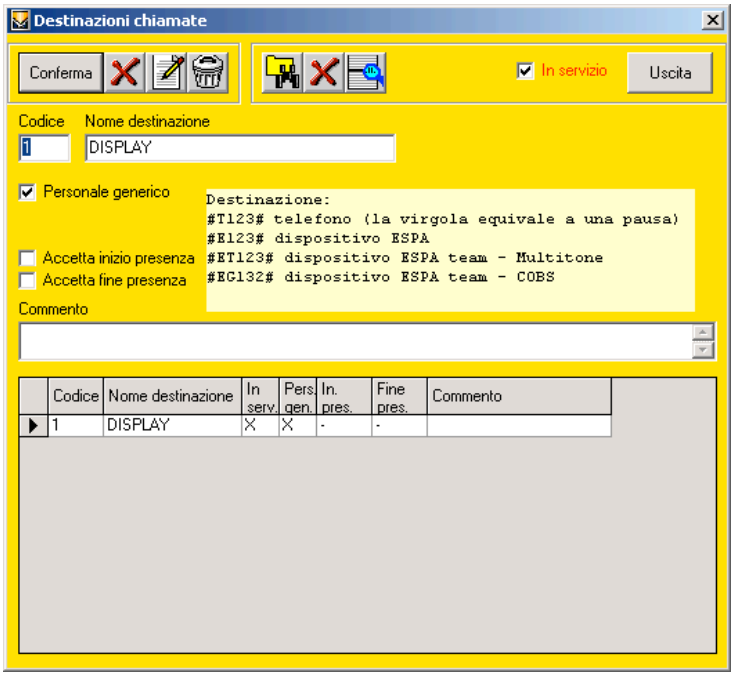
- **Copia su profilo (Copy to profile)**: all the settings of the current profile can be copied to another profile or even to all the profiles

It is understood that copying any setting (not copy to profile) is done only for the selected ward pairing profile; a copy operation for a profile does not affect the configurations of the calls of other profiles, for which it will therefore be repeated (if necessary).

SYSTEM EQUIPMENT CONFIGURATION

CALL DESTINATION

Call destinations are those devices capable of informing staff of the call and presence statuses of the entire system, such as displays (supervision or normal), pagers, phones, etc.

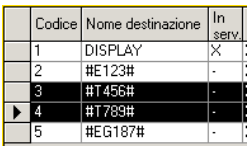


In servizio (In service).

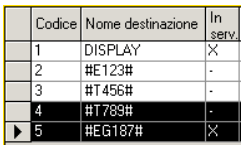
For a destination to be operative it must be considered "in service", otherwise any calls to it will be lost.

To change the state of service of multiple destinations at the same time, select multiple rows on the grid with the CTRL key, check or uncheck the "In Service" checkbox and press the "Confirm" button to save the data permanently on all the selected destinations (an "X" will appear in the "In serv." column if in service).

If the selected rows correspond to destinations whose "in service" property is not homogeneous (in the figure destination 5 is in service, while 4 is not) the checkbox will be shown in grey.

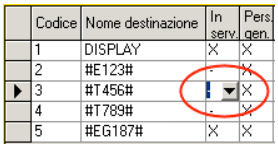


	Codice	Nome destinazione	In serv.
	1	DISPLAY	X
	2	#E123#	-
	3	#T456#	-
▶	4	#T789#	-
	5	#EG187#	-

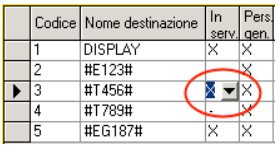


	Codice	Nome destinazione	In serv.
	1	DISPLAY	X
	2	#E123#	-
	3	#T456#	-
	4	#T789#	-
▶	5	#EG187#	X

You can also change the "In service" property of a destination by pressing the button on the "In service" column of the grid; in this case, the data are saved at the same time and it is not necessary to press the save button.



	Codice	Nome destinazione	In serv.	Pers. gen.
	1	DISPLAY	X	X
	2	#E123#	-	X
▶	3	#T456#	-	X
	4	#T789#	-	X
	5	#EG187#	X	X



	Codice	Nome destinazione	In serv.	Pers. gen.
	1	DISPLAY	X	X
	2	#E123#	-	X
▶	3	#T456#	X	X
	4	#T789#	-	X
	5	#EG187#	X	X

Personale generico (General staff).

Regardless of the nature of the destination, with this setting the call is forwarded also to display with presence, as well as to the equipment for the type of destination

SYSTEM EQUIPMENT CONFIGURATION

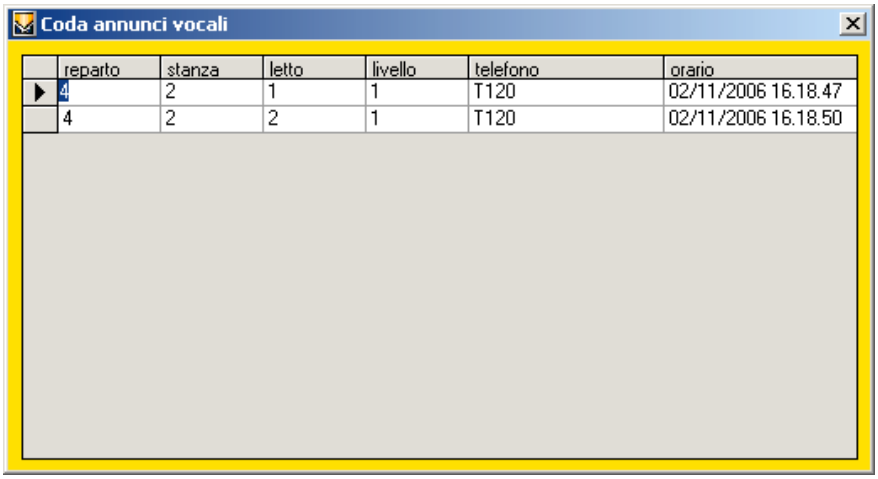
Accetta inizio / fine presenza (Accept start / end of presence).
The device corresponding to a destination can also receive the signal for the start and end of the presence of a destination in a room. Devices classed as "phones" and "pagers" are not able to interpret this information correctly, which should therefore be restricted to ESPA equipment (see below).

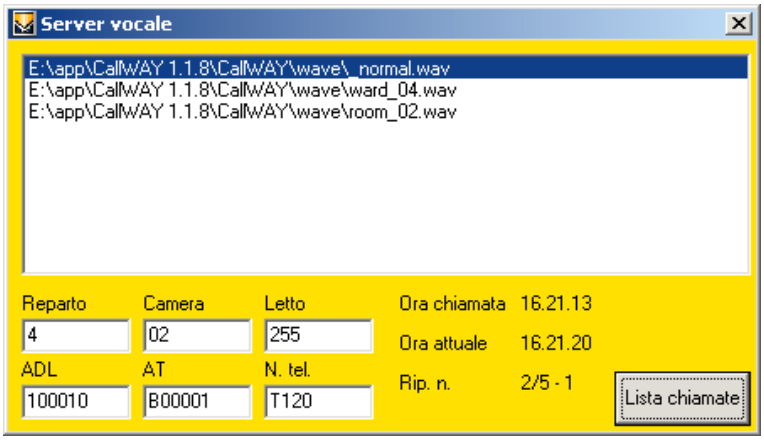
As seen above, destinations are used in the call configuration window to decide how and where to redirect the different calls depending on the time and level of the event. The name of the destination distinguishes the method of sorting a call, as shown in the following diagram:

Destinazione normale (Normal destination).
if the name does not contain "#…..#" the destination represents the display with presence

#Enn#
represents a call to equipment with ESPA protocol.

#Tnn#
is the phone that is called by the AT to make a voice message; to insert a pause in the dialling sequence you can use a comma (eg. #T0,0029372315# where the first 0 to "exit" the switchboard is followed by a pause before dialling the number itself). The structure of the system is such as not to allow for these purposes the simultaneous use of more than one **AT**, as mentioned in connection with the settings in the module setup window. This kind of architecture therefore requires a **queue of voice announcements**, such that messages that cannot be transmitted immediately end up in a queue from where they are gradually processed by the **voice server**.



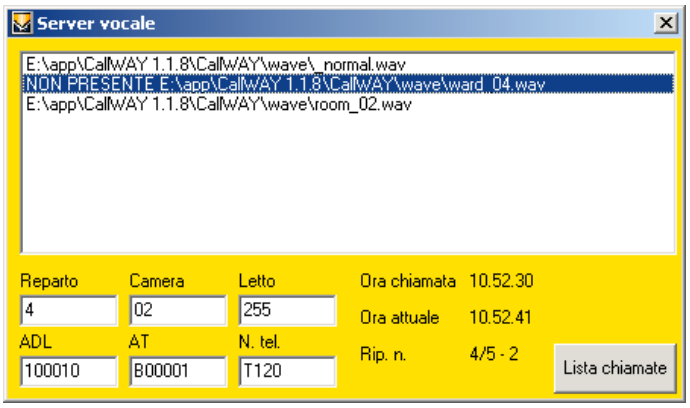


SYSTEM EQUIPMENT CONFIGURATION

The corresponding window shows some data on the voice call in progress, such as the ward, the room and the bed from which the call is coming, the telephone coupler module used, the ADL module to which it is connected, the phone number, the voice file currently processed, etc. The following concepts are fundamental:

- the method of entering /processing messages is FIFO (first in, first out), regardless of the level of the call
- each message is repeated a certain number of times, which can be set among the various parameters of the AT; at the end of the repetitions, the line is cut off and made available for any other messages in the queue
- if the phone line relay is busy due to voice messages for the AT, no message is processed and the call queue gets longer until the relay is released or the call from the room is cut off
- the communication timeout (AT parameters) must be set carefully, otherwise the line could be cut off before the voice server has finished repeating the current message, which is therefore transmitted without anyone listening to it
- the voice files must be in the "wave" folder in the path for running the program; the file names must have the following format (clearly with the extension .wav):
    - ward **ward_xx**
    - room **room_xx**
    - voice bus busy **no_sp_c**
    - bus error **bus_err**
    - incorrect command **no_cmd**
    - normal call **_normal**
    - call for assistance **_assist**
    - emergency call **_emerg_**
    - technical call **_diagn_**
    - non-existent room **no_room**
    - start of communication **strt_sp**
    - on answering **strt_lk**

- on adding a presence in the room from which a call comes, the corresponding voice message is interrupted, the line is cut off and any calls in the queue from that room are deleted
- if a file is not present it is still queued in the voice server, preceded by the words "NOT PRESENT", but obviously it is not processed in any way:

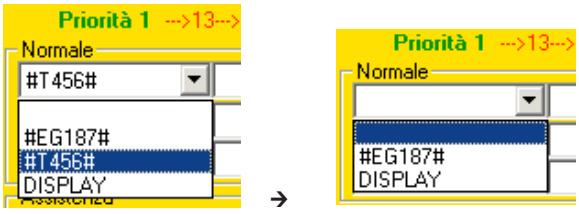


- as seen earlier regarding the system settings, if you choose to use speech synthesis as the tool for transmitting messages via AT the considerations about the voice files lose their meaning. It is also wise to specify that the "speechPlugin.exe" plugin, in the computer's tray next to the clock

and intended for speech synthesis only works if the desired language package is installed correctly. This package is freely distributed by Microsoft, but it is also provided on request in the software installation setup.

