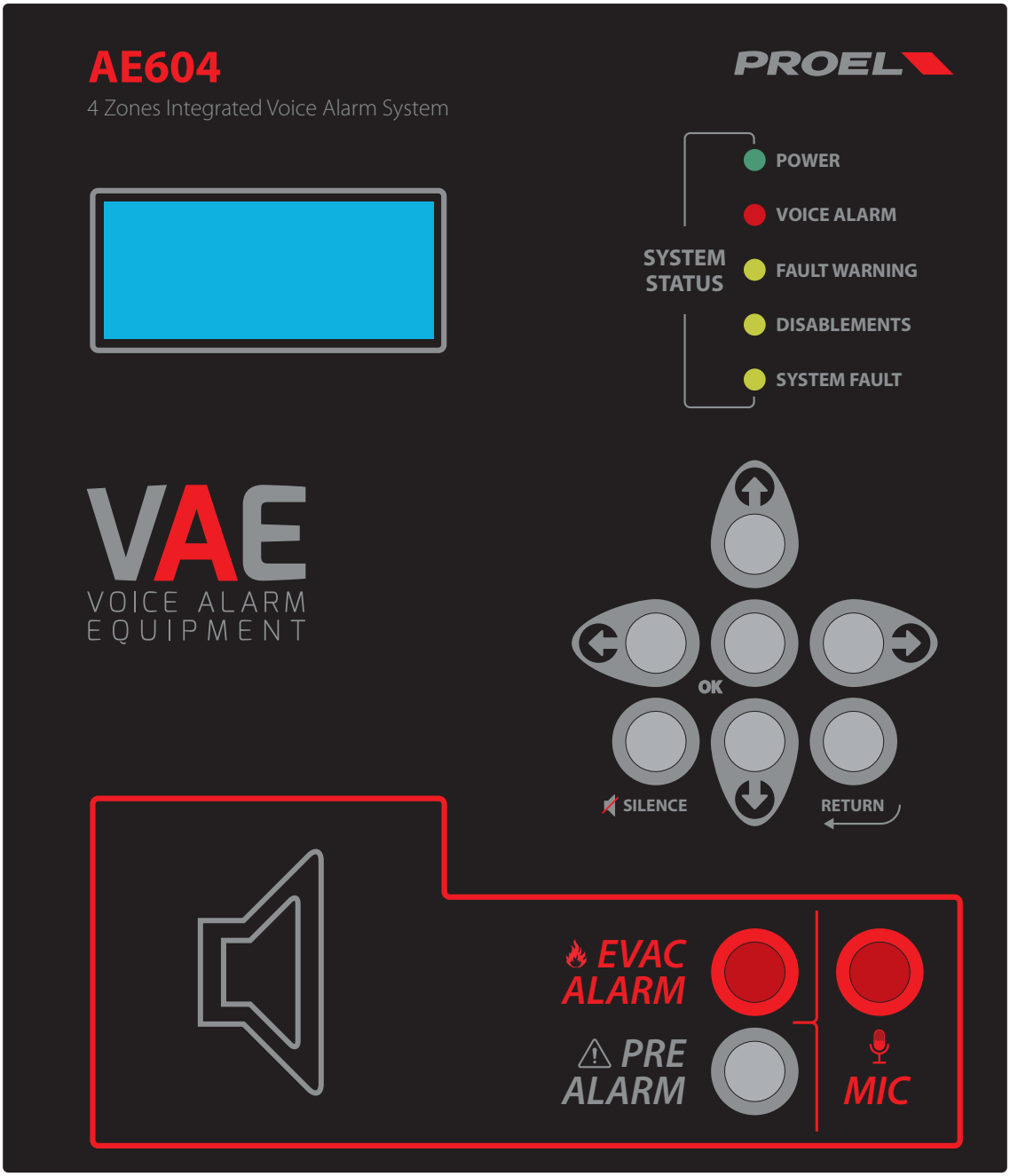
AE604

INTEGRATED VOICE ALARM SYSTEM • EN54-16 EN54-4



OPERATING AND INSTALLATION MANUAL

AE604

PROEL

AE604

INTEGRATED VOICE ALARM SYSTEM • EN54-16 EN54-4

1. INTRODUCTION

The AE604 voice alarm system is a 4 zones unit for signalling in case of fire, designed according to EN Standards 54-16 and 54-4. It is an integrated monolithic system containing the voice alarm system blocks and the power supply unit with backup batteries in a dedicated case attached to the main body of the unit. The system can play recorded alarm messages through the monitored contact inputs, or an operator can speak directly through a microphone integrated in the front panel, or from a remote emergency microphone callstation.

The system also has inputs for a service microphone station, background music diffusion, contacts for playing back generic messages, as well as an Ethernet port.

2. SAFETY NOTES AND WARNINGS

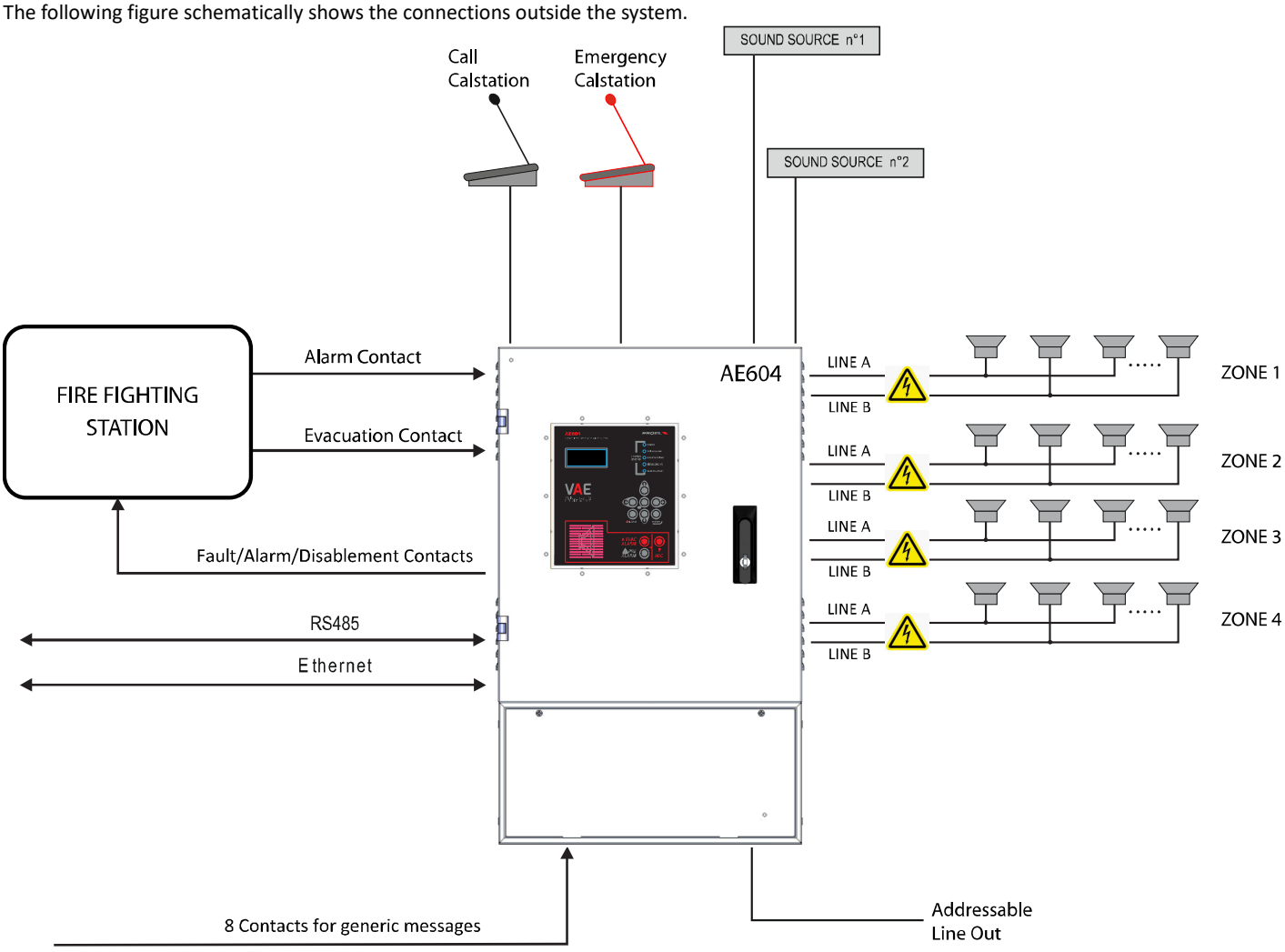
This manual must be viewed before the equipment is put into service.

- **This device must be installed in accordance with UNI Standard EN54-32:2015 and serviced only by qualified personnel.**
- **This manual must be read and understood before commissioning the device.**
- **This device is set-up for operation using mains voltage within the 230 V +10% -15% range and 48Vdc backup batteries with 18A/h capacity.**
- **It is necessary to strictly follow the instructions in Par. 4.p "Connection to the mains power supply and earthing"**
- **The device is protected by fuses on the main power supply (230V). The fuse F3 is present on the power supply module F3=T4AH.**
- **All connections must be made with the device unpowered.**
- **The end of a stranded conductor must not be terminated with a soft solder in the points in which the conductor is subjected to a contact pressure (e.g. the header of the wirings which go to the cable seal terminals must not be tin-plated but terminated with a crimping ferrule).**
- **It is the installer's obligation to prepare a 2 poles thermal-magnetic circuit breaker 6A-C6 (in appropriate electrical panel) dedicated to this device. The circuit breaker must be placed in an easily accessible position. The circuit breaker must bear the words "VOICE ALARM SYSTEM – DO NOT SWITCH-OFF".**
- **In order to avoid the risk of electric shocks, when accessing the inside of the device you must disconnect the power supply network (230V). It is also necessary to disconnect the battery as there is a DANGEROUS ENERGY LEVEL inside the machine.**
- **Do not expose the device to humidity or rain or any other liquid. Keep the device away from objects or containers with liquid that could be accidentally poured inside, through the ventilation slots.**
- **Install the device in a cool, ventilated properly place and away from heat sources.**
- **Install the device so as not to obstruct the ventilation slots.**
- **Connect only batteries with the rated voltage and capacity described in this manual.**
- **Do not reverse the polarity of the batteries. + Positive / - Negative.**
- **The batteries must have a casing with safety class. RIF. UL94:HB / UL94:V0.**
- **When installing the device, be very careful to not damage the electronic cards with tools (pliers, screwdrivers, etc...).**

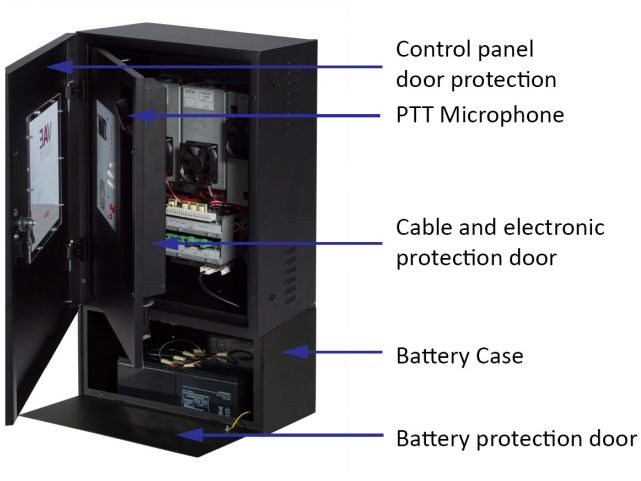
3. MAIN FEATURES, FUNCTIONS WITH REQUIREMENT AND ACCESSORY FUNCTIONS.

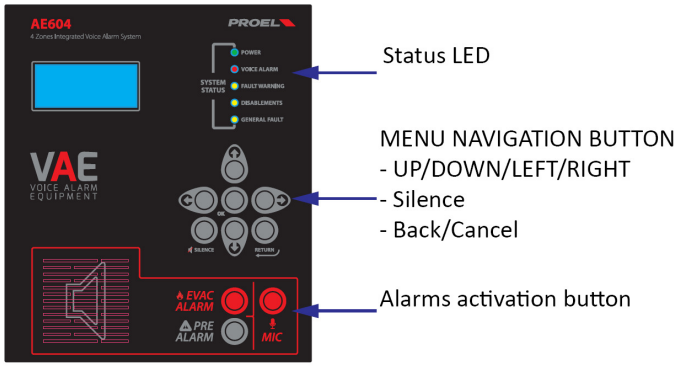
- Integrated, 4 zones voice alarm system, with class D power amplifiers and power supply unit with primary source (230Vac network) and backup source (48V batteries).
- ARM Cortex M3 processor, DSP 16bit 48Khz.
- Controlled dynamic microphone on front panel; microphone capsule continuity monitoring, cable cut and short-circuit
- Password to access the machine functional levels
- Alarm and generic messages, recorded on uSD card. Contents monitored by system processor.
- Class D power amplifiers, power 600W RMS.
- 8 redundant speaker lines (line A and line B) with 100V constant voltage
- Independent monitoring of all the speaker lines (A+B) with direct measurement of AC voltage and current at 20Khz and FFT analysis.
- 2 Contact inputs with line monitored for alarm message activation (interruption and cable cut)
- 8 contact inputs (not monitored) to activate generic and service messages
- 3 dry contact outputs “Relay” for reporting the machine status: VOICE ALARM / FAULT WARNING / SYSTEM DISABLEMENT.
- Input for remote emergency microphone workstation with monitored connection.
- Input for generic microphone workstation for service messages
- RS485 port (Technical Use)
- Ethernet port for remote communication (reporting of status, configuration, audio streams).
- Power supply unit according to Standard EN54-4 with main source (230Vac); backup source (48Vdc battery); temperature, battery impedance and battery charger status monitoring.
- Comprehensive user interface for a straightforward configuration

The following figure schematically shows the connections outside the system.



Front panel





The front panel of the machine has the user interface through which you can manage the system and view its status.
At the top, the LEDs synthetically report the machine statuses:

- **Green LED - POWER:** indicates that the machine is on and operating
- **Red LED – VOICE ALARM:** indicates that a voice alarm or evacuation message is being played back
- **Yellow LED – FAULT WARNING**: indicates that the machine, a loudspeaker line or a connection to the system is faulty
- **Yellow LED – DISABLEMENT** : indicates that the monitoring of one or more machine functions has been deactivated
- **Yellow LED – SYSTEM FAULT:** indicates that the system has been restored due to the software execution halt.

In the central part, the display shows the details on the machine status and, through the keyboard, you can access the internal menus.

Finally, a third pushbutton activates a manual live alarm event and the frontpanel microphone is enabled for a live speach.

4. INSTALLATION AND MAINTENANCE

The system must be installed by qualified personnel and in accordance with UNI Standard EN54-30.
Unpack the device, loosen the two screws on the right of the front panel and rotate the door on the pins on the left side.

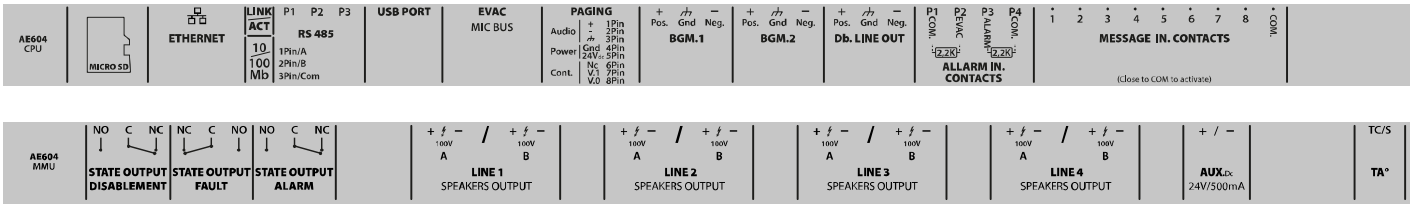
4.a Wall mounting

Install the wall-mounting brackets according to the template enclosed in the package. Make sure they are firmly installed. Make sure that the screws and plugs can handle the weight of the whole system and batteries.
Finally, hang the unit on the mounting brackets. Reference to pag.42, instructions for correct mounting.

