paso))))

PA8506-V
Compact Emergency System

Cert. EN 54-16: 2008
n° 0068-CPD-081/2011

EN54
16

Instructions for use
- **Ver. 0.5.0.0**

Menu structrure table

F1   F2   F3

EMERGENCY   MICROPHONE

paso))))

ALARM FAULT DIS. SYS. BATT. ON

RESET

ALERT

EVAC.

MENU

OK

ESC

1 2 3 4 5 6

− +

TO PC   EXT.

PA8506-V *Six zone integrated Voice Evacuation System*

R1   R2   R3 R4   R5 R6   R7   R8 R9   R10 R11 R12

paso)))) S.p.A. - MADE IN ITALY   PA8506-V SIX ZONE INTEGRATED VOICE EVACUATION SYSTEM   TWO BUILT-IN 250W RMS class D POWER AMPLIFIER

LAN

1-GND
2-HOT
3-COM

ON

OFF

POWER
230V ∼ 50/60Hz

24V ⎓
CONSUMPT. 600W

FUSE ⎓
32A

FUSE ∼ T6,3A L
CONSUMPT. 650W

CAUTION:
TO REDUCE THE RISK
OF FIRE, REPLACE ONLY
WITH SAME TYPE FUSE.

CAUTION:
DISCONNECT POWER
SUPPLY CORD BEFORE
CHANGING FUSE.

GND HOT

MONITOR
BF OUT

EXT.AMP
OUT

EMERGENCY
UNITS

REMOTE
LINK

PAGING
UNITS

GND COM HOT
LINE
IN. 3

+12V PR. GND COM HOT
PREC. LINE
IN. 2

MIC.

MIC.
IN. 1

L

R

LINE
AUX IN

Max
250W RMS

LOUDSPEAKER OUTPUTS - 100V LINE

Max
24Vcc

Max
200mA

0V 70V 100V | 0V 100V | 0V 100V | 0V 100V | 0V 100V | 0V 100V | 0V 100V
+24V +24V +24V | IN1 IN2 IN3 IN4 IN5 IN6 IN7 IN8 | +24V OUT1 OUT2 OUT3 OUT4 OUT5 OUT6 +24V

RELAY1 RELAY2 EXT.AMP.IN. Z1A - Z1B Z2A - Z2B Z3A - Z3B Z4A - Z4B Z5A - Z5B Z6A - Z6B   CONTROL INPUTS   CONTROL OUTPUTS

R13   R14 R15   R16   R17   R18   R19   R20

C3   C2   C9   C5   C6

paso))))

ALARM FAULT DIS. SYS. BATT. ON

RESET

ALERT

EVAC.

MENU

OK

ESC

− +

C10

1 2 3 4 5 6

TO PC   EXT.

C1   C4   C8   C7   C12   C11

1. INTRODUCTION

The **PA8506-V** is an integrated Voice Evacuation System enabling background music and calls to be broadcast (All Call or to specific zones) without interfering with diagnostic routines. **This system was designed for ease of installation and for operating in a vast range of applications in which both voice emergency systems and sound-broadcasting systems are required, as well as in compliance with the applicable safety standards (EN54-16)**. IThe PA8506-V integrated Voice Evacuation System includes an emergency microphone, two Class D amplifiers, a message generator and a socket with an USB input for playing out background music. It also has 6 zone outputs with the function of continuous monitoring of the loudspeaker lines (the number of zones can easily be increased to as many as 12, using a second unit as a *slave*).

2. NUMBERED REFERENCES

2.1 FRONT PANEL
F1. Flush-mounted push-button for activating the Manual Emergency mode.
F2. Hand-held microphone with a Push-to-Talk (PTT) key for live emergency announcements.
F3. Backlit black-and-white graphic display, 128 x 64 pixels.