The window for the "**Coda annunci vocali**" (Voice announcements queue) and the "**Voice server**" can be safely closed (actually hidden) during the execution of a voice message without their activity being interrupted; the voice server will still be re-displayed every time it will have to process a new call (only with one user logged in).

If the "in service" setting is changed for a destination, either manually or with the procedure of self-exclusion via AT, this destination (in this example #T456#) it will no longer appear in the list and it will no longer be possible to set any other call priorities to it; obviously all calls already assigned to it will not be forwarded accordingly.



SYSTEM EQUIPMENT CONFIGURATION

COMMON FUNCTIONS

This manual describes the operation of some buttons in the call configuration window (OK, CANCEL, PREVIEW, EXIT and REFRESH). These buttons can also be in other windows, paired with identical functions, along with others briefly summarized here:

Inserisci (Add).

Used to add a new record. Generally in windows where it is used there is a grid and a series of text fields; to actually add a record you have to press this button, fill out the required fields and confirm by pressing OK: only at this state will the new record appear in the list of data in the grid. (For data already present, you need to select the desired record in the grid, edit the text fields as desired and press OK to confirm the operation)

Elimina (Delete).

Used to delete a record. Generally, you are prompted for confirmation before actually deleting; once done you cannot recover deleted data


Ricerca / Annulla criteri (Find / Cancel criteria).

Usually these buttons are always combined. The first one is used to find and display data after setting a specific criterion, while the second one cancels any search criteria set. The search criteria consist of a reduction - of course only in view mode - in the number of records contained in the database; typically, in a staff registry you could want to find all the names that begin with "#T" (for phone calls) or those whose phone number contains "01234", or more besides. To do this you simply need to press the clear criteria button (if there already are any), enter the desired criteria (see below) and press "RICERCA" (SEARCH): the searched data (if present) will be displayed in the grid according to a variable sort order depending on the window; to sort on a column in the grid of your choice, simply click on the column header.

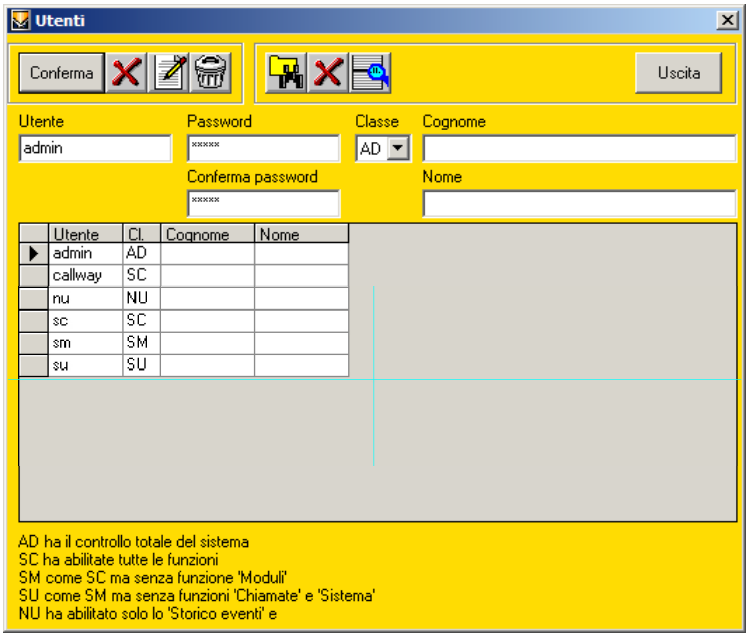
Search criteria for fields that...		
...begin with “AB”	...contain “AB”	...end with “AB”
AB*	*AB*	*AB

SYSTEM EQUIPMENT CONFIGURATION

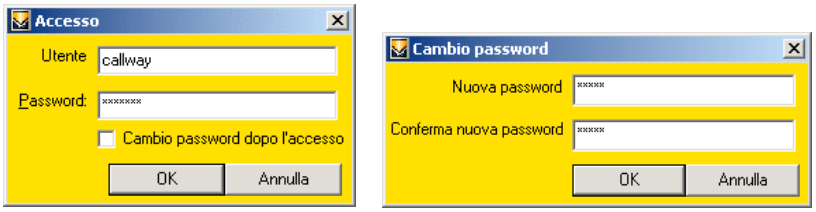
USERS

To introduce the concept of safety, a sophisticated mechanism has been implemented that allows you to intervene in a targeted manner on the running of the program and inhibit or permit the use of certain features depending on the user that is currently operating; with a capillary control that reaches even the smallest object in the various windows it is possible to maintain an extremely high level of safety.

The concept of "user" enables managing the authentication procedure in a "custom" manner. First, there may be multiple users belonging to the same class, each one different to another as regards the allocation of permissions; then the password is also different, which each user is able to change independently without having to intervene on the software.



The user management window has all the features already described above; in particular, the "class" is what determines accessibility to the functions of the main window: depending on the class of the user who is using the program the buttons and menus are enabled and/or made visible, inhibiting users of a lower class to use functions for which they have not been authorized. As mentioned above, at the time of "logging in" the user is given the option to change the password:



simply fill in the username and password correctly, tick the "Cambio password dopo l'accesso" (Change password after access) box and press ok; in the window that then opens you can specify the new password (to be confirmed), which can be blank. The default user is "callway" with the password "callway".

Users of class SC (System Configurator) can set the menu item "Modalità prova al riavvio" (Test Mode on restart) that enables restarting the program with the server disabled and the "admin" user already authenticated; the advantage of this feature consists in being able to immediately reach the various functions and the various windows of the program without having to "log in" and manually deactivate the server. With a "logout" the special mode described above is abandoned and on rebooting the program will restart with the server active without any user logged on.

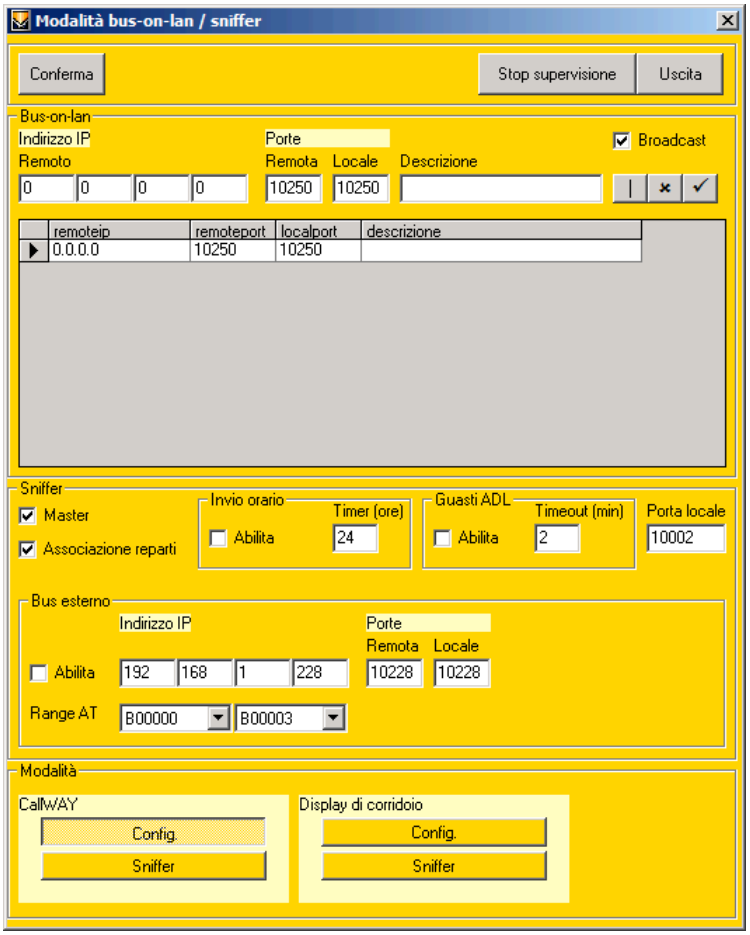
The class AD user (administrator) has the same power as that of class SC but is also able to view certain items or use certain features of the program that are typically more the responsibility of the specialized installer than the hospital staff.

SYSTEM EQUIPMENT CONFIGURATION

BUS-ON-LAN / SNIFFER / MODE

Taking the relevant basic concepts for granted, first of all it should be stated that, although being able to choose to work with either the TCP or UDP protocol, the latter ("connectionless") is certainly to be preferred thanks to a higher data transfer rate and a lower utilization of the network. Aside from the convenience or of one type of protocol rather than another, the configuration window is essentially divided into four zones:

- Bus-on-lan
- Sniffer
- External Bus
- Mode



Bus-on-lan

In addition to (and not replacing) the serial port, the network allows the program to communicate directly with the ADL modules and with all the other connected modules basically "skipping" the protocol converter. Each ADL conceptually corresponds to a network connection, or a line on the grid of the window. Each connection is characterized by:

- IP address — the network address of the device type ADL
- Remote port — the port on which the ADL listens for incoming signals from the computer
- Local port — the port on which the computer listens for incoming signals from the ADL
- Description — a short free-text completing the essential information

To add a connection simply fill in the four fields of the remote address, the remote and local ports and press the button with the vertical bar |. Some considerations:

- it is wise to choose a value for the local port that is not already in use or in any case not inconsistent with other applications that are already on your computer; if in doubt you should consult your system administrator
- you cannot use the same local port multiple times: every connection must match a different local port
- the address and the remote port on the computer must match the corresponding local values on the ADL device, and vice versa; the network card of the ADL is configurable via browser

SYSTEM EQUIPMENT CONFIGURATION

Broadcast.
If you are using the UDP protocol, you can also use this setting to avoid having to set the network addresses: each device used (computer and ADL) will necessarily have its own local address, but the "reciprocity" of the values will no longer be mandatory. When broadcasting speech, all the devices listening on a specific port receive the same message at the same time because the transmission has not been made to a particular address, but to all the devices that are configured to use that port. Also in this case the **local** port on the computer and the **Remote** port on the ADL must coincide, likewise the **Remote** port on the computer and the **local** port on the ADL (case 1); for simplicity, you can configure the four ports involved in the communication with the same value, especially when the there is more than one ADL on the bus (case 2).

	Computer		ADL	
	Local port	Remote port	Local port	Remote port
Case 1	A	B	B	A
Case 2	A	A	A	A

The **Stop supervision (VDE)** button is used to send a command to all the connected ADL modules that forces the end of operation in VDE mode. To be able to return, simply perform a complete system reset.