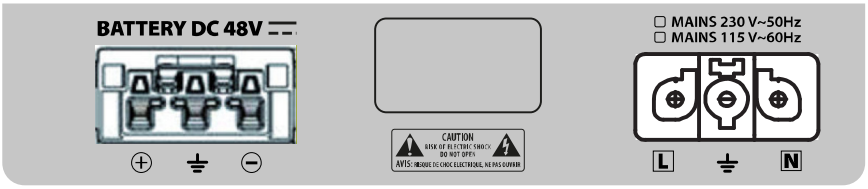
Use suitable type wall plugs according to the characteristics of the wall and with load from 0.30 to 0.65 kN.
The device must be fixed to the wall by qualified personnel.

4.b Connections and wiring

The AE604 has all connections and ports arranged as shown in the figure below.



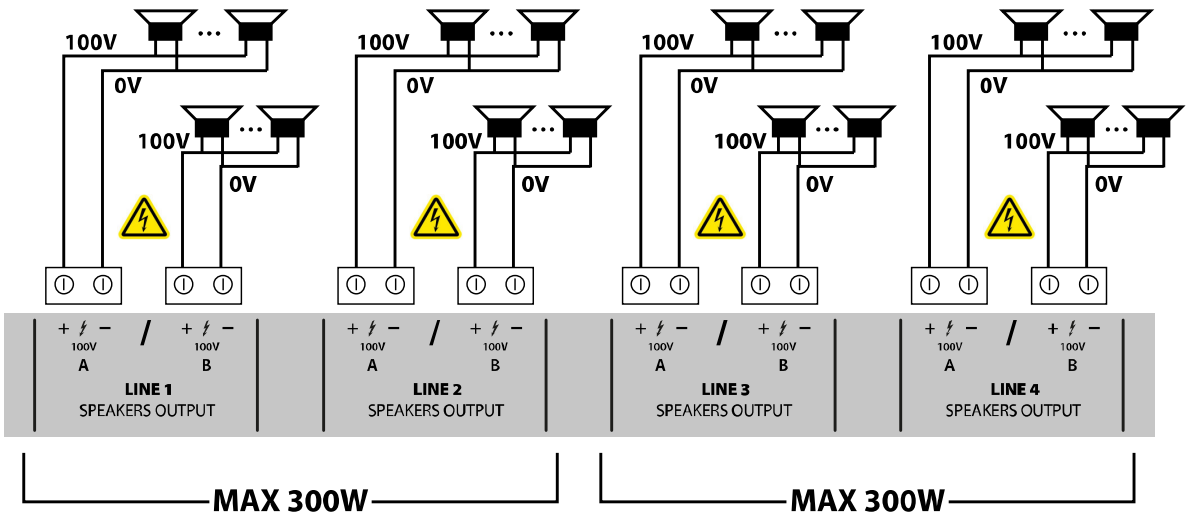
Mains power input and battery connections are placed below the internal chassis and are arranged as indicated in the figure below.



In the paragraphs that follow, a detailed description is given for each connector and port.

4.c Connection of the speaker lines

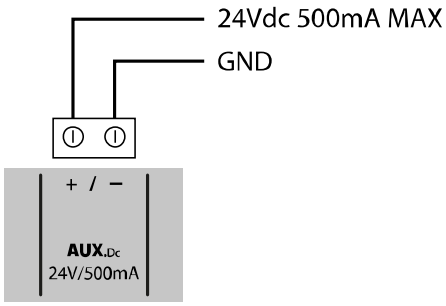
The terminals for connection to the speaker lines are located on the card on the bottom of the unit. Connect the loudspeaker lines to 100V speakers as shown in the figure. The overall load applied to the 4 zones, eventually in A+B mode, must not exceed 600W.
For best performance, it is suggested to equally distribute the load on all the 4 zone ports, eventually in A+B mode.
When wiring the loudspeaker lines, be very careful not to short-circuit the two poles between them. If the loudspeaker lines are in short-circuit, the system is not able to play back any alarm message, even if the fault is reported on the user interface.



Line 1-A output Line 1-B output Line 2-A output Line 2-B output Line 3-A output Line 3-B output Line 4-A output Line 4-B output	1 – 100V + 2 – 100V – 3 – 100V + 4 – 100V – 5 – 100V + 6 – 100V – 7 – 100V + 8 – 100V –	100V Constant voltage loudspeaker outputs The sum of all loads connected to Lines 1 and 2 shall not exceed 300W, Rmin=33,3Ohm The sum of all loads connected to Lines 3 and 4 shall not exceed 300W, Rmin=33,3Ohm Use twisted cable with section 2.5mm / max 4mm

4.d 24Vdc Output

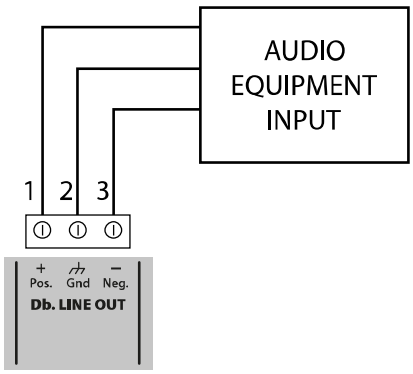
The system has an auxiliary 24Vdc output that can be useful to power external devices.
This output is automatically disabled when the unit is in the Fire Alarm condition and/or in case of a mains power loss.



24Vdc Aux output	1 – +24Vdc 2 - GND	Max 500mA, internally fused WARNING: the Common port is hardly connected to system ground. Wire accordingly to external equipment.

4.e Line Output

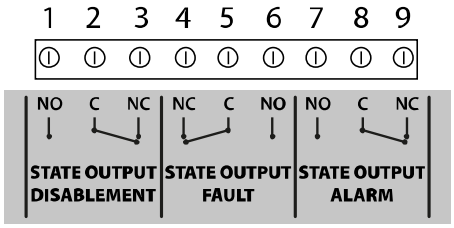
The system has a transformer-coupled balanced and isolated line audio output for a connection to external sound systems.



Line output	1 – Audio Pos 2 – GND 3 – Audio Neg	Power levels: 1.0Vrms, Ro=600ohm Use shielded cable with min section 0.5 mm This output is isolated from system ground

4.f Status outputs

The system has three status dry contact “Relay” outputs for reporting the machine status.



DISABLEMENT	1 – N.O. 2 – Common 3 – N.C.	Toggles in case of DISABLEMENTS Max 500mA – 125Vac
FAULT	4 – N.C. 5 – Common 6 – N.O.	Toggles in case of FAULT Max 500mA – 125Vac It should be noted that in the absence of power supply the contacts switch to the FAULT state.
ALARM	7 – N.O. 8 – Common 9 – N.C.	Toggles in case of ALARM Max 500mA – 125Vac

4.g Generic messages activation contacts

The system has 8 unsupervised inputs for activating the generic and service messages recorded on uSD memory card. Each message is activated by closing its ground input, as shown in the figure below.

The playback of the message is activated by a pulse. Releasing the contact after shorting it to ground has no effect, but the message will be played till its end. When a message is being played, a second pulse will stop the player.

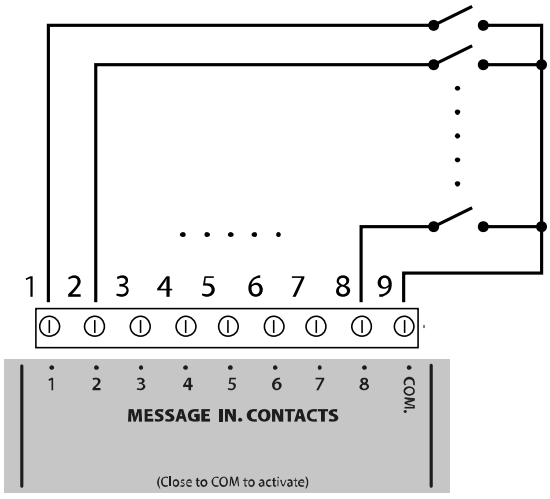
Generic messages have predefined priorities: message **n** has a priority over message **n+1.**

Example:

- When message 2 is played, the closing of contact 1 will stop message 2 and start message 1
- When message 2 is played, the closing of contact 2 will stop message 2
- When message 2 is played, the closing of contact 3 is ignored.

This said, message 8 will has the lowest priority, but message 1 has the highest.

Each contact is active only if an associated audio file is stored in the uSD card, refer to relative menù section. OK -> 3 x DOWN -> RECORDED MESSAGES & SD.



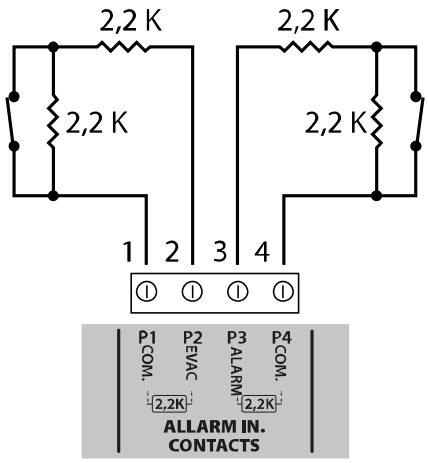
Unmonitored contact inputs for service messages activation	1 – Message 1 2 – Message 2 3 – Message 3 4 – Message 4 5 – Message 5 6 – Message 6 7 – Message 7 8 – Message 8 9 – Common (GND)	Each input is active for closure to ground (Common GND). Input Contacts are Normally Open (NO). Input contacts are protected up to +42V compared to GND, an higher voltage can seriously damage the relative electronic board. Use cable with min section 0.5 mm, max 2.5 mm.

4.h Alarm messages activation monitored contacts

The system has two monitored dry contact inputs to trigger the EVACUATE and ALARM (alert) messages that are stored in the uSD card. The connection foresees two resistors 2.2Kohm, connection example described in the figure below. (Alarm Input // Evacuate Input).

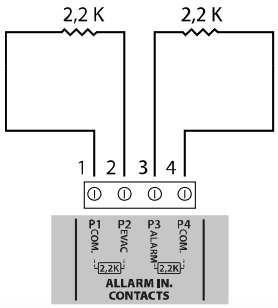
As a factory default, both inputs will trigger their respective message at the opening of the contact (NC) and the playback will continue cyclically as long as the input is open. Playback will stop at the closing of the contact.

These inputs, that are typically activated by the fire alarm control panel are monitored against short circuit and cable cut: in this case, the system will trigger a fault warning.



Alarm messages activation monitored contact inputs. Balance the lines with 2.2KOhm resistors.	EVACUATION 1 – CONT 1 P 2 – CONT1 N ALARM 3 – CONT 2 P 4 – CONT2 N	Connect the resistors (supplied in the accessory bag) on each pair of contacts as shown in the figure. The resistors must be placed at the end of the cable, from the smoke and fire signalling station side. Refer to the CONF ALARM INPUT MODE menu for the properties and configuration of the input contacts. The inputs of the alarm messages are, by default, configured for normally closed contacts. Use cable with min section 0.5 mm, max 2.5 mm

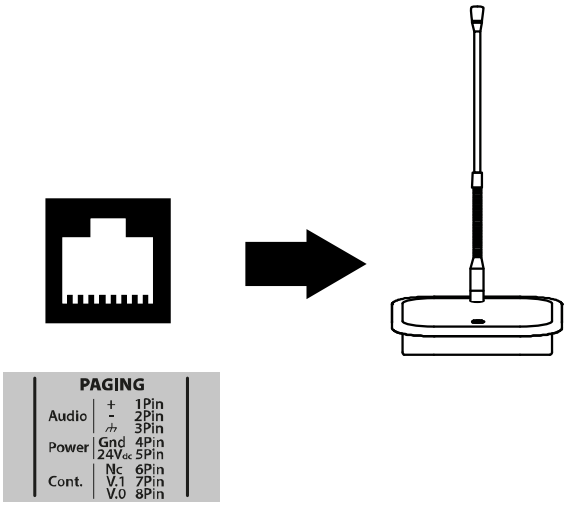
If you do not intend to use the remote activation of messages, you cannot leave these terminals open without the device reporting a fault. Therefore, connect two resistors 2.2Kohm directly on the mainboard terminal so that the device does not signal a connection fault or a Voice Alarm.



4.i Generic announcement microphone callstation

The system has an input for a microphone workstation for generic announcements, that is not evacuation and voice alarm announcements. The terminal shown in the figure has a balanced microphone input and a priority contact input.
This port is designed to be connected to Proel's BM101 and BM102 general announcement microphone stations.
In case of a connection to a BM101, the AE604 will power the microphone station, however, any other unit can be connected to this port that is very flexible since it also has +48V phantom power supply that can be activated from the menu. ACCESS AT LEVEL 3 -> OK -> 7 x DOWN -> OK -> 6 x DOWN -> OK -> 2 x DOWN -> OK -> DOWN -> OK

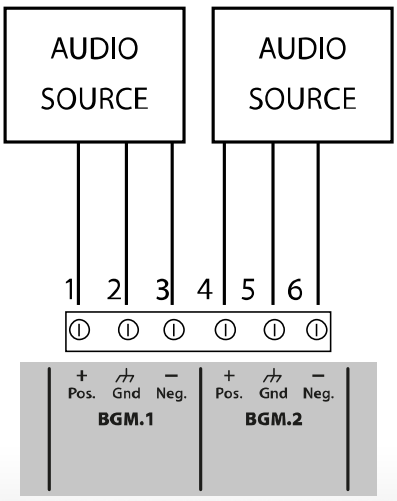
See pinout below.
Note: In the case of a connection to a BM101, the AE604 will power the microphone station



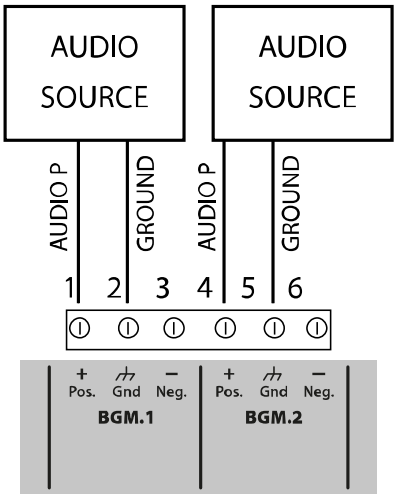
Mic paging input	RJ45 pinout: 1 – Audio + 2 – Audio - 3 – Audio Common 4 – GND 5 – +24V out 6 – n.c. 7 – Priority input 8 - GND	Input for generic announcements microphone call stations. This input will be disabled in Fire Alarm condition. 48V Phantom power supply that can be activated from menu: common mode on pin 1 and 2 compared to pin3. To engage the input (Background music muted), short pin 7 to pin 8 Audio input: 1.0Vrms max, Ri=600Ohm Use cable with 0.5 mm min and 2.5 mm max section on priority contact. Use shielded cable with 0.5 mm min section on audio input.

4.l Music/line inputs

The system has two balanced and transformer coupled (isolated) line inputs for the connection to audio sources for background music playback.
BGM1 is routed on zones 1 and 2; BGM2 is routed on zones 3 and 4
Either balanced or unbalanced signals are accepted. The following figures describe the connections.