2.2 REAR PANEL
R1.   ON/OFF switch.
R2.   Terminals for 24 VDC external power supply.
R3.   Audio signal output for the monitoring / beep loudspeaker.
R4.   Audio signal output for external amplifier.
R5.   Input for connecting remote emergency microphone stations.
R6.   Output for connecting another remote PA8506-V unit.
R7.   Input for connecting paging microphone stations (PMB106-G, PMB112-G) for broadcasting service functions.
R8.   Balanced input for external line source.
R9.   Socket for connecting a Local Area Network with TCP/IP protocol for an Ethernet 10/100 network.
R10. Balanced input for a microphone or an external source / Terminal strip for connecting the precedence contact.
R11. Input for external microphone.
R12. Input for connecting an external source of music.
R13. Plug for 230 VAC mains power supply, with built-in fuse.
R14. Frame earthing connection.
R15. Fuse for 24 VDC external power supply.
R16. 2 relay outputs for signalling towards external peripheral units.
R17. Input socket for connecting the external amplifier.
R18. Power outputs for loudspeaker lines.
R19. 8 logical inputs with monitoring for control from external peripheral units.
R20. 6 "open collector" outputs for driving external relays for generic peripheral units.

2.3 CONTROL PANEL
C1.   Monitoring/buzzer loudspeaker.
C2.   Key for manually resetting of pre-recorded emergency messages in a Manual Emergency context.
C3.   Key for sending a pre-recorded Alert message by hand, operational in a Manual Emergency context.
C4.   Key for sending a pre-recorded Evacuation message by hand, operational in a Manual Emergency context.
C5.   Multi-purpose key for access to the main page, for navigating among the menus and for specific submenu functions on the display.
C6.   Multi-purpose key for confirming selections, for navigating among the menus and for specific functions of the submenus on the display.
C7.   Multi-purpose key for returning to the Music Menu, for navigating among the menus and for specific functions of the submenus on the displays.
C8.   Multi-purpose numerical keys, operational in every system context.
C9.   Status indicators:
      • ALARM LED (red): for signalling an on-going emergency condition (VOICE ALARM).
      • FAULT LED (yellow): for signalling an on-going generic failure condition (FAULT).
      • DIS LED (yellow): for signalling activation of the condition of disabling of the emergency zones (DISABLING).
      • SYS LED (yellow): for signalling an on-going system fault condition (System CPU Fault).
      • BATT LED (green): for signalling the 24 VDC auxiliary power supply.
      • ON LED (green): for signalling that the PA8506-V system is switched on and operational.
C10. Multipurpose rotary switch for selection and adjustment functions.
C11. Type A powered USB socket for connecting external flash memories.
C12. Type B USB socket for connecting the PC for managing the system, so as to use the system software (provisions).

3. WARNINGS

3.1 POWER SUPPLY AND EARTHING

This equipment is designed to run on a mains voltage of 230 V ± 10% 50/60 Hz. The ON/OFF switch (**R1**) switches the mains voltage on and off. The equipment is supplied with a power cable that has an earth wire. The earth terminal of the mains plug must not be removed under any circumstances. Connect the mains plug (**R13**) of the device to the power mains using only the cable supplied with the equipment, which is equipped with a noise-suppressor. Make sure that the power outlet has an earth connection in accordance with the law. The power circuit of the PA8506-V is protected by a fuse on the mains plug of the device.

3.2 SAFETY NOTES

Any activities inside the equipment, such as maintenance operations and so on, must be carried out solely by specialised personnel. When the cover is removed, parts become accessible that entail a risk of electric shocks. Always make sure that the power cable is unplugged from the outlet before removing the cover. If any liquid is accidentally spilt onto the equipment, unplug it immediately from the mains and contact the nearest **PASO** Service Centre. In case of rack installation, it is required to connect the (**R14**) connection to the to rack frame by means of a cable as short as possible (about 20cm). It's also possible to connect other equipments for the sole purpose of shielding low-level signals. This socket must not be used for the safety connection of the frame to earth.