Sniffer

During operation of the system in sniffer mode, the software is able to "listen" passively to messages travelling over the bus and operate accordingly, representing the current situation of calls, presences, failures and so on on a specific graphical screen (corridor display, see below). This listening is guaranteed by the network ADL devices, but unlike the bus-on-lan mode, it is possible on a single local port. Some features are available regardless of the standard used, while others concern only the VDE standard, as specified in the following notes.

Master.
If this setting is not active, it is not possible to use the following "Associazione reparti" (Ward pairing) and "Invio orario" (Send Time) either.

Associazione reparti (Ward pairing) (VDE).
In reality the sniffer is not completely passive but is also able to communicate with the ADL modules sending them specific operating commands. One of these commands is related to ward pairing, necessary because the time slot configuration table is not in the MDV displays. With this setting the software, in accordance with what is specified in the above-mentioned time slots, communicates to the various displays the new profile to be used according to the day and time.

Invio orario (Send time) (VDE).
Since the MDV displays are not equipped with an internal clock, the only way for them to show the current time is for the computer to refresh it periodically. The interval can be set as preferred from a minimum of 1 hour to a maximum of 99 hours; typically sending once every 24 hours is sufficient to ensure a good level of accuracy and not overly burden the network traffic.

Guasti ADL (ADL failures) (VDE).
Failure of the modules connected to the ADL is automatically detected by the ADL themselves and communicated to the software, which then in its turn adequately represents the information received. But if the failure regards an ADL it is obvious that the data cannot be provided by the module that has failed; in this case the software is designed to periodically receive a signal from each ADL, if no signal is received after the specified timeout then the software considers the module broken and highlights its status as any other module.

Porta locale (Local Port).
This is the one on which converge all the streams of information from the network ADLs during "passive" operation of the program. To be able to "sniff" all the ADLs simultaneously and without distinction it is necessary for the remote port on all the modules to coincide with the local one on the computer.

External Bus

As mentioned above, in addition to the serial and network connections mentioned above it is possible to use another one (still a network one) on which to connect a device of type AT that can handle voice announcements during operation in VDE mode. The AT device settings are the same as those already seen in the specific section.

Abilita (Enable) authorizes opening the network connection

Indirizzo IP (IP address) is the address of the MSE device to which the AT is physically connected

Porte remota/locale (Remote/local ports) it is essential that the chosen values do not match others already used in the bus-on-lan and sniffer section

Range AT (AT Range) since the MSE device is not able to do it independently, the self-recognition of the modules connected to it is accomplished by a technique of "polling" on the predetermined range; as already seen, the desired AT module can also be added manually

The MSE 02079 device must be configured through channel 1 (as opposed to ADL 02094 which is configured in channel 2) and must be automatically recognised via the external bus.

SYSTEM EQUIPMENT CONFIGURATION

Modalità (Mode)

In a single step it enables choosing the graphical appearance and the operating mode of the program.

CallWAY / Display di corridoio (Corridor display).
Determines the graphical look: CallWAY is the traditional graphics most suited for the configuration/maintenance mode, that is to be able to view the events occurring on the system and also to communicate with the modules and configure them as needed. The corridor display (see page 68), graphically more modern and attractive, is suited for "passive" use of the program, but in any case allows intervening on module programming.

Configurazione/Sniffer (Configuration/Sniffer).
With the first option it is possible to dialogue with the bus and perform system configuration/maintenance operations in which mode the VDE is invalidated.
When instead it is in ***sniffer*** mode the program, except for the cases seen above and regardless of the chosen graphics mode, listens for what is needed on the bus but does not actively intervene on the **VDE MODE** modules.

SYSTEM EQUIPMENT CONFIGURATION

SELECTING THE SYSTEM OPERATING MODE

Description of the operating modes

The system operating modes are the following four:

Online

The software continually queries the ADL modules to check whether there are any communications from the devices (calls, presences, etc.).
Each acknowledged event is first displayed on the main screen and stored in the logs (if it belongs to a category of which you want to keep track), then it is forwarded to other devices such as displays, telephones, pagers, etc. depending on the time and the state of the pairing of the departments.
Bus device failures are reported directly by the ADLs to which they are electrically connected while failures of the ADLs themselves are detected following a failure to communicate between the governing PC and the ADLs. Online mode is only possible if the system includes a PC on which Call-way software is installed.

Offline

In offline mode there is not the repeated querying of the ADL modules; the software is thus not able to receive any events from the bus and therefore it is in a completely inert state in which it basically performs no operations.
The various devices in the system are able to work all the same and the call service is still guaranteed; in this case, however, events cannot be saved in the logs and they do not pass through the various secondary backbones (communication between different bus branches connected to different ADLs is not possible).

Sniffer

This mode is similar to offline mode but, being enabled to receive on the appropriately configured port, the software acknowledges the events which occurred on the bus, and it displays and saves them in the logs; it is also able to govern the state of department pairing and also send the exact time to the various displays that are present.
The only faults detected are those of voice units and lamps and are communicated directly by the modules involved.
From the point of view of the devices on the bus, sniffer and offline modes are completely equivalent

Sniffer VDE

In this mode the continuous querying of the status of the devices is carried out by the ADL modules and the events detected by the software include, apart from calls and presences, faults of the modules too.
The faults of the ADLs are diagnosed after failure to receive the periodic keep-alive signal (the so-called "heartbeat").
If the periodic querying by the ADL fails, the devices automatically return to sniffer/offline mode and the related status of malfunctioning is indicated not only by the software but also by the displays with presence or supervision via a flash of the yellow push button
In this mode, if the ADL devices are appropriately set (ie themselves in VDE mode via DIP-switch 8 set to OFF), you can pair departments configured on the bus branches connected to different ADLs.

Connection between backbones

The data transfer from one backbone to another takes place differently depending on the state of the software and of the system:

- Config:
  - on-line: depending on the pairing status, the software distributes the information among the various departments.
  - off-line: the modules remain in the last state of pairing in which they were set; the same considerations then apply as for Sniffer mode (see the next point)
- Sniffer VDE: If the network settings of the ADLs are correct, the messages pass freely from one backbone to another and it is the displays that then choose whether to display the received data according to the pairing state of the departments. This status is determined by the software via a command sent over the network at the appropriate time with which the pairing profile to be used is communicated to the devices present; since on the buses there is no device equipped with an internal clock, if the software is not operational, the current pairing profile remains active indefinitely, unless determined otherwise by a combination of push buttons on the displays. In traditional Sniffer mode the messages that travel on the bus remain confined within each secondary backbone and they are not transmitted to the outside.

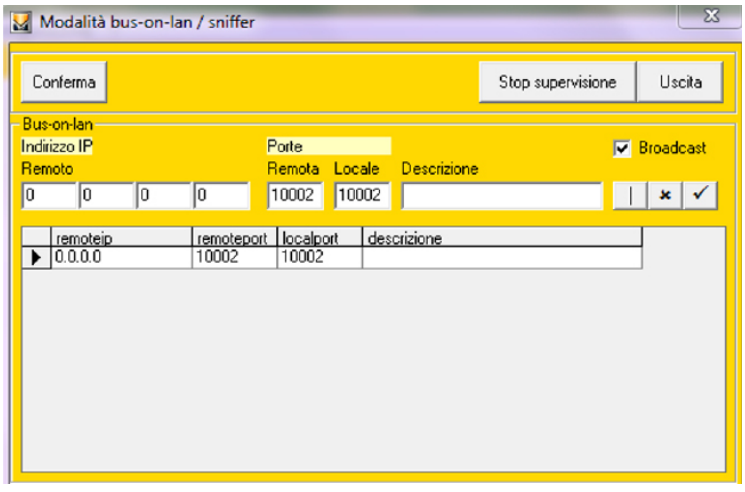
Network Configurations

The network configuration of the ADLs, accessible via browser, basically includes:

- a local port on which the device acknowledges events;
- a remote port of other ADLs or computers for routing outgoing messages.

Each row on the grid corresponds to the ADL devices with which you want to communicate.

For your convenience we recommend that you use one value for the local and remote port on all the ADLs (in the following illustrative figures the port is 10226):



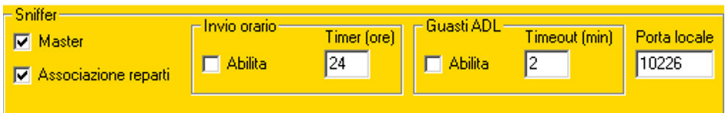
SYSTEM EQUIPMENT CONFIGURATION

• If you use the Broadcast property, you should create a single row and the remote address should be set to 0.0.0.0.

• If you do not use the Broadcast property, you need to specify, both on each Lantronix device and on the Call-way software, also the address of the remote device with which you want to communicate. This however restricts operation since each device must send its messages to only one other device; this has no effect at all in Config. mode, but in Sniffer mode the ADLs are limited to communicate, for example, only with the computer and not between themselves or to send the messages to each other (if there are two ADLs) excluding the computer.

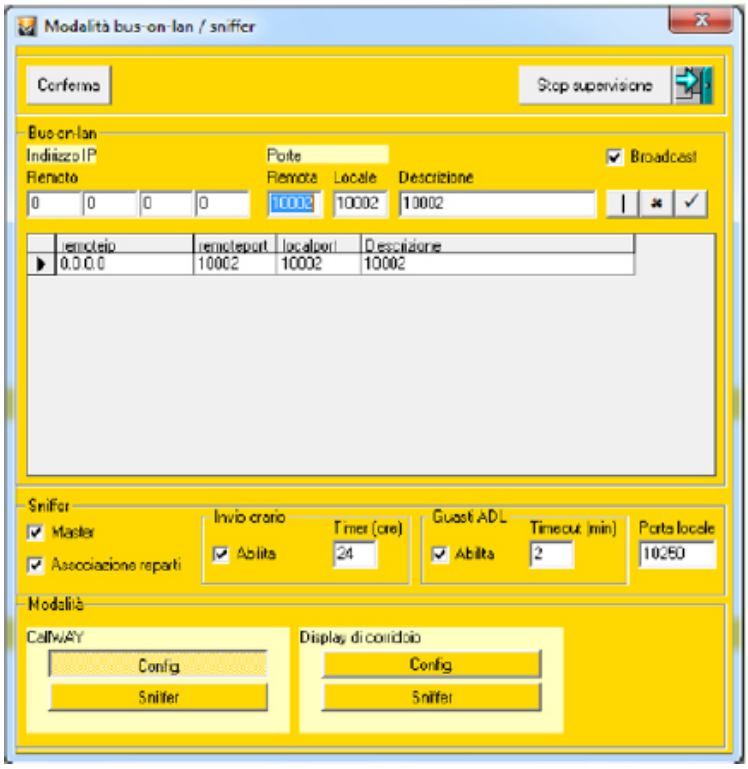
In general, for there to be communication between the various devices (ADL or computer, regardless) it is necessary for the remote port set on one to match the local port set on the others, and vice versa.