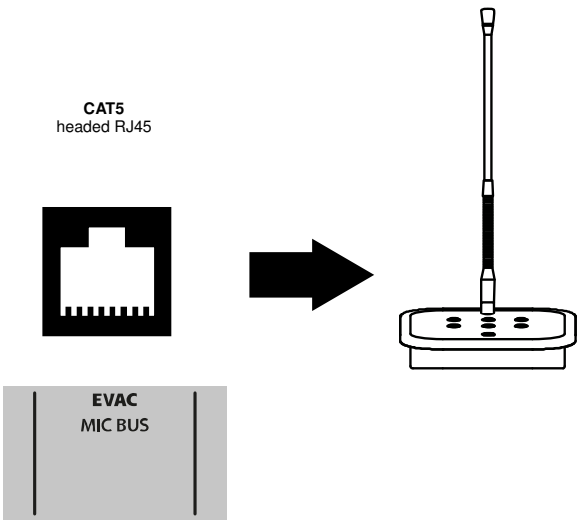
For the connection of audio sources with unbalanced output, connect the positive to terminal 1 (or 4), and the source ground to terminal 2 (or 5). Leave negative input unconnected.



BGM 1 audio input	1 – Audio P 2 – Common/Ground 3 – Audio N	Balanced line input, transformer insulated. Used for background music playback. Power levels: 0.8Vrms @ 0dB, Ri=100Kohm Use shielded cable for Audio signal with min section 0.5 mm
BGM 2 audio input	4 – Audio P 5 – Common/Ground 6 – Audio N	Balanced line input, transformer insulated. Used for background music playback. Power levels: 0.8Vrms @ 0dB, Ri=100Kohm Use shielded cable for Audio signal with min section 0.5 mm

4.m Emergency microphone callstation

The system has a RJ45 input for connection to remote emergency microphone workstations and monitored according to Standard EN54-16. Connect the microphone workstation to socket RJ45 through a UTP CAT5 cable. The connection between the two RJ45 pins to the cable end must be 1-to-1.
The AE604 is designed to be connected to the Proel's DBExx series microphone stations.

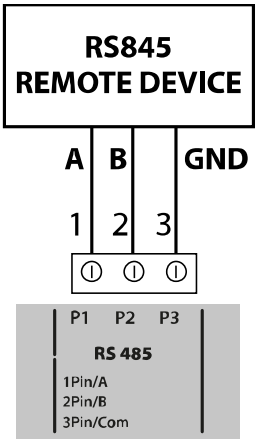


External emergency mic workstation port	1 – Audio P 2 – Audio Gnd	RJ45 Connector for connection to external emergency microphone workstation. This connector carries both the audio signals and data link from and to the external microphone workstation. Connection is monitored and the system reports a fault in case

	3 – Audio N 4 – GND 5 – +24Vdc 6 – GND 7 – COMM P C – COMM N	the communication with the microphone workstation is lost due to short-circuit or cable cutting. Proprietary connection for connection to the dedicated microphone workstations PA DBExx Series Use 8-pole UTP CAT5 cable, 4 pairs. Head the RJ45 connectors 1-to-1

4.n RS485 Serial connection

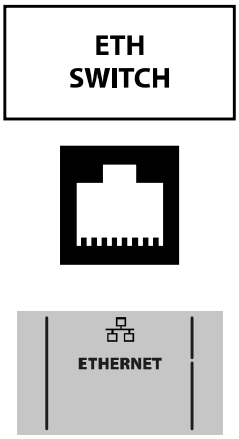
The system implements an RS485 communication port for connection to remote devices with dialogue through protocol, described in the specific manual. The following figure describes the connection between the AE604 and an external device, through RS485 port. The AE604 has a 120ohm termination that is not removable.



RS485	1 – RS485 A 2 – RS485 B 3 - Ground	Port RS485 not insulated. Standard power levels ANSI TIA/EIA-485 Use shielded cable with min section 0.5 mm

4.o Ethernet port

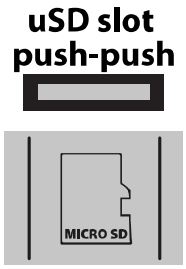
The ethernet port allows connecting the system to a company data network, or a dedicated data network, to remotely monitor the machine and connect several machines in a hierarchical manner.



Ethernet port	Standard pinout	Ethernet port 10/100 Base T insulated with coupling to connector built-in transformers Use UTP CAT5 cable // Use Switch type PoE 8 Port rj45 /2 port SfP -150W .

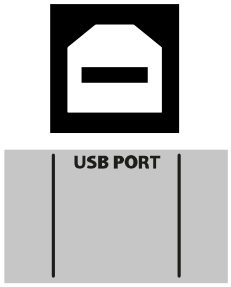
4.p uSD memory card

The housing for the uSD memory card containing the recorded messages is located on the left side of the mainboard. Before extracting or inserting the card, activate the appropriate DISABLEMENT function of the uSD from the menu.
The port-card connector is of a push-push type: to extract the card, push the uSD fully into the connector until you hear a “click”, then release and extract the card.
Insert the card with the contacts facing down and push until you hear a “click.”



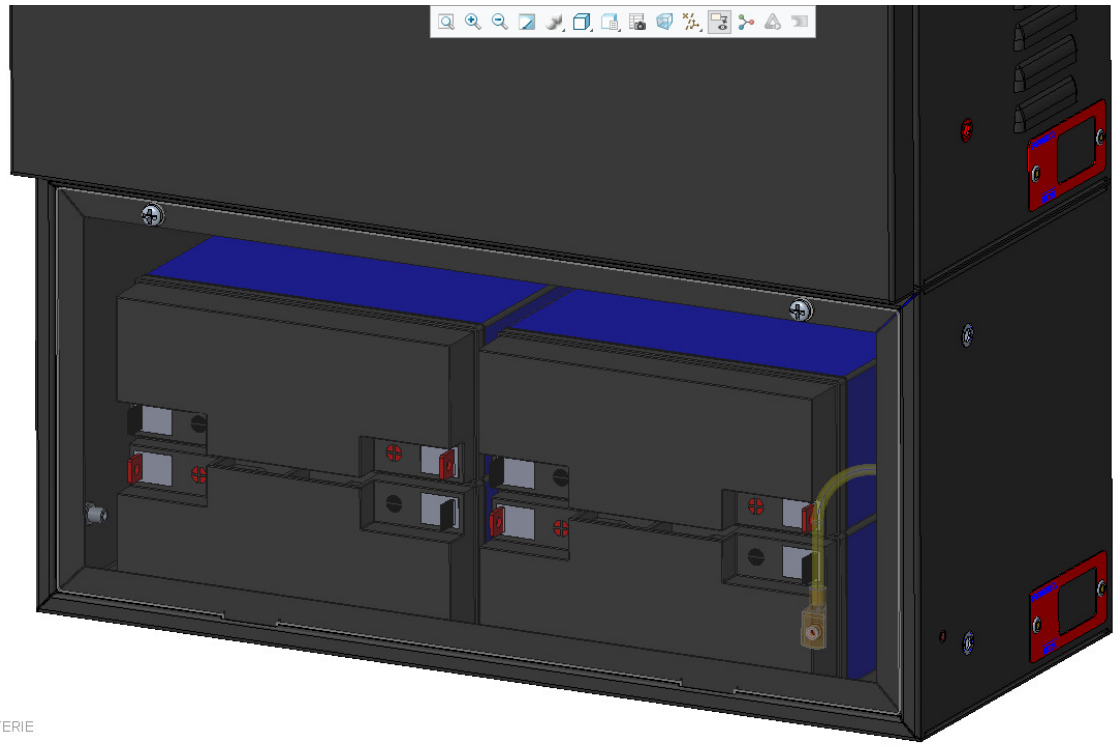
4.q USB port

The AE604 has a USB-B port that is reserved for future use. Please leave unconnected



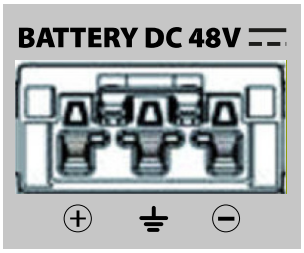
4.r Installing and connecting batteries

Install 4x 12V 18A/h batteries inside the dedicated battery compartment that was previously installed below the unit’s main body:



COPERTURA_BATTERIE

Connect the batteries in series, then wire the resulting stack to the dedicated battery connector that was provided with the unit. Connect this connector to the “battery DC 48V” input. Be very careful to not short plus and minus wires together, this will result in spreading lots of energy. It can be harmful to you and can permanently damage the batteries or the AE604 itself. Also, be very careful to respect the polarity as indicated in the figure below:



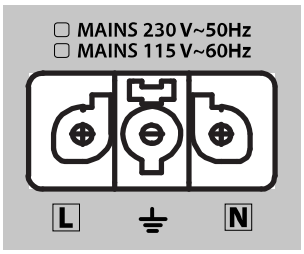
Once done, simply plug the cord in the battery input socket. Notice: the unit will power-up only after the mains is applied.

Finally, locate the battery temperature probe and secure it between two adjacent batteries.

Note: In case of detachment of the battery compartment from the device, and the consequent connection with long cables, we recommend protecting the cables in a special pipe. Insert protection with circuit breaker or fuse or switch of suitable W / A / h value.

4.s Connection to the mains power supply (N: Neutral – L: Line) and earthing

The socket for the 230V mains power supply and earthing connection is located close to battery socket at the bottom of the internal chassis. Wire the mains and earth to the plug provided with the unit as indicated in the figure below:



ATTENTION: Make the mains and earthing connections as shown in the above figure.

For the connection to the power mains, provide a 6A-C6 circuit breaker dedicated to the equipment; this must be placed in an easily accessible position.
Use cables with a section of 2.5mm2 for both the mains power supply and earthing.
Make sure that the signal cables, and the low voltage cables in general, do not accidentally touch the mains voltage points. These are the terminals for connection to the mains voltage, and the areas marked with the symbol inside the device.
Plug the mains cord to its socket with the circuit breaker in the OPEN position. Provide power only after the mains power plug is connected to the unit.

4.t Powering the system

Close the circuit breaker, and shortly after the system display will indicate “POWER ON” and so begins the switch-on sequence.

4.u Internal clock battery replacement

The battery-holder for the battery of the internal clock and calendar is located on the CPU mainboard. Please refer to qualified personnel for battery substitution. For best performance and system confidence, the CR2032 battery should be replaced once every 4 years

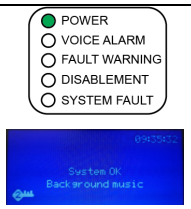
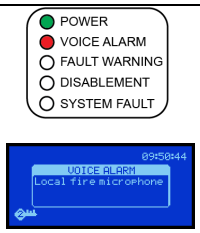
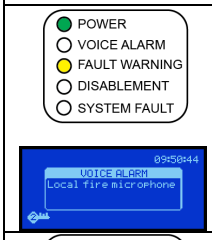
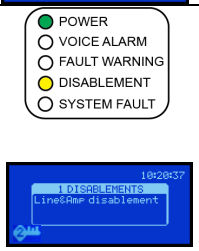
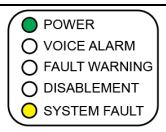
4.v Device maintenance

a) Periodically clean the device with a dry cloth
b) Periodically check that the ventilation openings are not obstructed
c) Periodically check the wiring and connections
d) Periodically check the efficiency of the earthing connection
e) Replace the Pb-Gel batteries every 4 years with units having the same voltage and capacity
f) Replace the CR2032 battery of the internal clock (see par. 4s) every 4 years
g) Check the status of EVAC and ALARM messages.

MENU DESCRIPTION

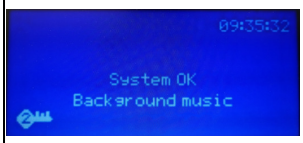
5.1 Status Description

The system is designed to manage different operating conditions which, according to Standard EN54, are identified in five status. The system status is displayed by the LEDs on the front panel of the system and of the remote emergency microphone workstations.

	**QUIET Status:** Operating condition "at rest", without faults, no playback of voice alarms and no active "disablements." Only the diffusion of background music or generic messages (not alarm ones) is allowed. When the system is in the quiet status only the green LED is lit on the front panel of the unit, to indicate that the system is powered.
	**ALARM Status (VOICE ALARM):** Operating condition where a pre-recorded or speakerphone voice alarm is being issued from the emergency microphone workstation. It can be activated via an external device connected to one of the supervised contacts, or from an emergency microphone workstation. While a voice alarm is issued, the system turns on the red LED to indicate the voice alarm status. The green LED remains on to indicate that the system is powered. The display will show a POP-UP window indicating the source of the voice alarm in progress.
	**FAULT Status (FAULT WARNING):** Operating condition indicating the presence of at least one fault detected by the internal diagnostic system. The status indication is accompanied by a fault intermittent acoustic signal (buzzer) and the yellow LED lighting up on the unit panel. The green LED remains on to indicate that the system is powered. The display will show a POP-UP window indicating the number of detected faults and a brief description.
	**DISABLEMENTS Status:** Operating condition in which the functions of one or more system sections are disabled. Even the faults related to the disabled section are suspended since safety functions are deactivated. This condition allows operating on the system without turning it off and without the fault condition (FAULT WARNIGS) being activated. The display will show a POP-UP window indicating the number of active "disablements" and a brief description of the section(s).
	**SYSTEM FAULT Status** Indicates the attempt by the machine to re-initialize following a block in the execution of the software. Two cases are distinguished: 1) If the machine restarts correctly, normal operation is resumed (but the System Fault LED remains on); try if the machine responds correctly to the commands. 2) A serious fault has occurred, the machine has not re-initialized and does not respond to commands. In both cases, switch off the machine completely (disconnect the mains plug and the battery socket), then repeat the power on procedure.

NOTE: Operating conditions may also occur simultaneously. The LEDs corresponding to the active conditions will light up on the front panel and the display will show a POP-UP window indicating which and how many events are active. If the number of events exceeds the number of rows of the POP-UP window, it is necessary to collapse the visualization, the messages are gathered on type and can be read using the arrows on the front panel. The messages groups are: "Voice Alarm "_ active voice alarm messages, "Fault warnings" current faults " Disablements " the different sections are off. On the POP-UP windows the number of the events for each category are displayed.

5.2 Main Screen



In the absence of warnings, the main screen shows the following information:

- System time: shows the current system time; for the system events to be properly recorded, this should be always updated. It is also important to verify that seconds are regularly counted, otherwise the system CPU may be locked.
- Current access level: A key indicates the current access level, 2 or 3.
- System status: The “System OK” text indicates that the system is operating.

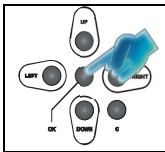
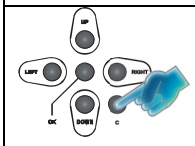
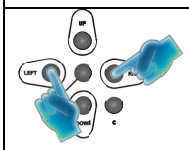
In case of a fault, a POP-UP window will appear indicating the number of active faults, the presence and number of “disablements” and if an alarm message is in progress.

Icons

	Current access level: a key positioned bottom-left of the display indicates the current access level, 2 or 3.
	Message playback with active repeat rules. In case alarm or evacuation messages are played back, an icon with two alternate arrows may appear to indicate the presence of rules in the number of repetitions of the current message. The rules impose a minimum number of reproductions and/or a maximum number of reproduction cycles.
	Fault of one of the two lines A or B of a single zone with volume increase. In case of line fault with redundant A&B line, an icon will appear to indicate that the “non-faulty” line is working with an indicated volume increase.
	Mute on. With mute on, an icon with the loudspeaker crossed is displayed to indicate that the mute is active. During the playback of a pre-recorded or voice message you can activate the “MUTE” function by pressing the appropriate button on the front panel; when on, an icon with a crossed loudspeaker appears on the display. To deactivate, simply press the appropriate button again and mute will be removed. NOTE: as per EN54-16, when “Mute” is activated during the playback of a pre-recorded message, the output is muted only at the end of the message itself to avoid compromising its intelligibility. Likewise, when mute is removed, the message will be played back at the end of the reproduction cycle. Mute activation while an emergency microphone is “speaking” is immediately effective.
	Warning on In case of a system event, a flashing triangle appears to attract the user’s attention. The warning is removed when you access the “System Logs” system event menu, which lists the system events.