3.3 INSTALLATION

All **PASO** equipment is made according to the strictest international safety standards and complies with European Community requirements. For correct and effective use of the equipment, it is important to be aware of all its characteristics by reading carefully these instructions and especially the safety notes. It is necessary to ensure adequate ventilation while the equipment is in use, and to leave the side ventilation slit for the cooling fans unobstructed. Do not position the equipment inside a cabinet without ventilation and keep it away from sources of heat. The PA8506-V can be rack-mounted in a standard 19" PASO using the **AC8506** supporting brackets.

Important information for correct disposal of the product in accordance with EC Directive 2002/96/EC

This product must not be disposed of as urban waste at the end of its working life. It must be taken to a special waste collection centre licensed by the local authorities or to a dealer providing this service. Separate disposal of electric and/or electronic equipment (WEEE) will avoid possible negative consequences for the environment and for health resulting from inappropriate disposal, and will enable the constituent materials to be recovered, with significant savings in energy and resources. As a reminder of the need to dispose of this equipment separately, the product is marked with a crossed-out wheeled dustbin.

This product is in keeping with the relevant European Community Directives.

4. GENERAL DESCRIPTION

4.1 SYSTEM OVERVIEW

The PA8506-V, with its entirely digital audio processing and sophisticated control system, has been carefully designed and built to comply with the most stringent safety standards and to guarantee high-quality sound and intelligibility. The input routing section is able to manage several sources of sound such as microphones, calling units and devices for background music, including USB storage units. The power stage has two 250 W Class D amplifiers serving the "voice" and "music" channels, and the speaker output section consists of six separate zones, with independent control of the music volume for each zone. The "Music" amplifier also has the function of a back-up unit, automatically replacing the "Voice" amplifier in the event of a failure. Furthermore, each zone output has two circuits for loudspeaker lines (A and B) to ensure full coverage of the area even in the event of a failure of the circuit of one of the two lines.