The same considerations concerning the local ports mentioned above apply to Sniffer mode too.

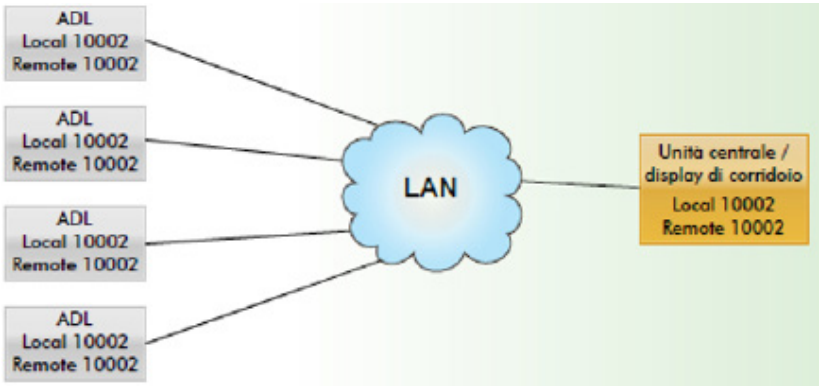


If the software remains on reception on a different local port to the remote one set on the ADL devices, no messages will be received. Unlike the local ports used in the bus-on-lan section, which can also be used in a greater number than one, there is only one local port for Sniffer mode.

In the configuration window, enter the same parameters previously configured via the Device Installer.



The following figure illustrates an example of a configuration in which there is a total exchange of information between ADL and central unit.



SYSTEM EQUIPMENT CONFIGURATION

Configuration procedure for Sniffer VDE mode

1. Physical installation of MDV and ADL devices.
2. Configuration/check ADL in VDE mode: DIP-switch 8 OFF.
3. ADL network configuration via Lantronix program checking that the IP addresses of the ADLs, if configured statically, are all different.
4. Locate ADL in network from PC via the software.
5. Pairing ADL devices with the software on PC.
6. Self-recognition of MDV devices
7. Configuration of MDV devices (addresses, rooms, departments, pairings, etc.)
8. Bus-on-lan mode configuration:
   a. Broadcast mode
   b. Configure addresses and ports appropriately
   c. "CallWay Sniffer"
9. Start supervision
10. Confirm and exit bus-on-lan mode
11. From the call control screen of the software on the PC, perform the following steps:
    a. Click on Start
    b. Wait 30 seconds
    c. When available, click on stop
    d. Wait 30 seconds
    e. When available, click on reset

The system is now in Sniffer VDE mode and it enables, for example, communication between departments.

Add an automatic time program

Starting with the system configured in Sniffer VDEmode and having defined a time program (for details see page 15 and 16), the system automatically switches between online and Sniffer VDE mode depending on the setting.

REPORTING

Pressing the "**Anteprima di stampa**" (Print preview) button in a window produces a report directly associated with the data represented in the grid (when present); the report column headers and data sorting coincide with those of the grid.

Elenco destinazioni

Codice	Nome	In serv.	Pers. gen.	In. pres.	Fine pres.	Commento
1	DISPLAY	X	X	-	-	

The logo that appears in the reports is the image contained in the file namedlogoreport.bmp, on the path for running the program. If the file is not present, a row of dots appears in its place:

.....

Elenco destinazioni

Codice	Nome	In serv.	Pers. gen.	In. pres.	Fine pres.	Commento
1	DISPLAY	X	X	-	-	

SYSTEM EQUIPMENT CONFIGURATION

CONFIGURATION FILE

As already explained, on the path for running the program there is a configuration file, callway.ini, containing some system settings that can be useful to access directly rather than through the database. If a required parameter has not been specified or is specified in a non-conforming manner the fault condition is reported and the program is closed.

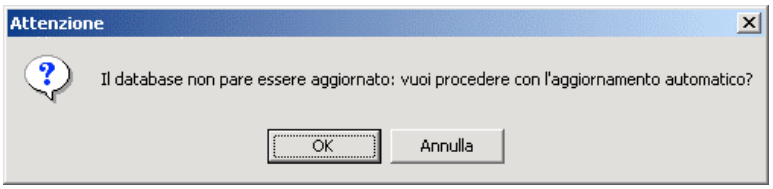
Section **[config]**

version=2.4
dbname=C:\CallWAY\callway.mdb
logdbname=C:\CallWAY\log_callway.mdb
portaserialesistema=0
portaserialeespa=0
baudrateespa=9600
paritaespa=N
bitdidatoespa=8
bitdistopespa=1
waitespa=50
handshakeespa=0
resetallapartenza=false
backupallapartenza=false
updatefile=update.txt
nightmode=0
setupstartmode=m
espamip=true
splashbackground=sfondo.jpg
delay=70
server=250
traytime=5
windowposition=true
windowsize=true
transl=translITA.ini
serverdelay=5000

- **version** contains the revision of the program; if there is any inconsistency between the set value and the actual software version there is no possibility of operation
- **dbname** is the name and full path of the file that represents the database of the program; via the program setup window you can change the name of the file and make a backup of it
- **logdbname** is the name of the database that contains the logs
- **portaserialesistema** is the serial port of the computer that is connected to the whole system
- **portaserialeespa** is the serial port to use to communicate with devices that communicate in accordance with the ESPA standard. You can inhibit the use of any port by specifying the value 0. When the program launches, a check is carried out on the operation of the port: if a port number other than zero is specified and the port does not exist or does not work the error is reported, the parameter set to zero and the program closed
- **baudrateespa, paritaespa, bitdidatoespa, bitdistopespa** are the parameters of the serial port configuration mentioned above
- **waitespa** is the waiting time (1/100 second) between sending one part of the packet and the next one. Communication with an ESPA device takes place by sending a data packet split into three parts; this parameter enables separating the parts;
  50 is normally an acceptable number, in particular systems you may need to perform empirical tests in order to determine the ideal number
- **handshakeespa:** for some devices with the ESPA protocol you may need to specify the handshake mode too
- **resetallapartenza** makes it possible to reboot the entire system every time the software is started; especially useful to realign the database with the current situation of presences and calls. Accepted parameters: **TRUE** and **FALSE**.
- **backupallapartenza** makes a copy of the database every time the software is started; the name of the created file is in the format *nomeoriginale yyyymmdd hhmmss.mdb*. Accepted parameters: **false** and **true**.

SYSTEM EQUIPMENT CONFIGURATION

- **updatefile:** when an updated version of the software is linked to an old database a check and update procedure automatically launches to align the database to the needs of the new software. If the procedure detects any inconsistency between the software and database it asks whether to proceed, as shown in the figure,



and, if required, it runs the update.

The **UpdateFile** parameter indicates the name of the file located in the program folder containing the list of names of the tables and fields in the database that are necessary for it to run; the default value is **update.txt.**

- **nightmode** indicates the state of ward grouping. It is only considered when in the system settings you have chosen to manually manage the pairing and to retrieve the latest situation on starting the program. In previous versions of the software the accepted parameters were **true** and **false**, that is on starting the wards could be paired according to the default profile or separated; as of the current version, while maintaining backward compatibility, only numeric values are considered, where in particular 0 indicates separate wards
- **setupstartmode** indicates in which mode the module setup window must be open. Accepted parameters: **m** (modules) or **g** (layout).
- **espamip** (**true** or **false**) determines whether the computer is able to process calls made to ESPA devices and/or pagers; only one computer in a network must have this parameter set to true
- **splashbackground** is the name of the file containing the image that is displayed on the splash screen at program startup; the image can be placed only in the program's run folder and must have a size of 464 x 348 pixels; if the image has an invalid format or if it is not even present then the splash screen is opened with a grey background
- **delay** indicates the duration (in 1/100 of a second) of delay artificially added between sending one immediate command and the next one in the speech activation phase during a general or ward announcement
- **server** sets the bus query interval (in 1/1000 of a second); the default value is 250. It is recommended not to change this value without first consulting your support centre
- **traytime:** it may be that, on some computers, tray management (the tray is the area for the little icons next to the clock) does not properly allow the program icon to appear at startup with automatic execution; with this parameter it is possible to delay this appearance, giving the operating system the time required for properly managing the tray; but even if the icon does not appear, program operation is still guaranteed
- **windowposition, windowsize** (**true** or **false**) make it possible to save the opening position and the size of the windows in such a way as to be able to reopen them under the same conditions; windows designed to be opened in the middle of the parent window will continue to open in the same way
- **transl** is the name of the file, necessarily present in the program's run folder, containing a list of all the phrases, all the descriptions and all the messages contained in the program; each file with the extension "**ini**" whose name starts with "**transl**" corresponds to a menu item **Configurazione** / **Lingua** (Configuration / Language), while the name of the language is contained in the [**transl**] section under the **lang** item in each of the above-mentioned files
- **serverdelay** (in milliseconds) during a voice message via AT this introduces a forced delay between the line commitment and the beginning of the actual voice message

SYSTEM EQUIPMENT CONFIGURATION

Section **[busonlan]**

- **socketsinarow** sets the number of connections that can be displayed on each row of the connection status window
- **protocol** is the type of protocol used; as already seen if there are no special requirements it is advisable to use only UDP
- **broadcast** (can be used only with the UDP protocol) enables talking to multiple devices using only one network connection

Section **[sniffer]**

- **active** can also be set via the designated window, it activates listening to network messages on the corresponding port
- **mode** indicates the graphics mode for CallWAY program operation; there are the following possibilities:
  - **0** the program works with the normal graphics (no sniffer functionality)
  - **1** the corridor display is shown instead of the traditional main window; if the previous "**active**" property is not set to **true** you cannot view any events
  - **2** the graphics mode is the normal one, but instead of the events occurring on-line, the events captured with the sniffer are displayed
- **default** returns to their default values all the settings related to the graphics of the corridor display
- **localport** is the network port on which the program listens when the sniffer functions are active
- **master** only one computer in a network can have this setting on "**true**", which is what allows it to periodically send the time signal and the ward pairing status to the MDV displays
- **timesignal, timesignaltimer** the first one activates the function of sending the time signal and the second one adjusts the frequency (unit of measurement: hours)
- **wardassociation** if ward merging is automatic the program is able to decide independently, based on the predetermined time slots, on the state of ward pairing and send the appropriate "**switch**" command to the MDV displays
- **adlfailure, adlfailuretimeout** as already mentioned, ADL failure can only be detected passively by statistical considerations on their reception of the "**alive**" signal; a module is considered dead when this signal is not received for more minutes than the number set in the timeout, the malfunction is appropriately highlighted on the corridor display (or on the conventional screen if the mode setting has a value of 2)
- **extaddress, extremoteport, extlocalport, extenable** are the parameters for the external bus settings

N.B. Lines in the configuration file that begin with a semicolon ";" are to be considered comments and do not affect the operation of the program.