5.3 Menu Description And Navigation

Using the keyboard on the front panel

	From the home screen where the display shows the general status, press OK to access the menu structure. The OK key in the sub-menus is used to confirm the selection of the element pointed by the navigation arrow.
	Use the UP and DOWN keys to scroll the list of menus and sub-menus. Press OK to access the menu or sub-menu pointed by the navigation arrow.
	Press BACK to go back to the previous menu or cancel the selection of a function. Repeatedly pressing the BACK key from any workstation returns to the main screen.
	Alternatively, you can access the selected menu or sub-menu by pressing the RIGHT key, and go back to the previous menu or sub-menu by pressing the LEFT key.

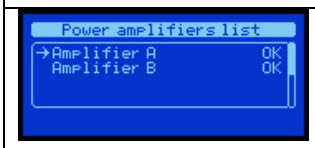
The main menu is structured in the form of a list in which the functional parts of the system are managed:

Menu tree:

- **Line & Amplifiers** Management of speaker lines and amplifiers
- **Power supply & Battery** Management of primary power supply (230V) and secondary (Battery)
- **Fire microphone** Management of the emergency microphone workstations
- **Recorded messages & SD** Management of pre-recorded messages on micro-SD card
- **Input contacts** Management of contacts to launch messages
- **Alarm Buttons** Management of Alarm – Evacuation frontal buttons
- **Ethernet** Management of ethernet connection
- **System status & Conf** System configuration
- **Volumes** Volumes configuration
- **Message Scheduler** Configuration of hourly programming of pre-recorded messages
- **System Logs** Display of system events
- **Access level login** User authentication

Menù "Line & Amplifiers"

The ***Power amp. & Speaker lines*** *m*enù allows you to view and manage the status of the amplifiers and speaker lines. The first screen allows you to select if you want to operate on the amplifiers or on the speaker lines.
You can choose the desired row using the UP and DOWN arrows and press OK.



The ***Power amplifiers list*** *m*enù allows you to view and manage the status of the amplifiers. They are listed and you can scroll through them using the UP and DOWN arrows, pressing OK You can access the detail page.
Each amplifier is associated with one of the following status:

- DISABLED (*Disablement*) → Disabled (Disablement)
- FAULT → Faulty
- OK → Running

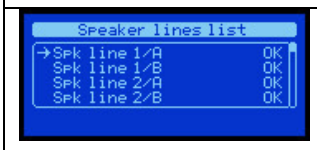
The ***Power amplifier # detail*** *m*enù allows you to view the status of the amplifier selected in the list. The operating status of the amplifier and of the operating temperature are displayed.

Status:

FAULT	→ Faulty
OVERLOAD	→ Increase of the Line Load
POWERDOWN	→ Amplifier in Energy saving condition
OK	→ Running

Temperature:

HEATING	→ High Temperature
OK	→ Normal Temperature



The ***Speaker lines list*** *m*enù allows you to view and manage the status of the speaker lines. They are listed and you can scroll through them using the UP and DOWN arrows, pressing OK You can access the detail page.
The status is associated to each line of speakers:

DISABLED	→ Disabled (*Disablement*)
NOT IN USE	→ Not in use
NO CALIB	→ Line not Calibrated
FAULT	→ Faulty
OK	→ Running

The ***Speaker line # detail*** *m*enù allows you to view the status of the speaker line selected in the list. The operating status and the connected load are displayed. In the event of a fault, the detail appears to specify the problem detected.

Status:

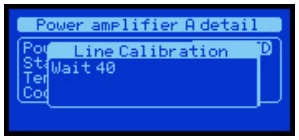
NOT IN USE	→ Not in use
NOT CALIBRATED	→ Line not Calibrated
CALIB ERROR	→ Error during Line Calibration
FAULT	→ Faulty (see detail)
OK	→ Running

Func:

DISCONNECTED	→ Speaker Line disconnected
CONNECTED	→ Speaker Line connected

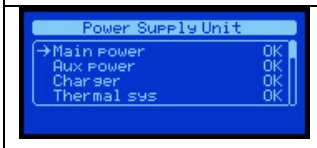
Detail:

GROUND SHORT	→ Speaker Line shorted to GROUND
NO LOAD DETECTED	→ Speaker Line interrupted
UNDERLOAD	→ Loss of Line Load
OVERLOAD	→ Increase of Line Load
BAD LOAD	→ Line impedance not manageable
LINE SHORTED	→ Line in short-circuit



From the detail screen of the amplifiers or speaker lines, pressing OK it is possible to access to the POP-UP in which the commands to insert or remove the "disablement" condition of the section are available.
From the POP-UP, with the section in "disablement" it is possible to perform the calibration of the line impedance by selecting the "Calibrate line" or "Line autoset" command.
The "Calibrate line" command measures the line impedance of active configured speakers.
The "Line autoset" command measures the impedance of all lines and activates those in which it detects a load, the others will be disabled.
The execution takes about 40 seconds and the result is reported in the detailed status screens of the speaker and amplifier lines.
At the end of the calibration it is necessary to remove the disablement.
NOTE: When the "Line & Amp" section is in "disablement" all the safety functions related to the amplifiers and speaker lines are deactivated. Any "FAULTS" errors are also removed. The "disablement" function allows you to operate on the speaker lines without interrupting system operation and without generating "FAULTS" errors.

Menù "Power suppliy & battery"



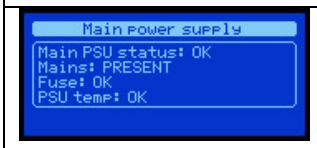
The *Power supply unit* menù allows you to view and manage the status of the system power supply unit.
All information is shown in 4 screens selectable with the UP and DOWN arrows:

- Main power → Main power supply connected to the primary power mains
- Aux power → Backup power supply connected to the buffer batteries
- Charger → Buffer battery charger
- Thermal sys → Thermal management

Each screen is associated with one of the following status:

DISABLED	→ Disabled (Disablement)
FAULT	→ Faulty
OK	→ Running

You can scroll through them using the UP and DOWN arrows, pressing OK You can access the detail page.



The *Main power supply* menù allows you to view the status of the Main power supply connected to the primary power mains:

Main PSU status: (Main Power Supply status)

DISABLED	→ Disabled (Disablement)
FAULT	→ Faulty
OK	→ Running

Mains: (Primary power mains status)

PRESENT	→Primary power mains connected and present
ABSENT	→ Primary power mains disconnected and absent

Fuse: (System protection fuse status)

OK	→ Fuse intact

BLOWN → Fuse blown or removed

PSU Temp:

HEATING → High Temperature

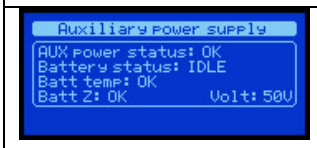
OK → Normal Temperature

If one of the following indications appears, consult the list of faults:

PSU COMMUNICATION LOSS → Communication fault with PSU

FLASH FAILURE → PSU Microprocessor fault

WATCHDOG RESET → PSU Microprocessor fault



The *Auxiliary power supply* menù allows you to view the status of backup power supply connected to the buffer batteries:

Aux power status:

DISABLED → Disabled (Disablement)

FAULT → Faulty

OK → Running

Battery Status:

ABSENT → Battery pack removed

SHORT → Battery pack in short-circuit

REVERSE → Battery pack reverse-connected

OVERCURRENT → Current protection active, battery pack disconnected

CHARGE LOW → Battery pack charge low

IN USE → Battery pack in use

Z TEST → Battery pack impedance test running

ON CHARGE → Battery pack on charge

IDLE → Battery pack at rest

Batt temp:

PROBE SHORT → Battery pack temperature probe in short circuit

PROBE OPEN → Battery pack temperature probe open or removed

OVERTEMP → Overheating of the battery pack; temperature out of range

UNDERTEMP → Battery pack temperature below threshold.

OK → Battery pack temperature correctly in range.

Batt Z: (Battery pack impedance)

ERROR → Battery pack impedance out of range, batteries to be replaced

WARNING → Battery pack impedance near the error threshold

OK → Battery pack impedance correctly in range.

NOTE: If the temperature of the battery pack is in error or the probe is not working, charging and impedance testing are suspended.

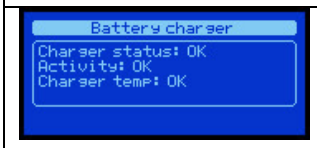
For completeness, the measured voltage value of the battery pack in volts is indicated.

If one of the following indications appears, consult the list of faults:

PSU COMMUNICATION LOSS → Communication fault with PSU

FLASH FAILURE → PSU Microprocessor fault

WATCHDOG RESET → PSU Microprocessor fault



The *Battery charger* menù allows you to view the status of the battery pack charger.

Charger status:

DISABLED → Disabled (Disablement)

FAULT → Faulty

OK → Properly functioning

Activity:

GENERAL FAULT → Charger circuit faulty

ON CHARGE → Charging of battery pack

Z TEST → Battery pack impedance test running

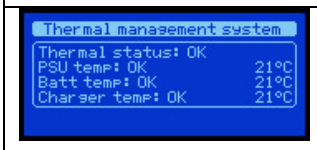
CHARGER TEST → Charger circuit test running

IDLE → Charger at rest

Charger temp:

PROBE FAILURE → Charger circuit temperature probe faulty
OVERTEMP → Overheating of the charger circuit; temperature out of range
OK → Charger circuit temperature correctly in range

If one of the following indications appears, consult the list of faults:
PSU COMMUNICATION LOSS → Communication fault with PSU
FLASH FAILURE → PSU Microprocessor fault
WATCHDOG RESET → PSU Microprocessor fault



The *Thermal management system* menù allows You to view the temperatures detected by the system:

Thermal status:

DISABLED → Disabled (Disablement)
FAULT → Faulty
OK → Properly functioning

PSU temp: (Main Power Supply temperature)

PROBE FAILURE → Main power supply temperature probe faulty
OVERTEMP → Overheating of Main power supply
OK → Main power supply temperature correctly in range

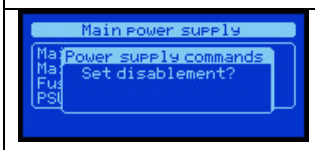
Batt temp:

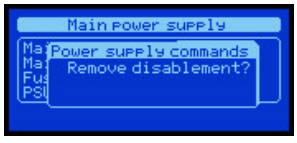
PROBE SHORT → Battery pack temperature probe in short circuit
PROBE OPEN → Battery pack temperature probe open or removed
OVERTEMP → Overheating of the battery pack; temperature out of range
UNDERTEMP → Battery pack temperature below threshold.
OK → Battery pack temperature correctly in range.

Charger temp:

PROBE FAILURE → Charger circuit temperature probe faulty
OVERTEMP → Overheating of the charger circuit; temperature out of range
OK → Charger circuit temperature correctly in range

For completeness, the temperature measured at the various sections is displayed; if there is a probe failure, the temperature display is suppressed.
If one of the following indications appears, consult the list of faults:
PSU COMMUNICATION LOSS → Communication fault with PSU
FLASH FAILURE → PSU Microprocessor fault
WATCHDOG RESET → PSU Microprocessor fault





From one of the detail screens, pressing OK you can access the POP-UP in which you can put or remove the disablement condition of the section.
When the "Power supply unit" section is in "disablement" all the safety functions related to the power supply are disabled. Any "FAULTS" errors are also removed. The "disablement" function allows you to operate on the batteries without interrupting system operation and without generating "FAULTS" errors.

Menù "Fire Microphone"

The *Fire Microphone* menu allows you to view and manage the status of the microphone stations used for the diffusion of emergency messages. They are divided by system connection methods:

- Local Fire Mic → Local emergency microphone, typically on the front of the system
- Remote Fire Mic → Remote emergency microphones connected via bus.
- Eth fire Mic → Remote emergency microphones connected via ethernet.

Each group of microphone stations is combined with the status:

NOT IN USE → No microphone workstation installed
DISABLED → Disabled (Disablement)
FAULT → Faulty
OK → Properly functioning

You can choose the desired row using the UP and DOWN arrows and press OK to access the section details.

The *Local Fire microphone* detail menù allows you to view the status of the local microphone station installed on the front of the system.

Details of the operating status for the local microphone workstation:

Fire Mic Status:

DISABLED →Disabled (Disablement)
FAULT → At least one fault active
OK → Operating, no fault detected

Details the status of the microphone capsule:

Capsule:

OPEN → Microphone capsule or wiring interrupted
SHORT → Microphone capsule or wiring in short - circuit
OK → Microphone capsule and wiring intact

The *Remote Fire Mic List* menù allows you to view and manage the status of remote microphone stations connected to the system via bus. They are presented in the form of a list and you can scroll through them using the UP and DOWN arrows, pressing OK to access the detail page.

The summary status is associated with each microphone station:

NOT IN USE → No microphone workstation installed
DISABLED → Disabled (Disablement)
FAULT → Faulty
OK → Properly functioning

The *Remote Fire Mic detail* menù allows you to view the status of the remote microphone station connected to the system via bus.

The operating status is detailed:

Model: → Model of the connected microphone workstation
Address: → Address on BUS
Status:

NOT IN USE → No microphone workstation installed
DISABLED → Disabled (Disablement)
FAULT → Faulty
OK → Properly functioning

Communication: (Communication Status)

FAULT → The microphone workstation is not connected to the system
OK → Properly functioning

Capsule:

OPEN	→ Microphone capsule or wiring interrupted
SHORT	→ Microphone capsule or wiring in short - circuit
OK	→ Microphone capsule and wiring intact

The *Ethernet Fire Mic list* menù allows you to view and manage the status of remote microphone stations connected to the system via the Ethernet network. The installed microphone stations are presented in the form of a list and it is possible to scroll them using the UP and DOWN arrows, pressing OK to access the detail page.

The summary status is associated with each microphone station:

DISABLED	→ Disabled (Disablement)
FAULT	→ Faulty
OK	→ Properly functioning

The *Ethernet Fire Mic detail* menù allows you to view the status of the remote microphone station connected to the system via the Ethernet network.

The operating status is detailed:

Fire mic status:

NOT IN USE	→ No microphone workstation installed
DISABLED	→ Disabled (Disablement)
FAULT	→ Faulty
OK	→ Properly functioning

Fault:

COMMUNICATION LOSS	→ Communication error with the system
GENERAL FAULT	→ Microphone workstation faulty
CAPSULE OPEN	→ Microphone capsule or wiring interrupted
CAPSULE SHORT	→ Microphone capsule or wiring in short - circuit
NONE	→ No fault detected

Net name: → Network name of microphone workstation

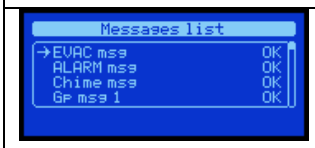
Ip: → IP network address

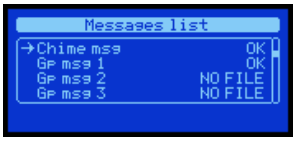
From one of the detail screens, press OK to access the POP-UP in which it is possible to insert or remove the "disablement" condition.