The multi-purpose front-panel controls and the LCD display make programming and set-up easy. In addition to the normal broadcasting of announcements and music, the PA8506-V is capable of sending out alarm calls in emergency situations via the on-board hand-held microphone or via remote dedicated emergency units. Furthermore, in accordance with EN54-16, it is monitored constantly in order to signal any upsets promptly. It is possible to connect two PA8506-V units to one another so as to combine two 6-zone systems and configure a single system with a total of up to 12 zones. The line connecting them can be as long as one km and the remote emergency stations will ensure overall management of the whole system.
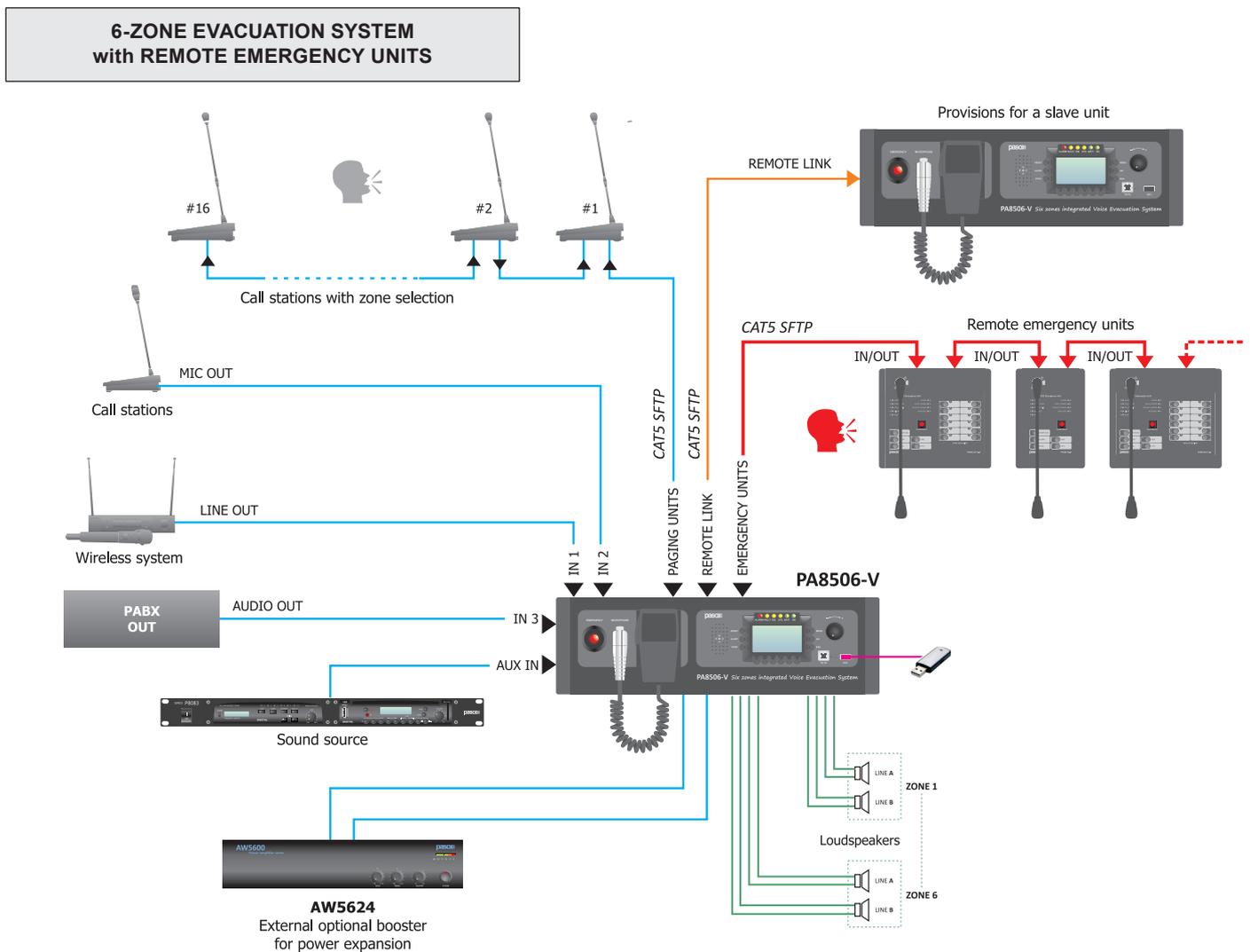
*The microphone stations that can be connected to the **PA8506-V** are listed below:*
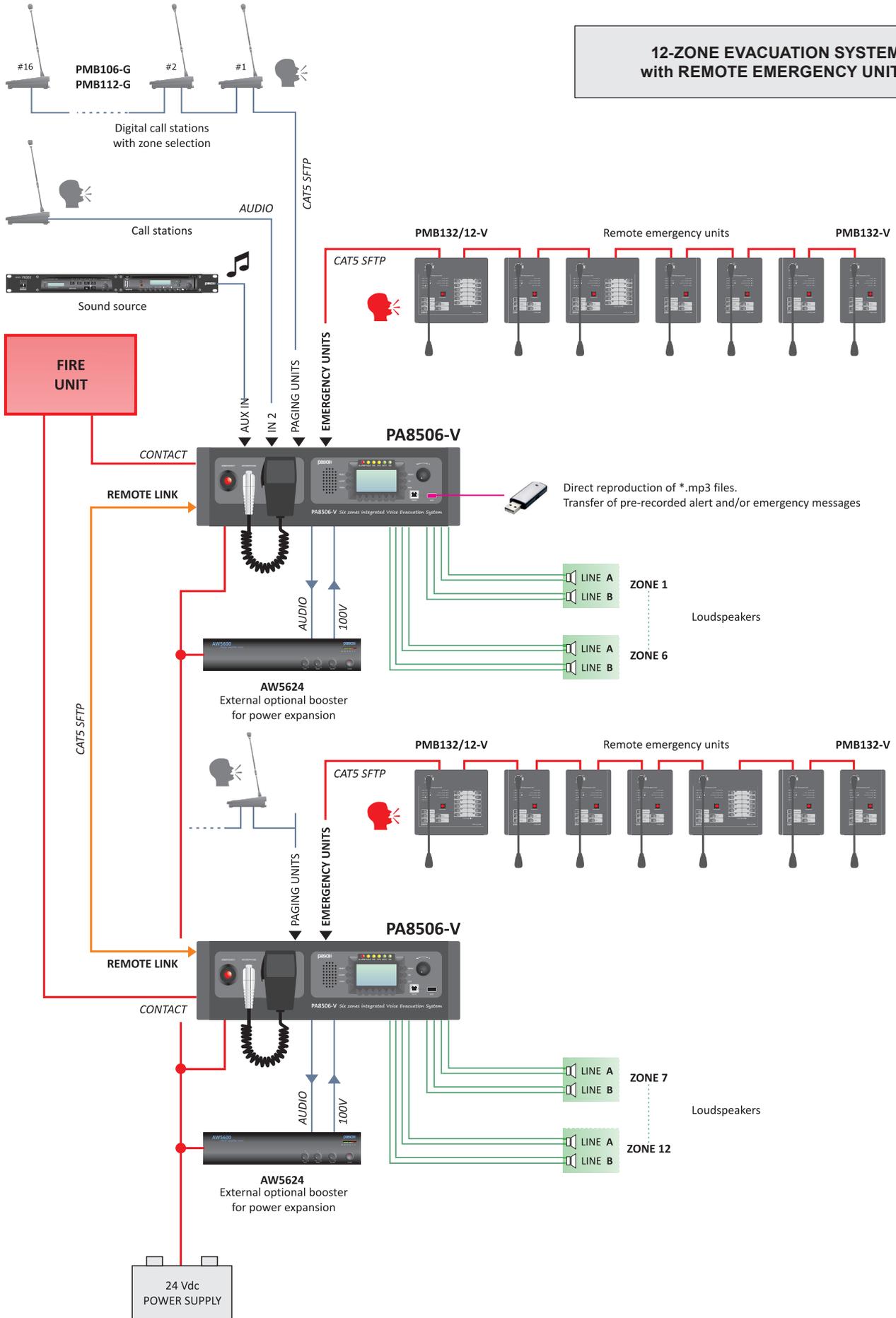
Calling stations with zone selection
- ***PMB106-G**: **6**-zone paging unit.*
- ***PMB112-G**: **12**-zone paging unit.*