SYSTEM EQUIPMENT CONFIGURATION

CALL OUTLINE

From the outline below you can see the behaviour of the system in cases of combined action of presence and call. Depending on the chronological order and the location where the two events occur, completely different situations can occur; for example, when a call is made and there is presence in the room it is possible to have an assistance call (p.c.: first the presence and then the call) or a presence (c.p.: first the call and then the presence).

Reset Call	**Room**	**Normal bathroom**	**Cancel**
Room	p.c.: assist. c c.p.: pres. c	p.c.: assist. c c.p.: pres. c	p.c.: assist. c c.p.: pres. c
Bathroom	p.c.: assist. b, pres. c c.p.: norm. b, pres. c	p.c.: assist. b c.p.: pres. c	p.c.: assist. b c.p.: pres. c
Bed	p.c.: assist. l c.p.: pres. c	p.c.: assist. l c.p.: pres. c	p.c.: assist. l c.p.: pres. c

The presence of a bathroom in case of a normal bathroom applies to all intents and purposes as a room presence. From the outline you can see that room presence does not cancel normal bathroom calls, unless otherwise specified.

SYSTEM EQUIPMENT CONFIGURATION

PC IN NETWORK

As mentioned earlier the software is able to manage the connection between computers via the LAN network. The benefits of this kind of operation can be summarized in the following considerations:

- the workload of a computer that controls several ADLs is shared over multiple computers
- multiple AT devices can be used simultaneously for voice messages
- if there is a considerable distance between the devices a LAN network is more reliable than a serial connection
- any failure of a single pc does not affect the behaviour of the rest of the system

All the considerations made so far in the manual should therefore be integrated with the concept of "network". The complete system consists of one or more computers; each computer is connected to one or more ADL modules, to each of which one or more devices of different types, depending on the system and different needs from time to time. A computer can only control ADL modules that are physically connected to it, so it is not able to communicate with modules that refer to other PCs in the network; the only dialogue takes place via the database, that is the information related to calls, presences and anything else is recorded in the system's one database and from there is taken and forwarded in a suitable manner to the other computers, which in turn record their information.

Differences between using a single computer and a computer network.

Module replacement
Each computer can do this only on the modules connected to it.

Print out events
Each event generated by a computer, or by a module connected to it, is added to the database of events along with the name of the computer, so it can be identified later at the time of printing.

Continuous display
The window for viewing the logs has the option of excluding events generated by other computers from the display (default setting); unchecking the item "Solo questo computer" (Only this computer) will display all the logs in the database.

System configuration
The system settings, accessible from the relevant window, are for the most part data saved in the database. You should therefore be very careful when changing these parameters as all the computers in the network are affected by the applied changes. The items contained in the callway.ini configuration file are obviously tailored to each computer and do not affect the operation of the other computers in the network.

Technical Setup

Modules.
The window shows only the devices connected to the computer being used; you cannot program the database values of a device connected to another computer: to do this it is necessary to use the software on the other computer. In particular, the operations of "Self-recognition", "Recover configuration from selection", "Send data to selection", "Copy to all modules", "Create devices", "Send data to all modules" and "Delete all modules" are possible only to their own modules.

Layout.
At the level of system layout, instead, visibility is total, that is any computer can view, add, modify or delete any ward, room and bed, as there is no chance of knowing beforehand which "positions" are managed by one computer rather than another. System layout recovery is on the contrary based solely on starting with their own modules.

Print out situation.
You can print out the situation of the whole system, only the part relating to the computer being used or any ADL as preferred.

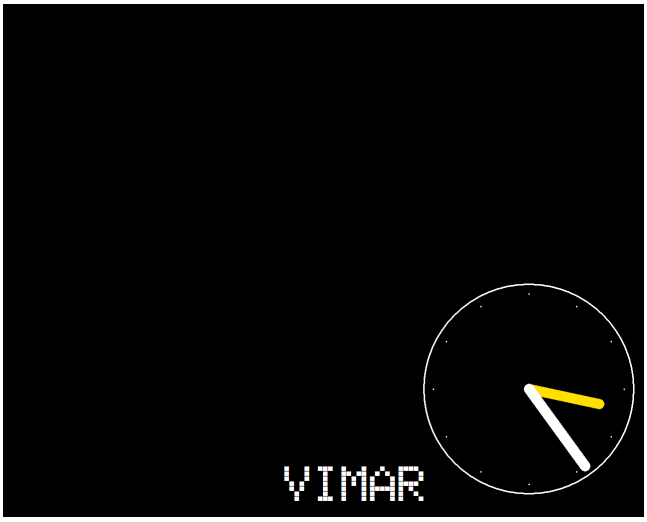
SYSTEM EQUIPMENT CONFIGURATION

CORRIDOR DISPLAY

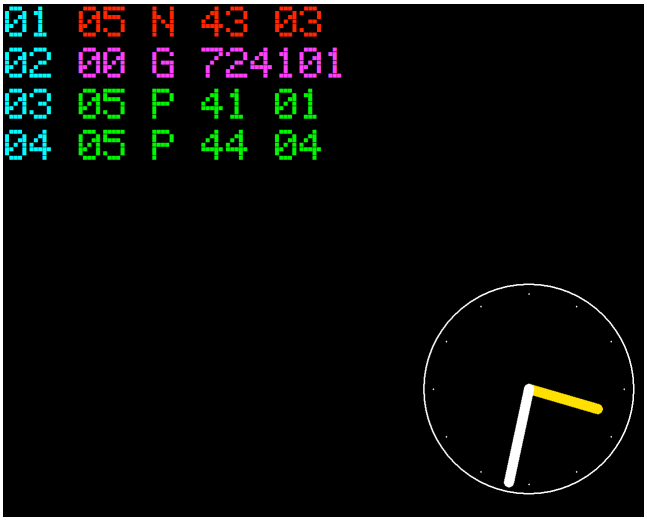
As already mentioned, among the various possibilities of the CallWAY software there is also the so-called ***corridor display***, that is a particular operating mode in which the program is able to show events occurring on the bus on the computer screen in decipherable manner even at a good distance; a typical use can be on a liquid crystal panel located in the corridor of a hospital ward, or in the head nurse's office, where complete control of the situation is always a priority.

The principle of operation is very simple: all the data packets that are transmitted over the secondary bus are "**sniffed**" and sent to a chosen network address; on that address the "**listening**" software is able to translate the received data and represent them in a comprehensible manner on the computer screen.

When there is nothing to display the default screen of the corridor display



shows the current time in the lower right corner in the analogue format and also a customizable message in a variable position. Any events to be displayed

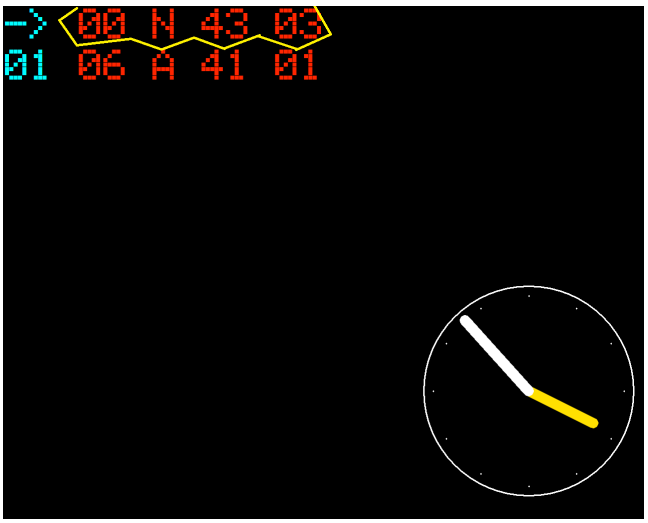


are placed in a list whose order follows criteria related to the relevance, type and history of what has been received. The example in the figure shows a normal call from room 3 of ward 43, the failure of a module (MDV display) with code 724101 and two general staff presences in room 1 of ward 41 and in room 4 of ward 44. The order in which events are displayed is therefore:

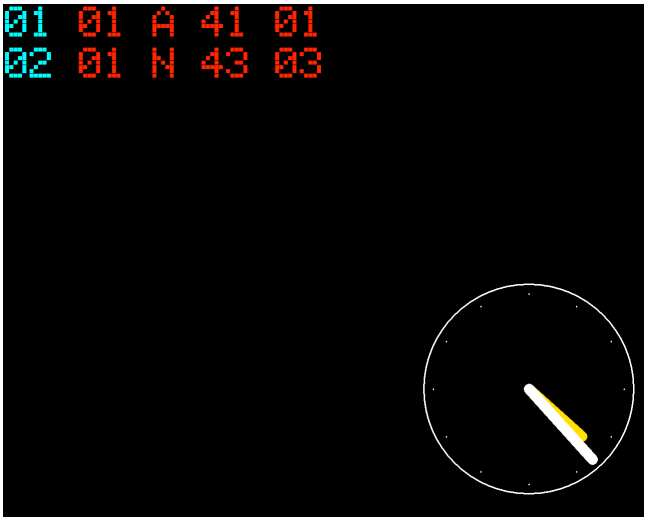
- calls
- failures
- presences
- voice unit status

SYSTEM EQUIPMENT CONFIGURATION

In particular as regards the calls, the operation of the corridor display is similar to the behaviour of the room display, that is the last event received is shown for a few moments at the top of the list with frequent blinking in such a way as to be easily noticed and only later find its final location based on its level. In the example in the figure



the normal call from room 3 of ward 43 would normally be located after the assistance call in progress from room 1 of ward 41, being on a lower level, but as the event is "new" for a few seconds it is positioned on the first line ; the arrow alongside indicates that its ordinal number has not yet been determined. On the second line instead there appears (flashing) the assistance call from room 1 of ward 41, with the correct ordinal number. After a short time, the display will instead be



with the calls listed correctly (that is the emergency call before the assistance call) and the corresponding ordinal number alongside each of them.

N.B. The program is able to "sniff" on any bus regardless of whether it is on-line or VDE, however, the available information will vary depending on this state, according to the following scheme:

Information	On-line	VDE
Chiamate / presenze (Calls / presences)	The number of events displayed varies depending on whether the server also communicates the presences list (6 events) or not (5 events)	Yes
Failures	/	Yes
Voice unit status	/	Yes

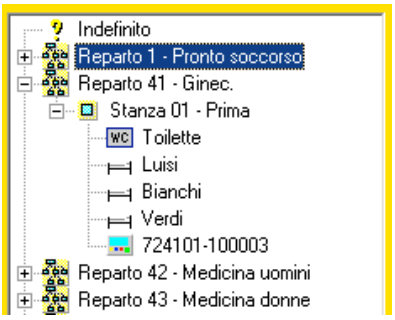
Depending on the perceived state of the server, the date and time at the bottom of the screen are preceded by the corresponding indication (in the figures in this section the on-line status corresponds to the word ON and the VDE status to an empty string).