From the POP-UP, with the section in “disablement” it is possible to replace the local microphone without the system reporting the fault. It is also possible, from the "disablement" condition, to remove a remote microphone station without the system reporting the fault.

NOTE: When the "Fire microphone" section is in "disablement" all the functions related to the emergency microphone stations are deactivated. Any "FAULTS" errors are also removed.

Menù “Recorded messages & SD”





The *Messages list* menu allows you to view and manage the status of the system messages pre-recorded on uSD as file with .wav extension. They appear in the form of a list and can be scrolled using the UP and DOWN arrows. Each message/file in the list is linked to the summary status:

DISABLED	→ Message in “disablement”
NO uSD	→ No uSD or not detected
BAD uSD	→ uSD unusable
NO IMPRINT	→ File image not created / File not loaded
NO FILE	→ File/message not present
FAULT	→ File/message in error
OK	→ File/message OK

11 messages can be managed:

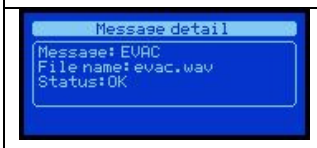
EVAC	→ Evacuation message (Controlled)
ALARM	→ Generic alarm message (Controlled)
CHIME	→ “Din-Don” message
Gp msg 1-8	→ Generic message

The evacuation and alarm messages are continuously controlled to verify their integrity.

Files format:

Evacuation message	→ EVAC	→ evac.wav
Generic alarm message	→ ALARM	→ alarm.wav
“Din-Don” message	→ CHIME	→ chime.wav
Generic message 1:8	→ Gp msg 1:8	→ msg1.wav / msg8.wav

Files must have the following characteristics: Format **WAV, 48KHz, MONO, 16bit**
Position of files: Files must be saved in the uSD root, that is not within sub-folders.



The *Messages detail* menù allows you to view the detail of the status of a message.
In particular, the type of message, the name of the file, the status and any error are displayed.

Message: → Name of the message

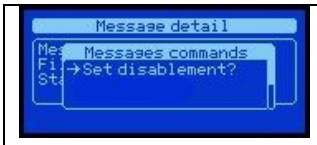
File name: → Mesage file name

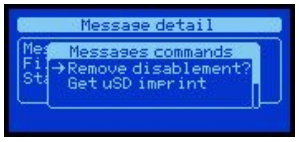
Status:

DISABLED	→ Message in “disablement”
NO uSD	→ No uSD or not detected
BAD uSD	→ uSD unusable
NO IMPRINT	→ File image not created / File not loaded
NO FILE	→ File/message not present
FAULT	→ File/message in error
OK	→ File/message OK

Fault: (detail about fault if a fault occurs)

FILE CORRUPTED	→ File corrupted
UNREADABLE	→ File unreadable
BAD FORMAT	→ Incorrect file format
TOO BIG	→ Excessive file size





From one of the detail screens, press OK to access the POP-UP in which it is possible to insert or remove the "disablement" condition.

By putting the entire message section in "disablement" you can safely remove the uSD to add or remove messages / files.

The file names are fixed and the format must be respected for the system to recognize the messages / files; if a file has a different name than expected, it is ignored.

In order for the system to create the image of the files it is necessary to have the section in "disablement", insert the uSD with the messages / files in the correct format, select the command "Get uSD imprint", at the end of the validation process, still in disablement, it is possible to check the validation result by scrolling the status of the messages / files in the detail screen. To activate the new messages it is necessary to remove the "disablement".

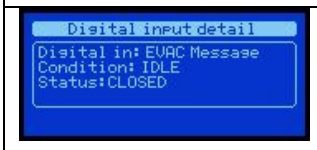
NOTE: When the uSD section is in “disablement” all system functions related to pre-recorded messages are disabled, the uSD is off and can be safely removed. Any "FAULTS" errors related to messages are also removed. The "disablement" function allows you to operate on messages without interrupting system operation and without generating "FAULTS" errors.

Menù “Input contacts”

The *Digital input list* menu allows you to view the status of the system digital inputs, in the form of a list, and you can scroll them using the UP and DOWN arrows. Each input in the list is linked to a summary status:

DISABLED → Input in “disablement”
FAULT → Faulty input
ACTIVE → Active input
IDLE → Idle input

For an input status details, you can select it from the list and press OK to access the *Digital input detail* screen.



The *Digital input detail* menù allows you to view the detail of the status of a digital input.
In particular, the following is displayed:

Digital in: → Input name

Condition:

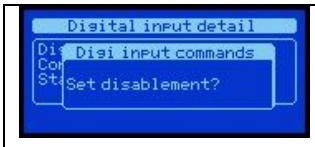
DISABLED → Input in “disablement”
ACTIVE → Active input
IDLE → Idle input

Status:

OPEN → Open contact
CLOSED → Closed contact
FAULT → Fault detected

Fault: (detail about fault if a fault occurs)

CABLE CUT → Cable cut, connector removed (monitored contacts EVAC e ALARM).
CABLE SHORT → Cable in short-circuit (monitored contacts EVAC e ALARM).
CIRCUIT FAILURE → Faulty control circuit

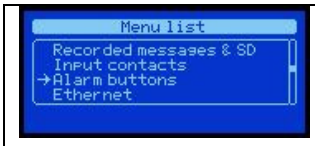


From one of the detail screens, pressing OK accesses the POP-UP in which it is possible to insert or remove the "disablement" condition.

By putting the entire section of the inputs in "disablement", it is possible to operate on the wiring, preventing the system from reporting faults or accidentally starting a message.

At the end of the wiring operations, remove the "disablement" condition.

NOTE: When the input section is in "disablement" all the system functions related to the input contacts are disabled. Any "FAULTS" errors related to the wiring are also removed. The "disablement" function allows you to operate on the wiring without interrupting system operation and without generating "FAULTS" errors.



Menù “Alarm buttons”

The *Alarm buttons* menù allows you to view and manage the status of the buttons for activating the evacuation and alarm messages on the front of the system.

Alarm buttons:

ENABLED → Buttons active, section not in “disablement”
DISABLED → Buttons deactivated, section in “disablement”

EVAC ALARM button:

IDLE → At rest, button released
PRESSED → Active, button pressed

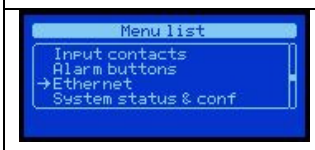
PRE ALARM button:

IDLE → At rest, button released
PRESSED → Active, button pressed

From the Alarm buttons screen, press OK to access the POP-UP in which it is possible to insert or remove the "disablement" condition.

By putting in "disablement" the activation buttons of the evacuation and alarm messages on the front of the system are disabled.

NOTE: If the buttons are put in “disablement” during the playback of an evacuation or alarm message, the playback is not interrupted.



Menù “Ethernet”

The **Ethernet** menù manages the network features. You can view the interface status and configure the operating parameters. The functions are shown as a list and can be browsed using the UP and DOWN arrows. When the desired selection is pointed by the arrow, press OK to access the section.

- STATUS → Displays the connection status
- Net Name → Displays and configures the system's network name
- DHCP → Displays and configures the network addressing system
- IP address → Displays and configures the IP address

The ETH STATUS menù allows you to view the status of the system's network connection.

Status:

ENABLED → Ethernet active, section not in “disablement”.

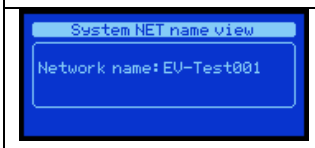
DISABLED → Ethernet deactivated, section in “disablement”.

Link:

UP → Physical network connection active.

DOWN → Physical network connection not active.

MAC: (Physical address MAC address)



The System NET name view sub-menu allows you to view and configure the name of the system network. To change the network name simply press OK to access the System NET name conf screen to enter the desired data, compose the name by changing one letter at a time until you get the desired combination; use the right and left arrows to move between letters and the up and down arrows to change the value of the selected letter. When all letters coincide with the desired settings, simply press OK to save them; press BACK to cancel the changes.

To modify the network configuration it is necessary to disable the section.

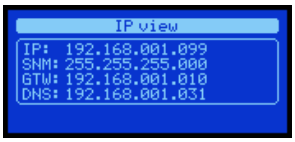
The DHCP View sub-menù allows you to view and configure the manual or automatic IP address allocation via allocation from DHCP server. To change the option, simply press OK to access the DHCP conf screen to set the DHCP ENABLED or DISABLED parameter.

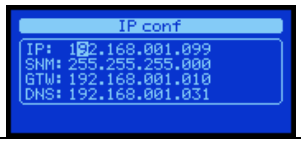
To modify the network configuration it is necessary to disable the section.

Lease:

BOUND → IP address correctly assigned by the DHCP server.

VOID → IP address not assigned by the DHCP server.

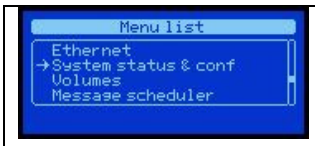




The IP view sub-menu allows you to view and configure the system network configuration parameters. Configurable parameters are the IP network address, the Subnet Mask, the Gateway address and the DNS address.

To change network parameters simply press OK to access the IP conf screen to enter the desired data, compose the addresses by changing one digit at a time until you get the desired combination; use the right and left arrows to move between digits and the up and down arrows to change the value of the selected digit. When all digits coincide with the desired settings, simply press OK to save them; press BACK to cancel the changes.

To modify the network configuration it is necessary to disable the section.

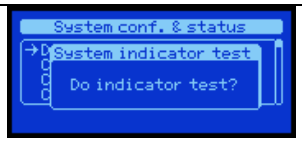


Menù “System status & conf”

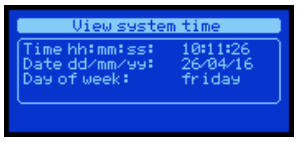
The ***System status & conf*** menù allows you to configure the system. Below the description and use of each section:

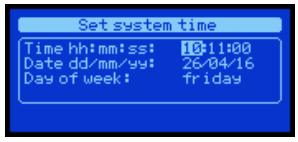
- Do indicator test → System indicators test
- Conf system time → System date and time configuration
- Conf line mode → System lines configuration
- Conf alarm messages loop → System alarm messages loop configuration
- Conf alarm inputs mode → System input alarm messages configuration
- Conf system passwords → System passwords configuration
- Conf microphone mode → System microphone input configuration

- Conf line-out mode → Line-Out contents configuration
- Conf master equalization → System equalization configuration
- Delete system logs → Allows to delete system logs
- System info → Displays system information

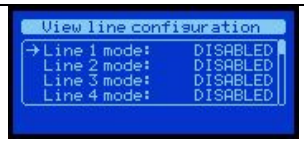


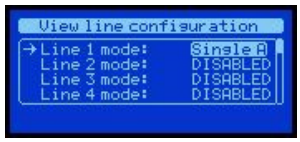
The ***DO INDICATOR TEST*** sub-allows you to test all system indicators.
By pressing OK all indicators will turn on for 2 seconds - even the display will turn completely white - and the acoustic indicators will emit a continuous beep. If an indicator is off during this operation, or some pixels do not turn white, or no sound is heard from the system, contact the service centre and report the fault

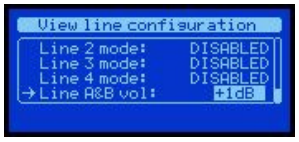




The ***CONF SYSTEM TIME*** sub-menu allows you to view and configure the system date and time.
To change the system date and time simply press OK to access the *Set system time* screen. Select the field to be changed with the RIGHT and LEFT arrows and select the desired value with the UP and DOWN arrows.
To save the configuration, simply press OK, press BACK to cancel the changes.



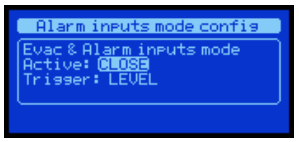




The ***CONF LINE MODE*** sub-menu allows You to view and configure the speaker lines functioning.
Each line can be activated in single A or A&B mode: DISABLED / Single A / Mode A&B.
In case of ACTIVE A&B line mode, you can configure the volume delta to be applied, in case of a line fault, to the one still working. In fact, the A&B mode allows you to independently manage the line faults and, in case of a fault, isolate the faulty line and simultaneously recover the lost sound pressure by transferring power on the line not in error.
To change the operating parameters simply press OK on the relative speaker line and then select the desired value with the UP and DOWN arrows.
To save the configuration, simply press OK, press BACK to cancel the changes.
To change the speaker lines configuration you must have access level 3, if not a screen is displayed where you are required to login to carry out this operation.

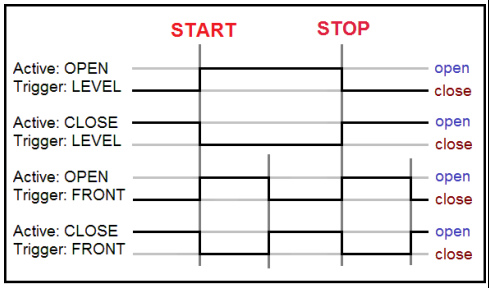
NOTE: changing the operating mode of the speaker lines cancels the calibration values of the line impedance

The ***CONF ALARM MESSAGE LOOP*** sub-menu allows you to view and configure the minimum and maximum number of repetitions of the pre-recorded alarm and evacuation messages.
The minimum number establishes how many times the pre-recorded message is played before accepting the stop command; the parameter can be disabled by setting the value 0 = DISABLED.
The maximum number establishes how many times at most the pre-recorded message is played before it is automatically terminated; the parameter can be disabled by setting the value 0 = DISABLED.
The parameters of minimum and maximum number of message playback are only applied to alarm and evacuation messages.
NOTE: if the configuration of minimum or maximum playback is active for pre-recorded messages during playback, the main screen will display the symbol.
To change the operating parameters, simply press OK to access the *Evac & Alarm msg loop config* screen. Select the desired setting with the RIGHT and LEFT arrows and select the desired value with the UP and DOWN arrows.
To save the configuration, simply press OK, press BACK to cancel the changes.
To change the minimum and maximum number of alarm and evacuation pre-recorded message playback, you must have access level 3, if not a screen is displayed where you are required to login to carry out this operation.
NOTE: The assignment of a maximum or minimum number of repetitions of the alarm message is in contrast with the requirements of the EN54-16 standard. Therefore only with the parameters left at the default values or disabled the system meets the requirements of the standard.



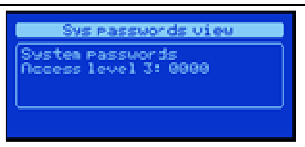
The ***CONF ALARM INPUT MODE*** sub-menu allows you to view and configure the operating mode of the inputs associated to the alarm and evacuation pre-recorded messages.
An input can be active when closing or opening the contact and work on front lines or on level.

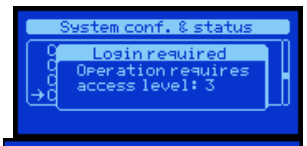
Active: OPEN/CLOSE → Active: OPENING / CLOSING
Trigger: LEVEL/FRONT → Mode: LEVEL / FRONT

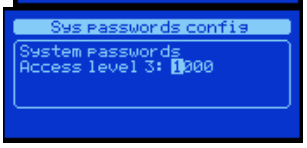


To change the operating parameters, simply press OK to access the *Alarm inputs mode config* screen. Select the desired setting with the RIGHT and LEFT arrows and select the desired value with the UP and DOWN arrows.
To save the configuration, simply press OK, press BACK to cancel the changes.

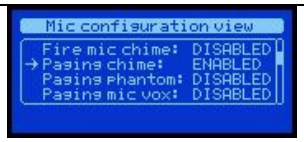
NOTE: If you configure the inputs in TRIGGER = FRONT mode the start and stop of the message takes place during transition from OPEN→CLOSE contact or vice-versa; for this reason when powered the system will not be able to detect an active contact.
Vice-versa, if you configure the inputs in TRIGGER = LEVEL mode the start and stop of the message takes place following the status of the input which can be active CLOSED or OPEN; for this reason, if the contact is active when the system is turned on and after the start-up sequence, the message will be immediately launched.
To change the operating configuration of the inputs associated with the alarm and evacuation pre-recorded messages, you must have access level 3, if not a screen is displayed where you are required to login to carry out this operation.







The ***CONF SYSTEM PASSWORDS*** menu allows you to view and configure the system access passwords.
The current password to access level 3 is displayed.
To change it simply press OK to access the *Sys password config* screen; to enter the password compose it by changing one digit at a time until you get the desired combination; use the right and left arrows to move between digits and the up and down arrows to change the value of the selected digit. When all digits coincide with the password to be entered, simply press OK to save them; press BACK to cancel the changes.
To change the system password you must have access level 3, if not a screen is displayed where you are required to login to carry out this operation.



The ***MIC CONFIGURATION MODE*** sub-menu allows you to view and configure the operating parameters of the system microphones.

- Fire mic chime: → ENABLED/DISABLED

Enable or disable the chime (Din-Don) playback on emergency microphone calls, applies to the integrated microphone and remote microphone stations connected via bus or ethernet.

- Paging chime: → ENABLED/DISABLED

Enable or disable chime playback (Din-Don) on paging microphone calls or non-emergency announcements, applies to the integrated input and remote microphone stations.

- Paging phantom: → ENABLED/DISABLED

Enable or disable the phantom voltage output for the paging microphone input to power condenser or electred microphones.

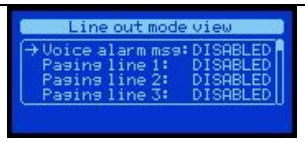
- Paging mic vox: → ENABLED/DISABLED

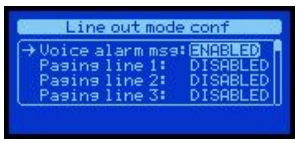
Enable or disable the activation of the integrated paging microphone input by means of VOX speech recognition or through dry contact.

- Paging mic gain: → MIC/LINE

Configuration of the input gain of the integrated paging microphone input in microphone input (high gain) or line input (low gain) mode.

To change the parameter, simply press OK to access the configuration screen, select the desired setting using the UP and DOWN arrows. To confirm the configuration, press OK, to cancel the changes, press BACK.
To change the configuration of the microphones it is necessary to have access level 3, otherwise a screen will be displayed asking to be authenticated to perform this operation.





The ***LINE OUT MODE*** sub-menu allows you to view and configure the audio content that will be played or not on the line-out line output integrated in the system.

- Voice alarma msg: → ENABLED/DISABLED

Enable or disable the playback of voice alarm messages.

- Paging line 1: → ENABLED/DISABLED

Enable or disable the reproduction of paging messages addressed to line 1.

- Paging line 2: → ENABLED/DISABLED

Enable or disable the reproduction of paging messages addressed to line 2.

- Paging line 3: → ENABLED/DISABLED

Enable or disable the reproduction of paging messages addressed to line 3.

- Paging line 4: → ENABLED/DISABLED

Enable or disable the reproduction of paging messages addressed to line 4.

- BGM music 1: → ENABLED/DISABLED

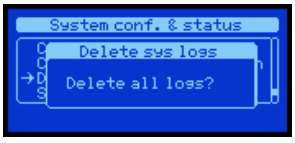
Enable or disable the playback of the music contents of BGM 1 input (Back ground music).

- BGM music 2: → ENABLED/DISABLED

Enable or disable the playback of the music contents of BGM 2 input (Back ground music).

To change the parameter, simply press OK to access the configuration screen, select the desired setting using the UP and DOWN arrows. To confirm the configuration, press OK, to cancel the changes, press BACK.

The ***CONF MASTER EQUALIZER*** sub-menu allows you to view and configure the equalization parameters of the system's audio output.
It is possible to configure the treble, mid and bass, the configurable values are expressed in decibels referred to 0dB.
To configure an equalization value, just press OK to access the Master equalizer set configuration screen, with the RIGHT and LEFT arrows you can select the band to be modified, with the UP and DOWN arrows you can select the desired value. To confirm the configuration, press OK, to cancel the changes, press BACK.
The configured values are applied in real time during parameter modification.



The ***DELETE SYSTEM LOGS*** sub-menu allows you to delete all *Logs* system events; to complete the operation, simply press OK; to cancel press BACK.
NOTE: The deletion of all *Logs* will empty the list of recorded events and will write a *Log* deletion event.

The ***SYSTEM INFO*** sub-menu displays the system information:

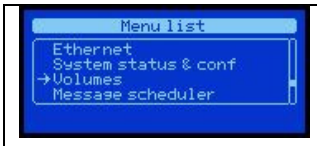
Mfg: → System manufacturer

Sn: → Serial number of the System

Firmware: → Software version (visible only at access level 3)

Up-Time: →On time (gg – giorni / hh - ore / mm- minuti)

Note: The loaded software / firmware version is visible only at access level 3.



Menù "VOLUMES"

The ***SYSTEM VOLUMES*** menù allows you to independently view and configure the volume of each system sound source / output.

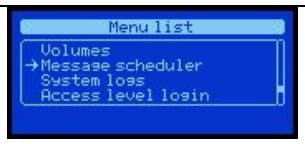
The volumes are displayed as a list and the volume is expressed in decibels referred to 0dB.

The configurable volumes are as follows:

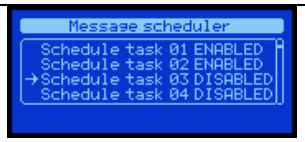
- Main lines 1&2 → Amplifier A volume combined with speaker lines 1 and 2.
- Main lines 3&4 → Amplifier B volume combined with speaker lines 1 and 2.
- Local fire mic → Volume of the emergency microphone integrated on the front.
- Remote fire mic → Volume of remote emergency stations connected via bus.
- Ethernet fire mic → Volume of remote emergency stations connected via ethernet.
- Msg EVAC → Volume of the pre-recorded evacuation message.
- Msg ALARM → Volume of the pre-recorded alarm message.
- Local paging → Paging input volume integrated in the system.
- Remote paging → Volume of paging calls from stations connected via bus.
- Ethernet paging → Volume of paging calls from stations connected via ethernet
- Bgm Music 1 → Background music volume, integrated input 1.
- Bgm Music 2 → Background music volume, integrated input 2.
- Msg Chime → Volume of the pre-recorded message of "chime" (Din-Don)
- Msg Gpo 1:8 → Generic pre-recorded message volume from 1 to 8.
- Line out → Volume uscita di linea integrata.
- Monitor speaker → Monitor speaker volume integrated on the front of the system.

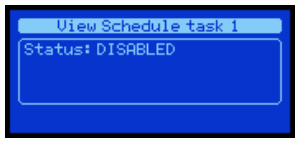
To configure a volume simply select the source using the UP and DOWN arrows and press OK, the pointed volume will be highlighted; using the UP and DOWN arrows, you can change its value, pressing OK saves and applies the value. When configuring the displayed value is applied in real time, press BACK to go back to the previous value.

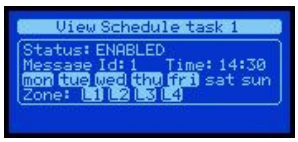
Note: In the absence of line calibration, the Main lines volumes are set to -12dB and cannot be changed.



Menù "Message scheduler"







The ***MESSAGE SCHEDULER*** menù allows you to view and configure the launching of a pre-recorded message according to a repetitive time schedule. The system provides for a maximum of 24 time schedules that are displayed in the form of a list. Each *Task* programming is numbered (01-24) and indicates whether it is *ENABLED* or *DISABLED*.
You can view the details for each *Task* programming via the *View schedule task xx* where, in the window title, xx indicates the number of the selected *Task*. If the *Task* is disabled only the word *DISABLED* is displayed to indicate that that *Task* is not active.

If, on the contrary, the *Task* is active, the following information is displayed:

- Numeric identification of the pre-recorded message that will be automatically launched.
- Days of the week when the message will be automatically launched
  (Mon = Monda, Tue = Tuesday, Wed = Wednesday, Thu = Thursday, Fri = Friday, Sat = Saturday, Sun = Sunday)
- Time when the message will be automatically launched (hh:mm)

To understand whether a weekday is active: mon = NOT ACTIVE / mon = ACTIVE

When the task is active, the display shows a cursor that highlights the editable field; use the right and left arrows to move between editable fields. Use the UP and DOWN arrows to edit the selected fields. Press OK to save changes. Press BACK to discard the changes and the *Task* configuration is not modified.

NOTE: The identified message will be automatically launched every active day of the week at the configured time; for multiple repetitions on the same weekday, you must use multiple *Tasks*.

Menù "SYSTEM LOGS"

The ***SYSTEM LOGS*** menù displays the System events stored in *Logs* events. The number of stored events can vary and is shown in the window title. (Example: if the *Logs* are deleted the list will only contain a log indicating the deletion of all *Logs*). Both the system events list screen *Logs list xxx/zzz* and the system event detail screen *Logs detail xxx/zzz* display the number of the selected event and the total number of the stored events *Logs list **XXX** / **ZZZ*** where **XXX** is the number of the selected Log and **ZZZ** the total number of logs.
In the system *Logs* list screen you can chronologically browse the system events, the first *Log* of the list (e.g. No.1/5) is the most recent event, using the DOWN arrow you can view the *Logs* that took place before.
To view the details of an event simply select it from the list using the UP and DOWN arrows and press OK. A new screen will appear showing all data relating to the selected event: Text description on two rows, event *Id:* and source of the event *Device:*
Textual description on 2 rows:

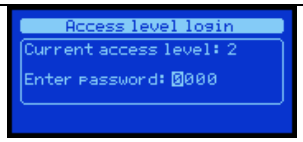
- **Id:** Unique identifier of the event
- **Dev:** Identifier of the source of the event
- **Sub:** Related data, it depends on the type of log

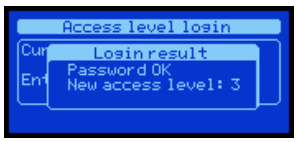
Each event is accompanied by the date and time of registration: hh:mm:ss dd/mm/yyyy where:

hh → hour of the day (00-24)
mm → minutes (00:59)
ss → seconds (00:59)
dd → day (01:31)
mm → month (01:12)
yyyy → year (20xx)

The complete list and related codes are detailed in the dedicated section.

Menù “ACCESS LEVEL LOGIN”





The ***ACCESS LEVEL LOGIN*** menù allows the user to authenticate and obtain the desired access rights. The system has two access levels 2 - 3 where level 2 has the lowest priority, level 3 has the highest priority. The current access level is displayed on the screen.

To authenticate you need to know the password of the desired access level. An incorrect password returns the system to access level 2.

To enter the password, the password must be entered by changing one digit at a time until the desired combination is obtained; use the left and right arrows to move from one digit to another and the up and down arrows to change the value of the selected digit. When all the numbers coincide with the password you want to enter, just press OK to proceed with the validation. If the password is correct, a POP-UP will appear indicating the new level of access obtained. If the password is incorrect, a POP-UP will appear indicating the new access level of 2.

6. EVENTS, FAULTS and TROUBLESHOOTING TABLE

ID	EVENT	LOG	LOG Detail	POP-UP	Description	Action
1	SYS	System power ON	System power ON Startup successful		System on, the event is recorded at the end of the start-up sequence.	
2	SYS	System old rtc time	System time setup event Log previous rtc time		Edit system date and time, the event is recorded with the date and time prior to the change.	
3	SYS	System new rtc time	System time setup event Log new rtc time		Edit system date and time, the event is recorded with the date and time after the change.	
4	SYS	System logs deleted	All system logs deleted by user		Deletion of system events by user command. All LOG have been deleted.	
5	SYS	Auth access level 3	Authentication event Current access level 3		Authentication to access level 3	
6	VOICE ALARM	Local fire mike START	Alarm message START Local fire mike	Local fire microphone	Launch of a "spoken" alarm message from the integrated microphone.	
7	VOICE ALARM	Local fire mike STOP	Alarm message STOP Local fire mike		Stop of a "spoken" alarm message from the integrated microphone.	
8	VOICE ALARM	Remote fire mike START	Alarm message START Remote fire mike	Remote fire mic	Launch of a “spoken” alarm message from remote alarm microphone connected via BUS	
9	VOICE ALARM	Remote fire mike STOP	Alarm message STOP Remote fire mike		Stop of a “spoken” alarm message from remote alarm microphone connected via BUS	
10	VOICE ALARM	Eth alarm talk START	Alarm message START From Ethernet	ETH Alarm talk	Launch of a “spoken” alarm message from ethernet microphone workstation	
11	VOICE ALARM	Eth alarm talk STOP	Alarm message STOP From Ethernet		Stop of a “spoken” alarm message from ethernet microphone workstation	
12	VOICE ALARM	EVAC message START	EVAC message START From uSD Player	Evac Message playback	Start playback of evacuation message from uSD.	
13	VOICE ALARM	EVAC message STOP	EVAC message STOP From uSD Player		Stop playback of evacuation message from uSD.	
14	VOICE ALARM	ALARM message START	ALARM message START From uSD Player	Alarm Message playback	Start playback of alarm message from uSD.	
15	VOICE ALARM	ALARM message STOP	ALARM message STOP From uSD Player		Stop playback of alarm message from uSD.	
16	FAULT WARNING	Line NOT calibrated	Line calibration FAULT Line is not calibrated	No line calibration	Error: Line not calibrated	Calibrate speakers lines
17		Line calibrated	Line calibration RESUME Line is now calibrated		The event is stored at the end of the line calibration procedure with positive outcome.	
18	FAULT WARNING	Amplifier FAULT	Amplifier # FAULT Amplifier is unusable	Amplifier fault	Amplifier fault (number displayed) : Device: 1→ Amplifier 1 2→ Amplifier 2 Detail: 1→ Internal fault. 2→ Overload. 3→ Overheating. 4→ Cooling fan fault.	Based on the fault type you need to make the following actions: Internal fault: consult the technical service Overload: check the speakers line Overheating: check if there is enough ventilation Colling fan fault: consult the technical service
19		Amplifier RESUME	Amplifier # RESUME Amplifier is OK		Amplifier restored (number displayed): Device: 1→ Amplifier 1 2→ Amplifier 2 Detail: 1→ Internal fault. 2→ Overload. 3→ Overheating. 4→ Coolinjg fan fault.	
20	FAULT WARNING	Speaker line FAULT	Speaker line # FAULT See doc. for detail	Speaker line fault	Impedence fault of the speakers line: Device: 1→ Speaker Line 1-A 2→ Speaker Line 1-B 3→ Speaker Line 2-A 4→ Speaker Line 2-B 5→ Speaker Line 3-A 6→ Speaker Line 3-B 7→ Speaker Line 4-A 8→ Speaker Line 5-B Detail: 1→ Ground shorted. 2→ Load not detected. 2→ Underload. 3→ Overload. 4→ Impedence out of range. 5→ Short-circuit.	Check speakers lines
21		Speaker line RESUME	Speaker line # RESUME See doc. for detail		Impedence of the speakers line fault restored : Device: 1→ Speaker Line 1-A 2→ Speaker Line 1-B 3→ Speaker Line 2-A 4→ Speaker Line 2-B 5→ Speaker Line 3-A 6→ Speaker Line 3-B 7→ Speaker Line 4-A 8→ Speaker Line 5-B Detail: 1→ Ground shorted. 2→ Loss not detected. 2→ Underload. 3→ Overload. 4→ Impedance out of range. 5→ Short-circuit.	
22	FAULT	Mains loss FAULT	Mains loss FAULT	Mains loss	Mains supply absence	Check the system connection to the