SYSTEM EQUIPMENT CONFIGURATION

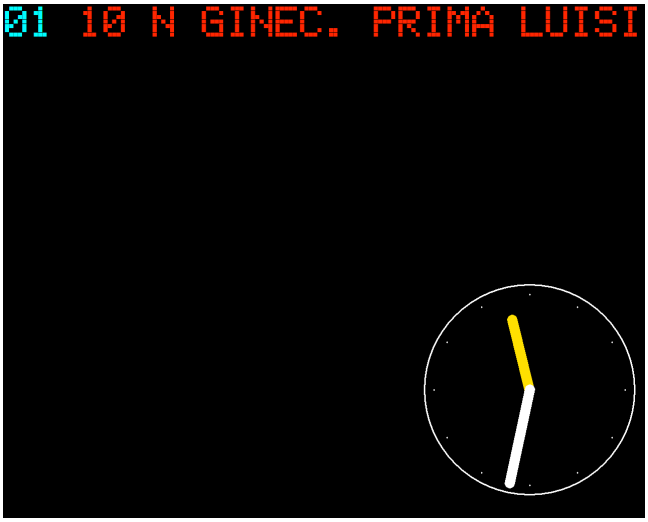
The **default view** shows the:

- ordinal number of the event
- duration (in minutes)
- type or level (for calls)
- location, device code or alias

If the corresponding descriptions have been included for a location



they will appear on the screen instead of the simple digits indicating respectively the ward, room and bed (the example in the figure shows the call is from the first bed in room 1 in ward 41):

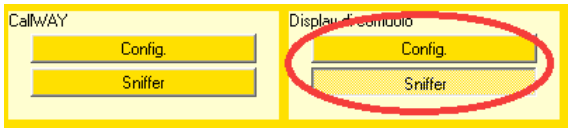


If the event list gets too long to fit completely on a screen, it is extended onto the next page and the view will alternately and automatically pass from one screen to another to in any case enable showing all the events without the need for manual intervention using the keyboard and/or mouse. The date and time at the bottom of the screen will disappear automatically when the list gets longer to reach their location.

SYSTEM EQUIPMENT CONFIGURATION

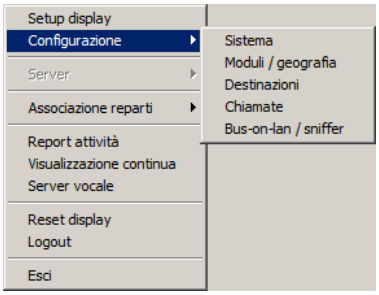
Settings

In order to access the CallWAY software in corridor display mode as already seen it is necessary, in the Bus-on-lan / sniffer configuration window, to use one of the two corresponding options.



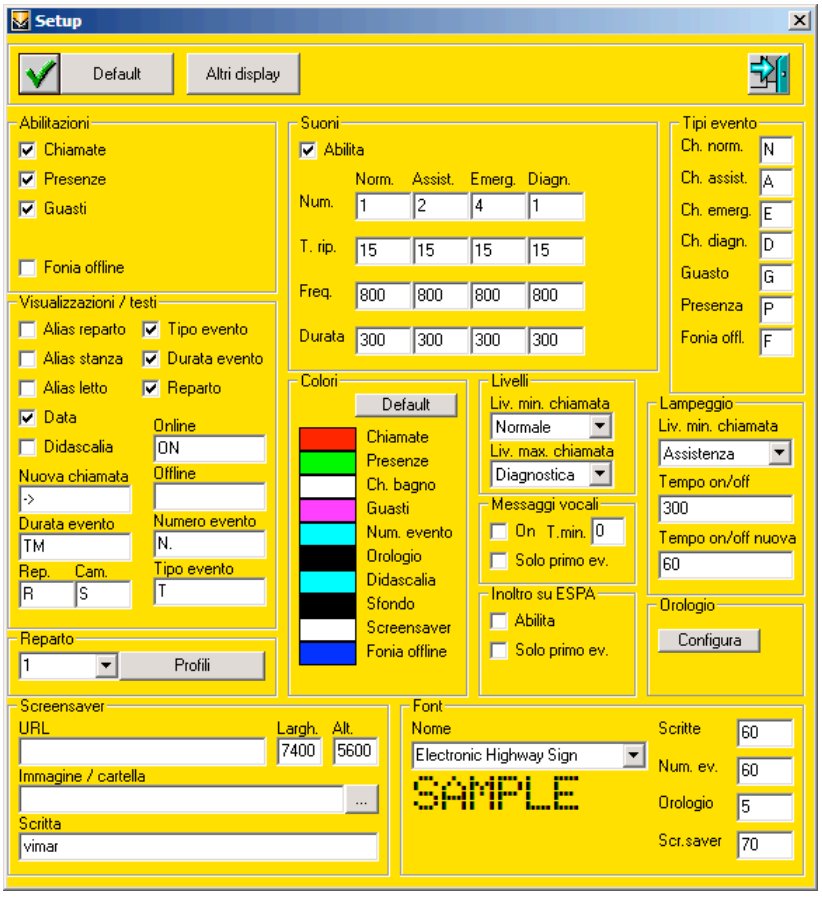
Choosing **Config**, it will be possible to communicate with the modules but the display will not be able to see anything; with **Sniffer** the corridor display will instead be operational as regards viewing in either on-line or VDE mode, but it does not intervene in the modules.

To be able to access both the corridor display configuration window and all the others it is necessary to click with the right button on the screen at a point where there is no text



and select the desired menu item (at first it is essential to log in in the same way). Apart from **Setup display** and **Reset display**, the other items do not need any explanation as they activate the same functions already seen previously.

Setup display
The configuration window



is very rich and allows you to fully customize the behaviour and appearance of the corridor display. Here is a description of the various sections of which it is composed.
Abilitazioni (Enable)

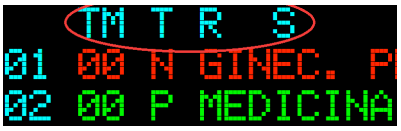
SYSTEM EQUIPMENT CONFIGURATION

These boxes allow you to decide which events to view on the corridor display screen. The recording of an event happens always and in any case, regardless of whether its type is made visible or not; this means that on saving the settings by pressing the button with the green tick, the software is able to immediately refresh the screen without having to wait for a timed repetition of the events.

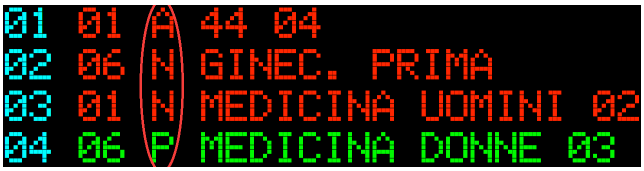
Visualizzazioni / testi (Views / text)

(check boxes)

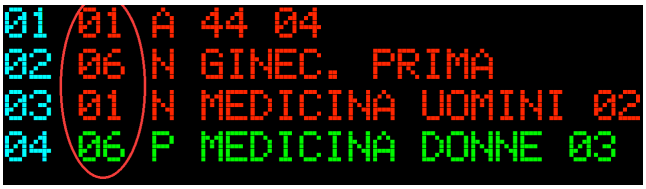
- **Alias reparto, stanza, letto (Ward, room, bed alias)**: as discussed earlier, instead of the simple numbers that represent the location from which a call comes, you can bring up their descriptions previously added to the system layout
- **Data (Date):** is the one that appears at the bottom of the screen before the clock; the latter is not optional, but can easily be omitted
- **Didascalia (Caption):** if you believe that the text corresponding to the various events in the list is not easy to understand, you can insert a fixed line at the top that shows the meaning of each of them:



- **Tipo evento (Event type):** in the case of calls, it shows the level, while for the other cases (presences, failures, off-line speech) it actually indicates the type of event displayed:



- **Durata evento (Event duration):** specifies how many minutes ago (max 99) each event started:



(Text boxes)

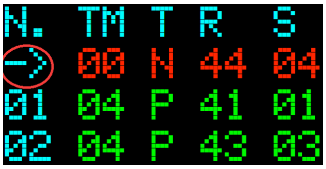
- **On-line, off-line:** the corridor display can also give an indication of the state of the server:

off-line

on-line

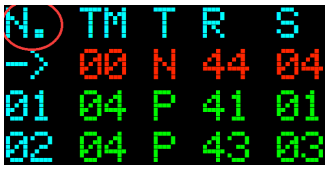
If you do not want to give any indications on the conditions of operation of the server, these settings can also be left blank

- **Nuova chiamata (New call):** as well as highlighting the presence of a new call type of event by making it blink at high frequency, the ordinal number not yet allocated is replaced by the one specified with this setting:

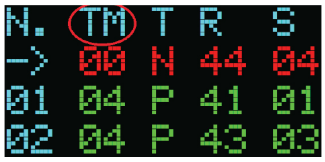


SYSTEM EQUIPMENT CONFIGURATION

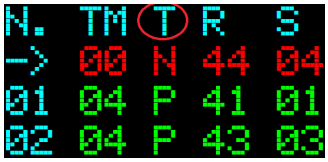
- **Numero evento, durata evento, tipo evento, reparto, stanza (Event number, event duration, event type, ward, room):** the caption indicates, respectively, the abbreviation for the columns of the ordinal number of the events, the duration and the origin of each of them:



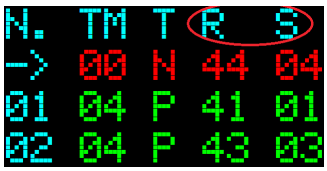
numero evento (event number)



durata evento (event duration)



tipo evento (event type)



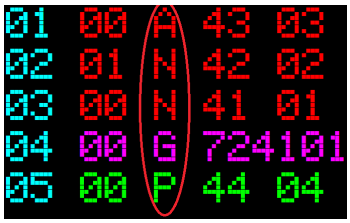
reparto, stanza (ward, room)

Reparto (Ward)
As with traditional displays positioned in the various rooms, also the corridor display "belongs" to a ward and therefore the logic that governs the transfer of events from one ward to another is the same as used by the software "server", according to the concept of pairing profile already seen above.

Sound

- **Abilita (Enable):** when there are events that may require special attention from the staff the program, through the internal speaker of the computer or through the speakers connected to the sound card, is capable of producing some sounds whose properties are determined by the following settings (N.B. Failures cannot be paired with sounds of any kind).
- **Num. (number):** for each type of event this is the number of beeps made; if you do not want any sounds simply specify 0 (zero)
- **T. rip. (repeat time):** indicates how many seconds the beep needs to be repeated; if the list includes events of different types the repeat time follows that of the higher level
- **Freq. (frequency):** is expressed in Hz
- **Durata (Duration):** is the length of the beep in hundredths of a second; if greater than one each of them is spaced one tenth of a second from the previous one

Tipi evento (event types)
These are the abbreviations paired with each type of event:



Colours
Every single object that appears on the corridor display can take on the colour you want, in order to fully customize the final graphic appearance.