	WARNING		Main power absent			power mains
23		Mains RESORED	Mains fault RESUME Main power RESTORED		Mains supply absence fault restored	
24	FAULT WARNING	Mains fuse blow FAULT	Mains FAULT Fuse blow	Mains fuse blow	Mains supply fuse burnt	Replace the power mains supply fuse
25		Mains fuse RESORED	Mains RESUME Fuse restored		Fault of the main supply burnt fuse restored	
26	FAULT WARNING	PSU over temp. FAULT	PSU FAULT Over temperature	PSU over temperature	Main power supply overheating fault	Check system ventilation. Remove dust.
27		PSU overtemp RESTORED	PSU fault RESUME Temperature in range		Main power supply overheating fault restored	
28	FAULT WARNING	PSU fan FAILURE	PSU FAULT Fan failure	PSU fan failure	Mains colling fan error	Contact the technical service
29		PSU fan RESTORED	PSU fault RESUME Fan is functional		Mains cooling fan error restored	
30	FAULT WARNING	Batt unplugged FAULT	Battery FAULT Battery unconnected	Battery disconnected	Disconnected battery on backup power supply	Connect the battery pack as indicated
31		Batt plugged RESTORE	Battery fault RESUME Battery connected		Disconntected battery error restored	
32	FAULT WARNING	Batt over curr FAIL	Battery FAULT Battery overcurrent	Battery over current	Battery current over threshold. Battery disconnected	Disconnect battery and contact the technical service
33		Battery fuse GOOD	Batt fuse fault RESUME Overcurrent RESUME		Battery current over threshold error restored	
34	FAULT WARNING	Battery shorted FAULT	Battery FAULT Battery shorted.	Battery shorted	Battery connection in short-circuit	Check battery connection
35		Battery short RESTORE	Battery fault RESUME Battery not shorted		Battery connection in short-circuit restored	
36	FAULT WARNING	Battery reverse FAULT	Battery FAULT Reverse plug	Battery reverse plug	Battery connection reversed	Check battery connection
37		Batt reverse RESTORE	Battery fault RESUME Reverse plug restore		Battery connection reversed restored	
38	FAULT WARNING	Batt charge low FAULT	Battery FAULT Battery charge low	Battery charge low	Battery charge under threshold	Wait and check. The charger will work
39		Batt charge RESTORE	Battery fault RESUME Batt charge RESTORED		Battery charge error restored	
40	FAULT WARNING	Battery impedance FAIL	Battery FAULT Impedance out of range	Batt Z out of range	Battery impedance out of range	Replace batteries
41		Battery impedance RESUME	Battery fault RESUME Impedance in range		Battery impedance correctly in range	
42	FAULT WARNING	Battery OVERTEMP	Battery FAULT Over temperature	Battery over-temp	Overheating of the backup battery pack.	Check the system ventilation
43		Battery temp RESUME	Battery fault RESUME Temperature in range		Battery pack temperature correctly in range	
44	FAULT WARNING	Battery UDERTEMP	Battery FAULT Under temperature	Battery under-temp	Battery pack temperature under threshold	Check that the environmental conditions are appropriate to the specifications
45		Battery temp RESUME	Battery fault RESUME Temperature in range		Battery pack temperature correctly in range	
46	FAULT WARNING	Battery charger FAIL	Battery charger FAULT Charger circuit failure	Battery charger FAIL	Battery circuit charger error	Contact the technical service
47		Batt charger RESUME	Battery charger RESUME Charger functional		Battery charger circuit error restored	
48	FAULT WARNING	Charger over temp.	Battery charger FAULT Over temperature	Charger over temp.	Overheating of the battery charger circuit	Check system ventilation
49		Charger temp RESUME	Battery charger RESUME Temperature in range		Battery charger circuit temperatures correctly in range	
50	FAULT WARNING	Batt temp probe SHORT	Batt temp probe FAULT Temp probe SHORT	Batt temp probe short	Battery temperature probe error: the connection is short-circuited.	Check the battery temperature probe
51		Batt temp probe GOOD	Batt temp probe RESUME Temp probe is OK		Battery temperature probe error restored.	
52	FAULT WARNING	Batt temp probe OPEN	Batt temp probe FAULT Temp probe CUT/OPEN	Batt temp probe open	Battery temperature probe error: the connection is interrupted.	Check the battery temperature probe
53		Batt temp probe GOOD	Batt temp probe RESUME Temp probe is OK		Battery temperature probe error restored.	
54	FAULT WARNING	Chrg temp probe FAIL	Chrg temp probe FAULT Temp probe failure	Chrg temp probe fail	Temperature probe of battery charger circuit error	Contact the technical service
55		Chrg temp probe GOOD	Chrg temp probe RESUME Temp probe is OK		Temperature probe of battery charger circuit error restored	
56	FAULT WARNING	PSU temp probe GOOD	PSU temp probe FAULT Temp probe failure	PSU temp probe fail	Temperature probe of the mains power supply error	Contact the technical service
57		Chrg temp probe GOOD	PSU temp probe RESUME Temp probe is OK		Temperature probe of the mains power supply error restored	
58	FAULT WARNING	NO POWER KILLING UNIT	Batt exhausted FAULT KILLING UNIT	Battery exhausted	System running by low charge battery. Imminent shutdown	Restore the main supply immediately
59		POWER KILL RESUME	Batt exhausted RESUME Battery voltage is OK		Imminent shutdown condition restored.	
60	FAULT WARNING	PSU WATCHDOG RESET	Power Supply FAULT WATCHDOG RESET	PSU WATCHDOG RESET	Indicates a forced reset (WatchDog) of the power supply unit processor.	Contact the technical service
61		PSU WATCHDOG RESUME	Power Supply RESUME WATCHDOG RESET		Forced reset (WatchDog) of the power supply unit processor restored.	
62	SYSTEM FAULT	PSU FLASH FAULT	Power Supply FAULT Internal flash error	PSU FLASH FAULT	Indicates an internal fault of power supply unit processor. Flash memory corrupted.	Contact the technical service
63		PSU FLASH RESUME	Power Supply RESUME Internal flash OK		Internal fault of power supply unit processor restored. Flash memory intact.	Monitor this event
64	FAULT WARNING	PSU communication FAIL	PSU communication FAULT PSU communication loss	PSU comm. FAULT	Communication error between power supply unit and main board	Contact the technical service
65		PSU comm. RESUME	PSU comm fault RESUME PSU Comm. restored		Communication error between power supply unit and main board restored	Monitor this event
66	FAULT WARNING	Local fire mike CUT	Local fire mike FAULT Cable CUT	Int fire mic cut	Removal/cut of local emergency microphone cable.	Check the emergency microphone connection / Replacement could be needed.
67		Local fire mike RESUME	Loc fire mic flt RESUME		Removal/cut of local emergency microphone cable	

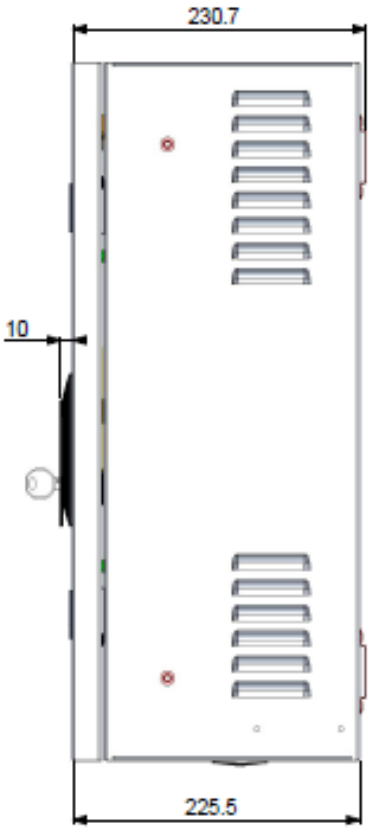
			Resume from cable-cut		restored	
68	FAULT WARNING	Local fire mike SHORT	Local fire mike FAULT Cable SHORT	Int fire mic short	Local emergency microphone in short-circuit	Check the connection of the local emergency microphone / replace it.
69		Local fire mike RESUME	Loc fire mic flt RESUME Resume from cable-short		Local emergency microphone in short-circuit restored	
70		Remote fire mic MOUNT	Remote fire mike MOUNT New fire mike added		Added remote emergency microphone base. The Dev field: indicates the location address.	
71		Remote fire mic UNMOUNT	Remote fire mic UNMOUNT Fire mike removed		Removed remote emergency microphone base from the system. The Dev field: indicates the location address.	
72	FAULT WARNING	Rem mic comm LOST	Remote mike comm FAULT Communication ERROR	Ext fire mic com	Communication error with remote emergency microphone base. The Dev field: indicates the location address.	Check the connection of the base with the system.
73		Rem mic comm RESTORED	Remote mic comm RESUME Communication restored		Communication error with remote emergency microphone base restored. The Dev field: indicates the location address.	
74	FAULT WARNING	Rem fire mic FAULT	Remote mic FAULT Capsule failure	Ext fire mic fault	Failure of the microphone capsule of the remote emergency microphone base. The Dev field: indicates the location address.	Check the microphone / Contact the service center.
75		Rem fire mic RESTORED	Remote mic fault RESUME Capsule restored		Failure of the microphone capsule of the remote emergency microphone base restored. The Dev field: indicates the location address.	
76		Ethernet fire mic MOUNT	Ethernet fire mic MOUNT New fire mike added		Ethernet emergency microphone base added. The Dev field: indicates the location index.	
77		Eth fire mic UNMOUNT	Eth fire mic UNMOUNT Fire mike removed		Removed remote emergency microphone base from the system. The Dev field: indicates the location index.	
78	FAULT WARNING	Rem mic comm LOST	Eth mic comm. LOST Communication ERROR	Eth fire mic comm.	Communication error with ethernet emergency microphone base. The Dev field: indicates the location index.	Check the connection of the base with the system.
79		Rem mic comm RESTORED	Eth mic comm. RESTORED Communication restored		Communication error with ethernet emergency microphone base restored. The Dev field: indicates the location index.	
80	FAULT WARNING	Eth mic general FAULT	Ethernet mic FAULT General FAULT	Eth fire mic fault.	Error inside the ethernet emergency microphone base. The Dev field: indicates the location index.	Check the microphone / Contact the service center.
81		Eth mic fault RESTORED	Ethernet mic RESUME General fault RESTORED		Error inside the ethernet emergency microphone base restored. The Dev field: indicates the location index.	
82	FAULT WARNING	Eth mic caps CUT	Ethernet mic FAULT Eth mic caps CUT	Eth fire mic cut	Failure of the microphone capsule of the ethernet emergency microphone base. Connection open or capsule removed. The Dev field: indicates the location index.	Check the microphone / Contact the service center.
83		Eth mic caps RESTORED	Ethernet mic RESUME Capsule cut restored		Failure of the microphone capsule of the ethernet emergency microphone base restored. The Dev field: indicates the location index.	
84	FAULT WARNING	Rem mic caps SHORT	Ethernet mic FAULT Rem mic caps SHORT	Eth fire mic short	Failure of the microphone capsule of the ethernet emergency microphone base. Capsule in short circuit. The Dev field: indicates the location index.	Check the microphone / Contact the service center.
85		Eth mic caps RESTORED	Ethernet mic RESUME Capsule short restored		Failure of the microphone capsule of the ethernet emergency microphone base restored. Capsule in short circuit. The Dev field: indicates the location index.	
86	FAULT WARNING	uSD no imprint	uSD imprint FAULT uSD has no imprint	No uSD imprint	Image of files on the uSD card not created	Create the image of file on the uSD card.
87		uSD imprint done	uSD impr fault RESUME uSD imprint done		Image of files on the uSD card absence restored	
88	FAULT WARNING	uSD presence LOST	uSD presence FAULT NO uSD was found	uSD absent	uSD not detected.	Insert a uSD. See uSD preparation procedure
89		uSD presence RESUME	uSD pres fault RESUME uSD is present		uSD not detected error restored	
90	FAULT WARNING	uSD filesystem FAULT	uSD filesystem FAULT uSD is UNUSABLE	uSD bad filesystem	Filesystem uSD error	Remove the uSD and repeat the uSD preparation procedure / Replace the uSD.
91		uSD filesystem RESUME	uSD filesys flt RESUME uSD is back in use		Filesystem uSD error restored	
92	FAULT WARNING	uSD player FAULT	uSD player FAULT Cannot play stored msg	uSD player failure	Error playing file from uSD.	Remove the uSD and repeat the uSD preparation procedure / Replace the uSD.
93		uSD player RESUME	uSD player fault RESUME Stored msg are playable		Error playing file from uSD restored.	
94	FAULT WARNING	uSD ALARM message CORRUPT	uSD ALARM message FAULT ALARM msg is CORRUPTED	uSD ALARM msg corrupt	The pre-recorded alarm message file is corrupt and unplayable.	Remove the uSD and repeat the uSD preparation procedure / Replace the uSD.
95		uSD ALARM message RESUME	uSD ALARM msg flt RESUME ALARM message playable		The pre-recorded alarm message file is corrupt and unplayable error restored.	
96	FAULT WARNING	uSD EVAC message CORRUPT	uSD EVAC message FAULT EVAC msg is CORRUPTED	uSD EVAC msg corrupt	The pre-recorded evac message file is corrupt and unplayable.	Remove the uSD and repeat the uSD preparation procedure / Replace the uSD.
97		uSD EVAC message RESUME	uSD EVAC msg flt RESUME EVAC message playable		The pre-recorded evac message file is corrupt and unplayable error restored.	
98	FAULT WARNING	IO Hardware FAIL	IO Digital inputs hardware failure	IO hardware failure	Internal fault in the digital input circuitry.	Contact the service center
99		IO Hardware RESUME	IO Digital inputs hardware restored		Internal fault in the digital input circuitry restored.	
100	FAULT WARNING	IO expander comm. FAIL	IO Expander communication failure	IO expander failure	Internal communication failure of the digital input circuit.	Contact the service center
101		IO expander comm. RESUME	IO Expander communication restored		Internal communication failure of the digital input circuit restored.	
102	FAULT WARNING	Dg.Input EVAC SHORT	Dg.Input FAULT EVAC input SHORT	EVAC dgi cable short	Digital input associated with the evacuation message in short-circuit.	Check the wiring associated with the evacuation message input

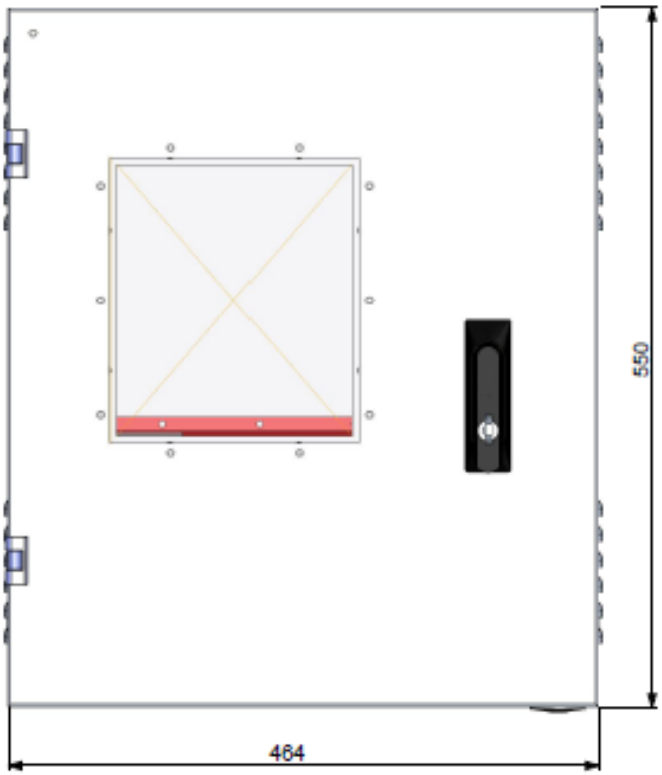
103		Dg.Input EVAC RESUME	Dg.Input fault RESUME EVAC restored from short		Digital input associated with the evacuation message in short-circuit restored.	
104	FAULT WARNING	Dg.Input EVAC CUT	Dg.Input FAULT EVAC input CUT	EVAC dgi cable cut	Cable cut on digital input associated with the evacuation message.	Check the wiring associated with the evacuation message input
105		Dg.Input EVAC RESUME	Dg.Input fault RESUME EVAC restored from cut		Cable cut on digital input associated with the evacuation message restored.	
106	FAULT WARNING	Dg.Input EVAC HW FAIL	Dg.Input HARDWARE FAULT EVAC input failure	EVAC dgi hw failure	Fault on digital input circuitry associated with the evacuation message.	Contact the service center
107		Dg.Input EVAC HW RESUME	Dg.In EVAC falut RESUME EVAC input hardware OK		Fault on digital input circuitry associated with the evacuation message restored	
108	FAULT WARNING	Dg.Input ALARM SHORT	Dg.Input FAULT ALARM input SHORT	ALARM dgi cable short	Short-circuit on digital input associated with the alarm message.	Check the wiring associated with the alarm message input
109		Dg.Input ALARM RESUME	Dg.Input fault RESUME ALARM restored from short		Short-circuit on digital input associated with the alarm message restored.	
110	FAULT WARNING	Dg.Input ALARM CUT	Dg.Input FAULT ALARM input CUT	ALARM dgi cable cut	Cable cut on digital input associated with the alarm message.	Check the wiring associated with the alarm message input
111		Dg.Input ALARM RESUME	Dg.Input fault RESUME ALARM restored from cut		Cable cut on digital input associated with the alarm message restored.	
112	FAULT WARNING	Dg.Innput ALARM HW FAIL	Dg.Input HARDWARE FAULT ALARM input failure	ALARM dgi hw failure	Fault on digital input circuitry associated with the alarm message.	Contact the service center
113		Dg.Input ALARM HW RESUME	Dg.In ALARM falut RESUME ALARM input hardware OK		Fault on digital input circuitry associated with the alarm message restored.	
114		Line disablement SET	Disablement SET Line DISABLED		Module for managing the speakers and amplifiers line in "disablement".	
115		Line disabl. REMOVED	Disablement REMOVED Line NOT disabled		Active speaker and amplifier line management module (not in "disablement").	
116		PSU disablement SET	Disablement SET Pwr management DISABLED		Power management module in "disablement".	
117		PSU disabl. REMOVED	Disablement REMOVED Pwr manag. NOT disabled		Power management module active (not in "disablement").	
118		Mic disablement SET	Disablement SET Fire mike disabled		Emergency microphone management module in "disablement".	
119		Mic disalb. REMOVED	Disablement REMOVED Fire mike NOT disabled		Emergency microphones management module active (not in "disablement").	
120		uSD disablement SET	Disablement SET uSD DISABLED		Module for managing messages pre-recorded on uSD in "disablement".	
121		uSD disabl. REMOVED	Disablement REMOVED uSD NOT disabled		Management module for pre-recorded messages on active uSD (not in "disablement").	
122		Dg.In. disablement SET	Disablement SET Dig inputs DISABLED		Digital input management module in "disablement".	
123		Dg.In. disabl. REMOVED	Disablement REMOVED Dig inputs NOT disabled		Digital input management module active (not in "disablement").	
124		Alarm Btn. disable SET	Disablement SET Alarm buttons DISABLED		Management module for starting alarm messages in “disablement”.	
125		Al.Btn. disabl REMOVED	Disablement REMOVED Alarm btn NOT disabled		Management module for starting alarm message buttons active (not in “disablement”).	
126		Eth disablement SET	Disablement SET Ethernet DISABLED		"Disablement" ethernet network management module.	
127		Eth disabl. REMOVED	Disablement REMOVED Ethernet NOT disabled		Ethernet management module active (not in "disablement").	
128	FAULT WARNING	DSP communication FAIL	DSP communication FAULT unable to comm with DSP	DSP communication loss	Communication error between main processor and DSP audio processor.	Contact the service center
129		DSP comm. RESUME	DSP comm RESUME Comm with DSP restored		Communication error between main processor and DSP audio processor restored.	
130	FAULT WARNING	DSP hardware FAIL	Hardware FAILURE DSP internal fault	DSP hardware failure	Internal fault in the DSP audio processor.	Contact the service center
131		DSP hardware RESUME	Hardware RESUME DSP restored		Internal fault in the DSP audio processor restored.	
132	FAULT WARNING	Log buffer ERROR	Log buffer FAULT Buffer integrity error	Log buffer error	Error storing System log events.	Contact the service center
133	FAULT WARNING	SYS WATCHDOG RESET	System power ON SYS RESET BY WATCHDOG	Watchdog system reset	Automatic restart following system crash.	Contact the service center
134	SYSTEM FAULT	FLASH DATA FAILURE	Data Flash Corrupted CRC error	Data Flash failure	The data stored in the internal "Flash" are corrupt, the calculation of the CRC detected an error.	Contact the service center
135		FLASH DATA RESTORE	Data Flash restore CRC OK		The data stored in the internal "Flash" are intact, the calculation of the CRC is correct	
136	FAULT WARNING	GLOBAL FAULT	SYSTEM FAULT Global fault active	GLOBAL FAULT	Internal generic error.	Contact the service center
137		GLOBAL FAULT RESTORE	SYSTEM RESTORE Global fault restore	GLOBAL FAULT RESTORE	Internal generic error restored.	

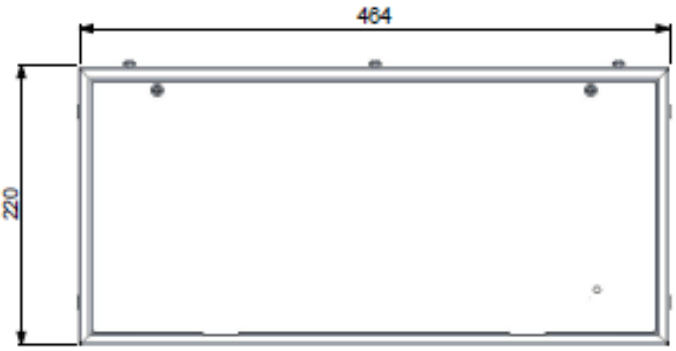
7. TECHNICAL SPECIFICATIONS

	AE604
Primary power supply	AC 230V +10% -15%; 50Hz; 650Wmax Fuse T4AH
Backup power supply	48V – integrated batteries (4x 12V 18A/h pb-sealed) Max output current in the absence of network power supply: 14,5A Minimum absorption: 300mA (average electronic boards self-consumption 1h @48Vdc)
Backup battery life	24h stand-by + 30min full power
Battery charger	Imax = 600mA – Vmax = 55.2V
Output power	4 Zones total 600W Zmin = **33,3** + **33,3** Ohm referred to Line 1 + Line 2 and Line 3 + Line 4
Frequency response	100Hz – 18Khz @ -3dB
Signal/noise ratio	>90dB
Backup amplifier	YES
Redundant loudspeaker line	YES (A&B Mode)
Loudspeaker line monitoring	Line A, line B independent monitoring. Impedance measurement via 20Khz tone and FFT analysis. Detection of short-circuit, open circuit, earth leakage.
User interface	Status LEDs, display with dot matrix and keyboard for menu navigation. Buttons to directly activate alarm message.
Audio processing	DSP, 16bit-48Khz; 3-band equaliser, compressor on microphone inputs, pre-gain controls, volume master, chime.
Audio inputs/outputs	2x Background music inputs, microphone balanced with phantom power supply, balanced Line output
Front panel monitor	YES
Emergency microphone	Dynamic microphone with monitoring of the capsule. RJ45 input for remote emergency callstations.
Messages activation contacts	8 contact inputs for activation to ground for generic messages
Message scheduler	YES – event structure based on internal clock and calendar
Emergency messages activation inputs	2 monitored inputs against cable cut and short-cut
Status outputs	N.3 “relay” outputs NO/NC for machine status reporting: VOICE ALARM / FAULT WARNING / SYSTEM DISABLEMENT
Communication	RS485, USB-B, RJ45 10 BASE-T/100
Battery monitoring	DC resistance measurement
Certifications and conformity	EN54-16, EN54-4, BS-EN5839-8, 60849
Access level 2, 3	Key locked external door (2), password (3)
Chassis, dimensions and weights	Powder coated steel Main Unit: W 464mm - H 550mm - D 231mm – Weight 21.2 Kg Battery Case: W 464mm - H 220mm – D 205mm – Weight 5.15 Kg

MECHANICAL DIMENSIONS







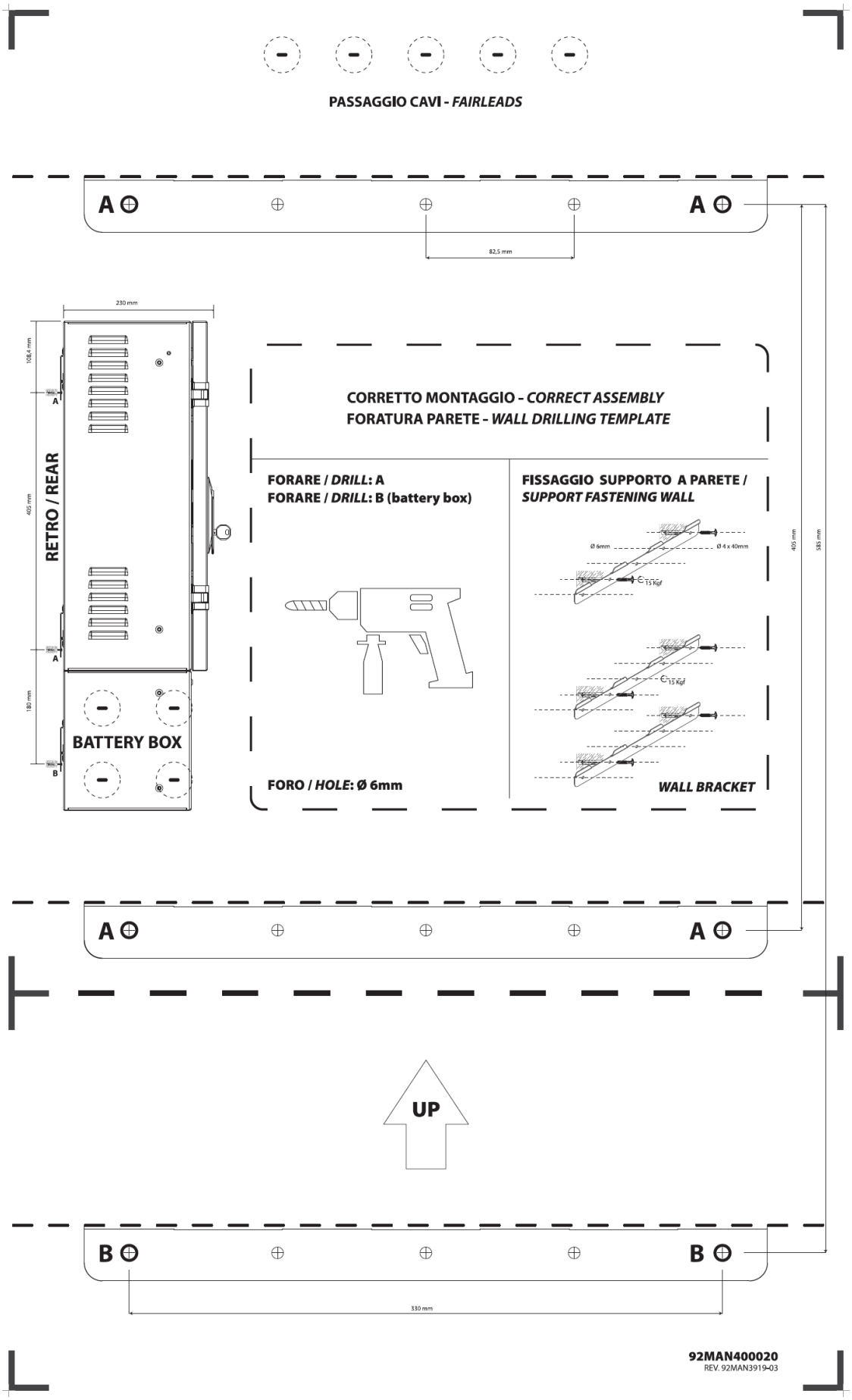
8. FUNCTIONS WITH REQUIREMENT ACCORDING TO EN54-16: 2008

7.6.2	Manual silencing of the voice alarm condition	YES
7.9	Alarm condition output	YES
8.4	Indication of faults related to voice alarm zones	YES
9	Disablement condition	YES
10	Voice alarm manual control	YES
12	Emergency Microphones	YES
13.14	Redundant power amplifiers	YES

9. FUNCTIONS ACCORDING TO EN54-4: 2007

The AE604 device is equipped with a power supply unit in accordance with Standard EN54-4: 2007. The following table lists the main features implemented.

4.2.1, 4.2.2, 4.2.3	The power supply unit accepts two power supply sources: electric network (primary) and battery (secondary)
4.2.6	The primary power supply source (electrical network) is the exclusive source for the system, in addition to the currents associated with battery monitoring.
4.2.7, 4.2.10	In case of lack of main source, the device automatically switches to the backup source. When the primary source is restored, the device automatically switches back to it. Moreover, the power supply unit is built so as to ensure power supply to the system without outages in case of lack of one of the two power supply sources (network or battery).
4.2.4, 5.3.1	Automatic battery charger able to charge the battery to at least 80% of its rated capacity in 24h and 100% in the subsequent 48h
4.2.8	The lack of the primary source is indicated by appropriate “fault warning”.
5.4	The device recognises and reports the following faults a) Loss of primary power supply source b) Loss of backup power supply source c) Increase of the resistor (+25% compared to the calibrated value) inside the battery and associated circuitry d) Battery charger failure e) Blown fuses (network and battery)


PASSAGGIO CAVI - FAIRLEADS
A
A
82,5 mm
230 mm
108,4 mm
405 mm
180 mm
RETRO / REAR
BATTERY BOX
CORRETTO MONTAGGIO - CORRECT ASSEMBLY
FORATURA PARETE - WALL DRILLING TEMPLATE
FORARE / DRILL: A
FORARE / DRILL: B (battery box)
FORO / HOLE: Ø 6mm
FISSAGGIO SUPPORTO A PARETE / SUPPORT FASTENING WALL
Ø 6mm
Ø 4 x 40mm
15 Kgf
15 Kgf
WALL BRACKET
405 mm
585 mm
A
A
UP
B
B
330 mm
92MAN400020
REV. 92MAN3919-03

CE 20

0051-CPR-1901

Proel Spa, Via Alla Ruenia 37/43

64027 S.Omero (TE), Italia

EN54-4:1997+A1:2002+A2:2006

EN54-16:2008

DOP n. 2019604B

Control equipment and signaling for vocal alarm systems. Equipped of integrated power supply.
Model: AE604

www.**proel**.com

AE604

INTEGRATED VOICE ALARM SYSTEM • EN54-16 EN54-4

VAE
VOICE ALARM
EQUIPMENT

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