Livelli (Levels)
As regards calls only, you can choose the range of levels outside of which events of this type are not displayed by the corridor display; events that are not shown, however, are received and recorded all the same.

SYSTEM EQUIPMENT CONFIGURATION

Messaggi vocali (Voice messages)
As for the software in traditional mode, the corridor display also has voice messages emitted when certain events occur; the available settings are contained in the system setup window accessible from the corresponding menu item. Voice message operation is dependent on activation of a valid licence and installation of the relevant plugin.

- **On:** activates this feature
- **Solo primo evento (First event only):** makes sure that an event is "pronounced" only at its first occurrence
- **T.min.:** indicates the number of seconds that must elapse between starting to play one synthesized voice message and the next one

Inoltro su ESPA/tel (Forwarding over ESPA/tel)
Similar to the previous feature, it gives the software the ability to redirect perceived events to any device that supports the ESPA 4.4.4 protocol. As for voice messages the settings are located in the system setup window.

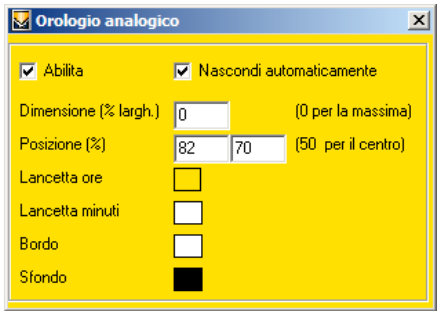
Blinking
The corridor display is able to highlight with more or less frequent blinking some of the events in the list, providing the staff who are present the opportunity to take action and resolve the situation as quickly as possible.

- **Livello minimo chiamata (Minimum call level):** allows you to decide at what call level the displayed event must blink continuously
- **Tempo on/off (On/off time)** (1/100 of a second) is the duration of the switching on and off times of the event that is made to flash
- **Tempo on/off nuova (New on/off time)** (1/100 of a second) sets the timing of the flashing for a call type of event that has to be highlighted as new with a higher frequency than the usual flashing

Screensaver
With no events to show, the corridor display is able to offer various graphical views, also used simultaneously.

- **URL** can be the name of a local html file or the URL of a website
- **Larghezza, altezza (Width, height)** are the dimensions of the window to be used for viewing the above web page
- **Immagine/cartella (Image/folder):** every ten seconds (not settable) the selected jpg image or images contained in the specified folder are displayed in a random position on the screen; images larger than the corridor display are not displayed
- **Scritta (Text):** in addition to a web page and one or more images you can also display text that is constantly changing position; if the TIME setting is used instead of the text a digital clock is shown

Orologio (Clock)
Besides the floating digital clock mentioned above, it is possible to display a fully customizable analogue timepiece.



- **Abilita (Enable)** activates this feature
- **Nascondi automaticamente (Auto hide)** allows, if desired, to make the clock disappear if the display has at least one event to be displayed; If this setting is not used it is necessary to decide on the appropriate size of the dial and the font of the text in order to avoid unwanted graphic overlays
- **Dimensione (% largh.) (Size (% width))** represents the diameter of the analogue clock expressed as a percentage of the width of the computer screen; specifying "0" (zero) this size takes on the maximum value so that the edge is completely within the screen, based on the position but regardless of the monitor used
- **Posizione (Position) (%)** like the size, it sets the x and y coordinates (starting from the upper left) of the centre of the clock as a percentage of the screen size; to obtain the maximum size of the dial you should specify 50 in both cases, for perfectly central positioning
- **Lancetta ore / minuti, Bordo, Sfondo (Hours / minutes hand, Edge, Background)** are the colours of the components of the clock

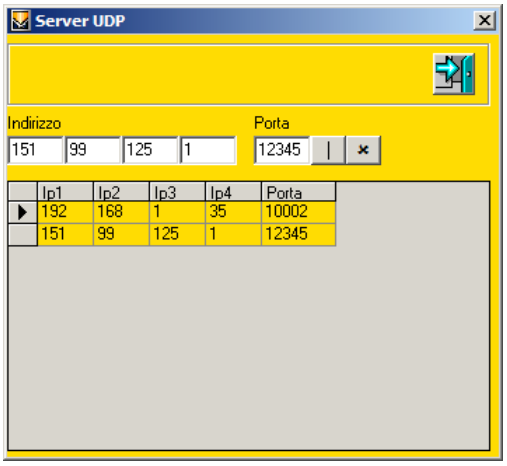
Font
Represents the type of font used for all items intended to be represented on the corridor display screen. Although any type of font can be used, the best performance is had with a non-proportional font such as Courier New or the default Electronic Highway Sign.

- **Scritte (Text):** is the font size of the lines that represent the various events
- **Numero evento (Event number)** as above but for the ordinal number of events
- **Orologio (Clock)** is the setting for the size of the clock at the bottom of the screen
- **Screen saver** is the font of the text that moves randomly when there are no events

SYSTEM EQUIPMENT CONFIGURATION

Other settings

- **Default:** this button takes the corridor display settings back to the default values
- **Other displays:** if necessary, the corridor display can relay "sniffed" inbound signals to any other corridor display on the network, with complete transparency and without any interpretation. For each corridor display to which you want to send the signals you will therefore need to enter a record in the window that opens



filling in the address and port appropriately and pressing the add button | . These values need not necessarily match a computer on the LAN but can be related to a more general context, with the possibility, therefore, of remoting local data as preferred, without any limitations on distance. To delete a record, select the row and press the delete button × .

N.B. There is no check on the existence and correctness of the settings of the device to which these signals are relayed.

BACKWARD COMPATIBILITY

If you need to work on existing systems that mount first generation devices and you need to replace any broken or defective parts you must update the software to the latest version by downloading it from the special section of the Vimar website **http://www.vimar.it/it/it/article/software/index/type/product** . For the backward compatibility settings, please refer to the instruction sheets of the devices.

SYSTEM EQUIPMENT CONFIGURATION

MASTER PC + SLAVE CORRIDOR PC

The most common use of the system consists in the management of calls filtered by specific times when the MASTER PC ALWAYS displays the calls and the corridor PCs display the calls of the paired ward.

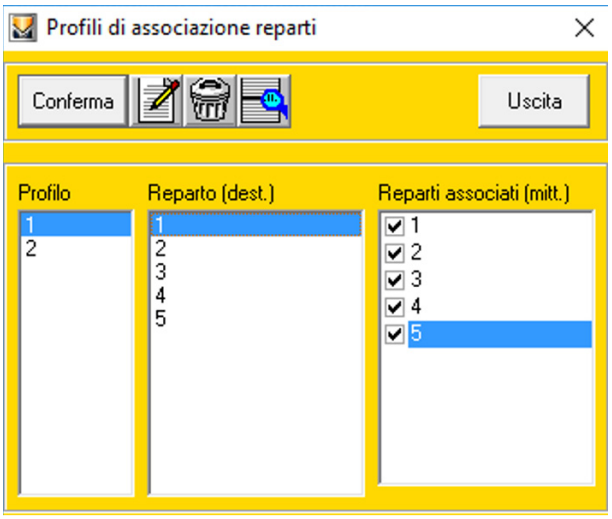
Example.

Let's suppose we have the following system

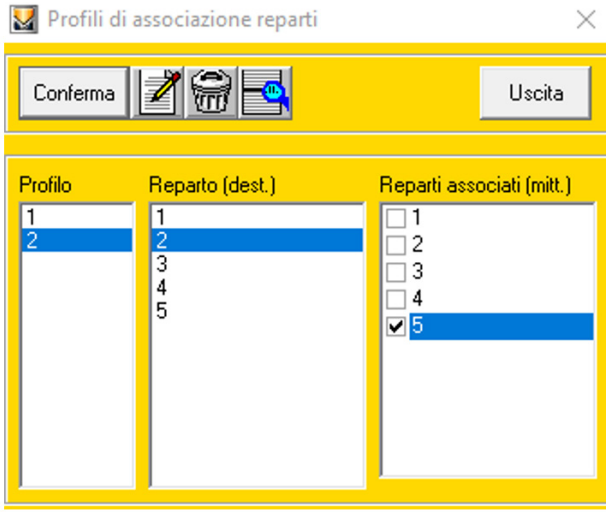
- 3 ADL:
  - ADL1 ➡ Ward 1 (MASTER PC)
  - ADL2 ➡ Ward 3 – 4 (SLAVE corridor PC)
  - ADL3 ➡ Ward 2 – 5 (SLAVE corridor PC)
- Between 00-00 and 11-00 the wards must all be paired.
- Between 11-00 and 24-00 the wards must all be separate.

To accommodate the above conditions, the procedure is as follows:

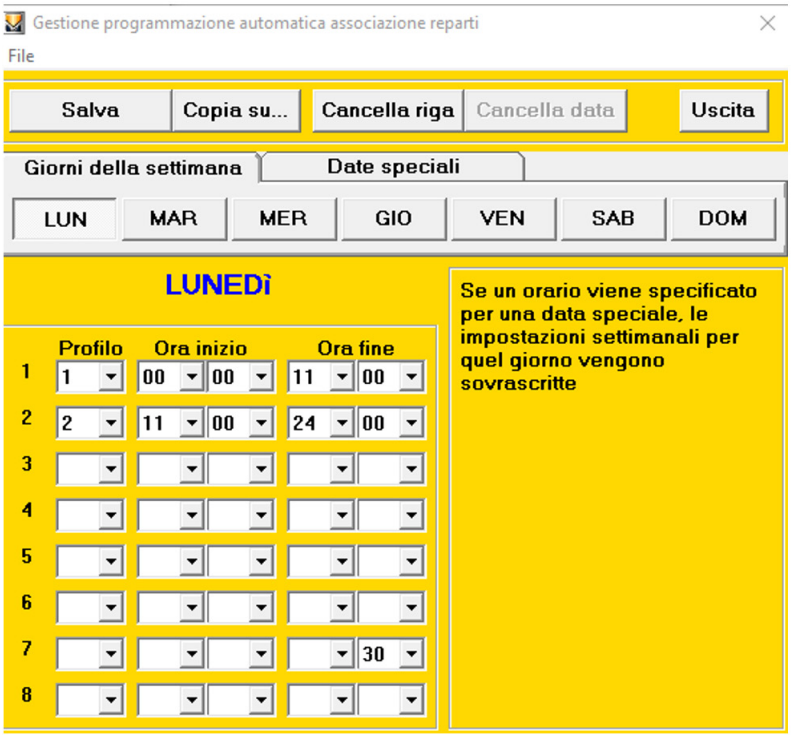
1. Profile 1 ➡ Paired wards:



Profile 2 ➡ Separate wards:

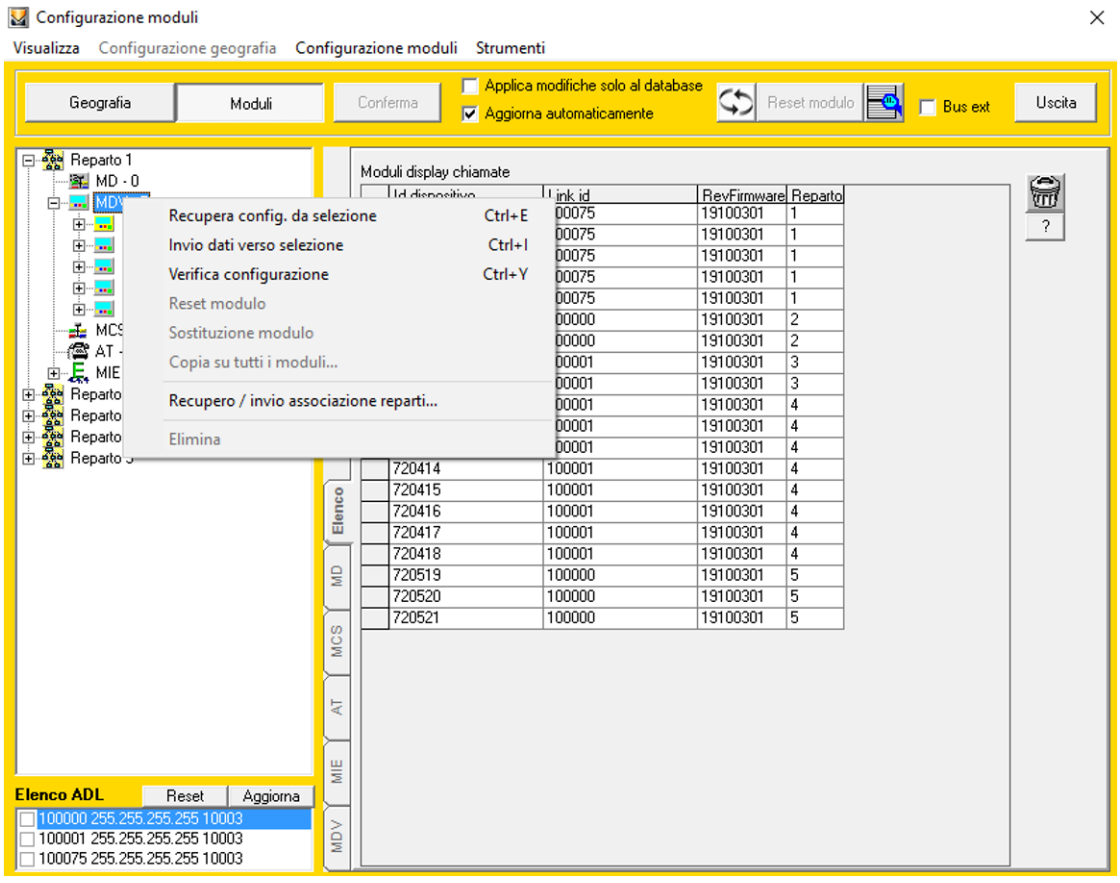


2. Definition of time bands:



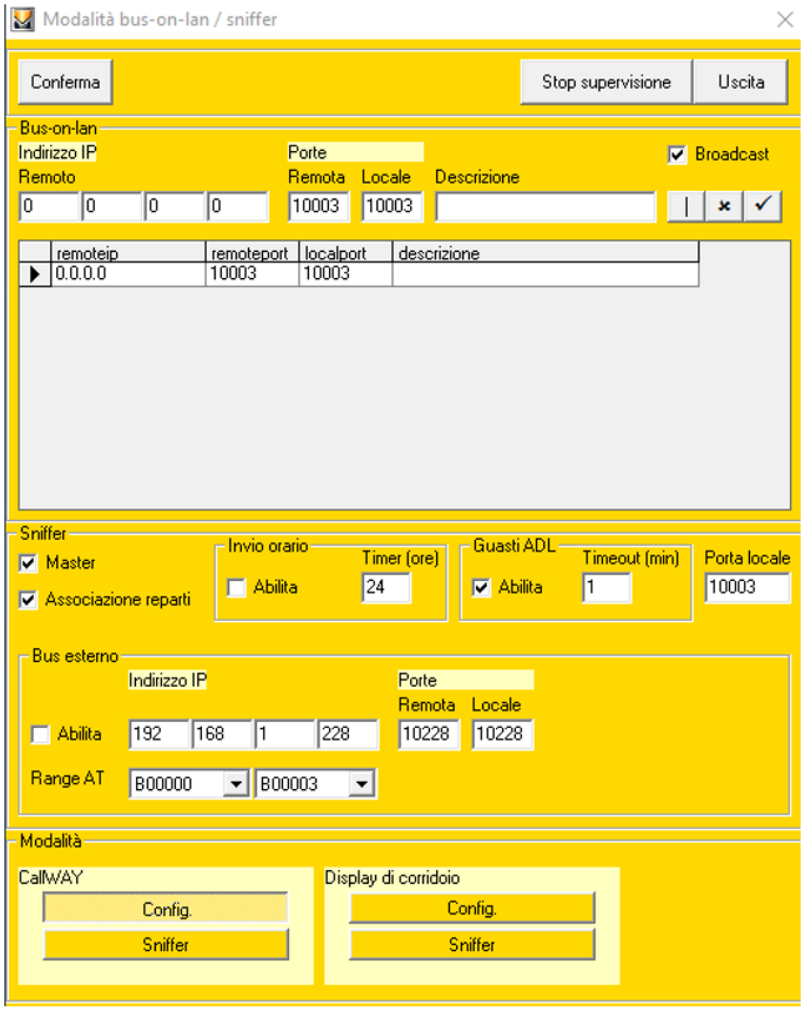
Copy using the **Copy to...** function for all the days of the week and confirm.

3. Send all the modules the configuration carried out in point 1 and 2 using the **Recupero/invio associazione reparti** (Recover/send ward pairing) function:



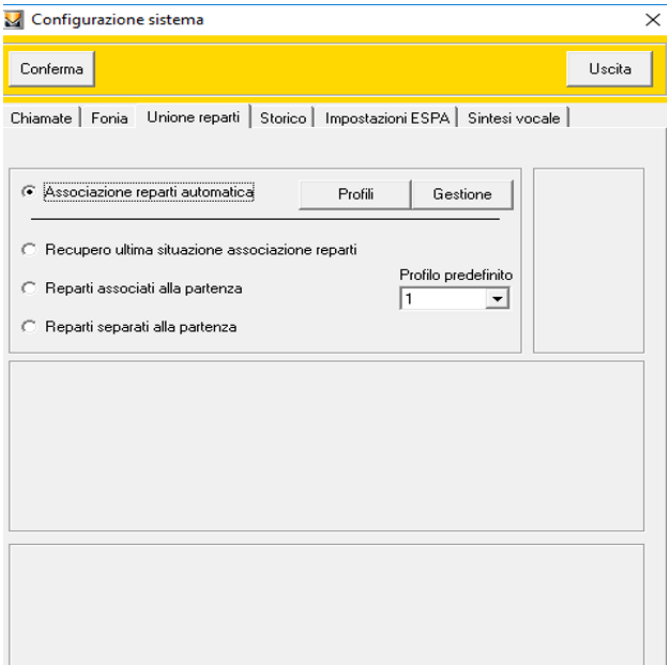
SYSTEM EQUIPMENT CONFIGURATION

4. Define the PCs as MASTER or SLAVE using the main bus on-lan screen:

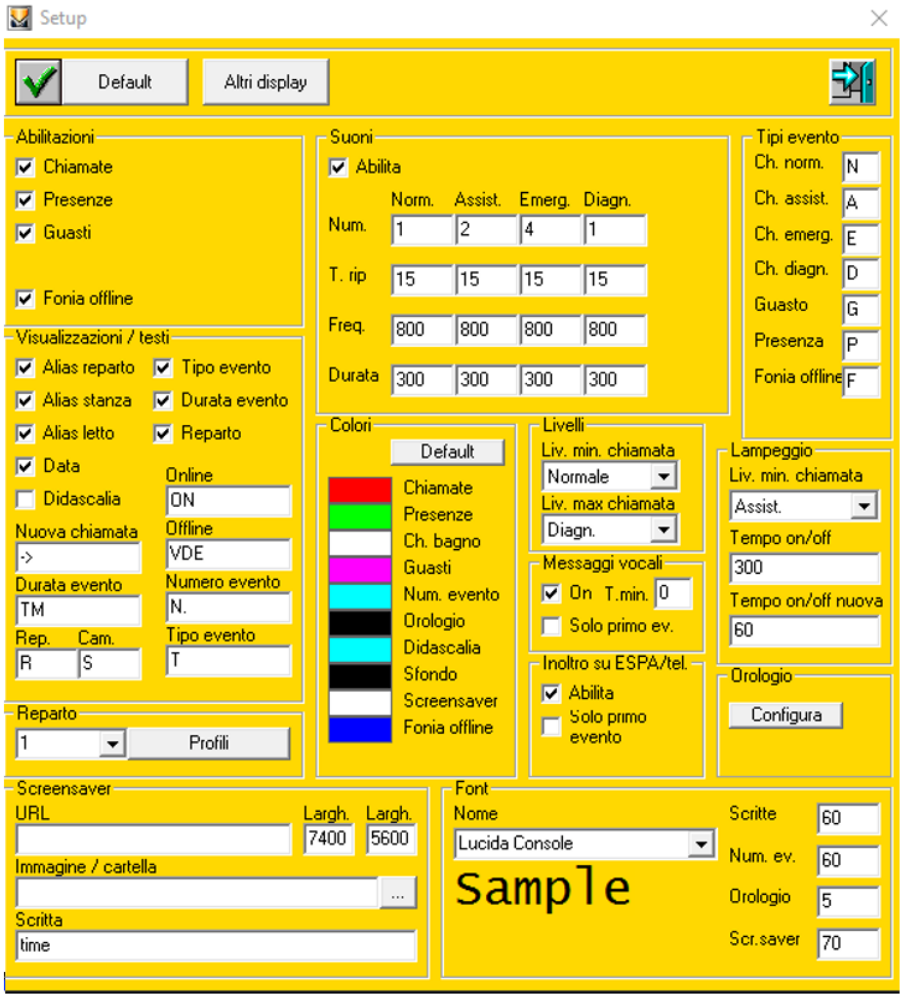


5. System configuration:

MASTER PC: Associazione reparti automatica (Automatic ward pairing)
SLAVE PC: Recupero ultima associazione reparti (Recover last ward pairing)



6. Then define the ward that belongs to the various PCs using the corridor display function:



The system will now work automatically based on the time frames defined previously.

CE

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