Remote emergency units
- ***PMB132-V**: All Call emergency unit.*
- ***PMB132/12-V**: Emergency unit for calling up to **12** zones.*

*The connections between the **PA8506-V** and the microphone stations must be made solely with Cat. 5 SF/UTP cables (see the section on Connections for details).*

**12-ZONE EVACUATION SYSTEM
with REMOTE EMERGENCY UNITS**

#16   **PMB106-G
PMB112-G**   #2   #1

Digital call stations
with zone selection

AUDIO

CAT5 SFTP

Call stations

Sound source

PMB132/12-V   Remote emergency units   **PMB132-V**

CAT5 SFTP

**FIRE
UNIT**

AUX IN

IN 2

PAGING UNITS

EMERGENCY UNITS

PA8506-V

CONTACT

PA8506-V Six zones integrated Voice Evacuation System

REMOTE LINK

Direct reproduction of *.mp3 files.
Transfer of pre-recorded alert and/or emergency messages

LINE **A**
LINE **B**   **ZONE 1**

Loudspeakers

AUDIO

100V

AW5600

LINE **A**
LINE **B**   **ZONE 6**

AW5624
External optional booster
for power expansion

CAT5 SFTP

PMB132/12-V   Remote emergency units   **PMB132-V**

CAT5 SFTP

PAGING UNITS

EMERGENCY UNITS

PA8506-V

PA8506-V Six zones integrated Voice Evacuation System

REMOTE LINK

CONTACT

AUDIO

100V

AW5600

LINE **A**
LINE **B**   **ZONE 7**

Loudspeakers

LINE **A**
LINE **B**   **ZONE 12**

AW5624
External optional booster
for power expansion

24 Vdc
POWER SUPPLY

4.2 FUNCTIONAL SPECIFICATIONS

- Two-channel sound broadcasting system.
- Six broadcasting zones.
- Controlled double output line for each single (A and B).
- *.mp3 files read from USB flash memory as a source of background music.
- Downloading of *.WAV files from USB flash memory for emergency voice messages and chime.
- Independent 5-level volume control of the music for each zone.
- Sources for service paging announcements settable to 7 priority levels and 36 zone lists.
- System operating functions linked to different access levels, some of which protected by passwords
- Continuous control and monitoring of the integrity of the critical path (from the sources of the emergency signal to the loudspeaker lines) without interrupting the background music.
- Monitoring of the loudspeaker lines (integrity and dispersion to earth) by means of the two-channel amplification system, even in voice emergency conditions.
- Digital audio control (DSP).
- Easy and rapid configuration (large LCD display).
- Provisions for a web server.
- Emergency zone disabling function (Disabling).
- Do Not Disturb function for protecting the zones from accidental enabling of music or service calls.
- Acoustic signalling of failure status with automatic or manual muting.
- Manual resetting of visual failure signals and automatic resetting with storage of the last occurring failure.
- Direct procedure for starting up the system (start-up) and programming events, without using the management software.
- Possibility of adding a 250 W external amplifier to increase the output power of the system.
- Automatic management of the music amplifier as a stand-by for the operational amplifier (internal or external).
- With a second remote PA8506-V unit, the system can be expanded to cover up to 12 zones.
- Possibility of connecting up to 16 paging units.
- It is possible to connect up to seven remote emergency units.

4.3 TECHNICAL SPECIFICATIONS

- Two 250 W RMS Class D amplifiers.
- Built-in message generator for broadcasting voice alarms on two channels (EVAC and ALERT).
- Controlled emergency microphone on the front panel.
- LCD graphic display, 128x64 pixels.
- USB socket on front panel for connecting to storage devices.
- USB socket on front panel for connecting a PC.
- Auxiliary line input for an external source of music.
- Balanced microphone input (IN 1) with phantom power supply and precedence contact.
- Balanced microphone or line input (IN 2) with phantom power supply (MIC), precedence contact or automatic VOX precedence.
- Balanced line input (IN 3) with automatic VOX precedence function.
- 8 programmable and controlled input contacts.
- 6 open-collector outputs, programmable as system status or override outputs for by-passing the attenuators.
- 2 relay outputs for "emergency" and "failure" conditions.
- CAT5 socket for remote emergency consoles PMB132-V and PMB132/12-V (EMERGENCY UNITS).
- CAT5 socket for service call consoles PMB106-G / PMB112-G range (PAGING UNITS).
- CAT5 socket for connection to a remote PA8506-V unit (REMOTE LINK).
- 100-70V line input/output for connection to a 250 W external amplifier for expansion purposes.
- Built-in loudspeaker for channel monitoring and acoustic failure signalling (beep) function.
- Input 24 VDC secondary emergency power supply.

5. CONNECTIONS AND SIZING

5.1 CONNECTING SPEAKER UNITS

Examples of connection of loudspeaker lines to the output zones (LOUDSPEAKER OUTPUTS). For details concerning the operating mode of the system, refer to the Section on "Set > AMPLIFIER MODE" (point 8.7.5).

Warning! Before connecting the lines it is advisable to set the operating mode correctly in relation to the configuration of the system. Reference should be made to the heading "set > AMPLIFIER MODE" (par. 8.7.5).

5.1.1 100V 250W system - 1 off PA8506-V
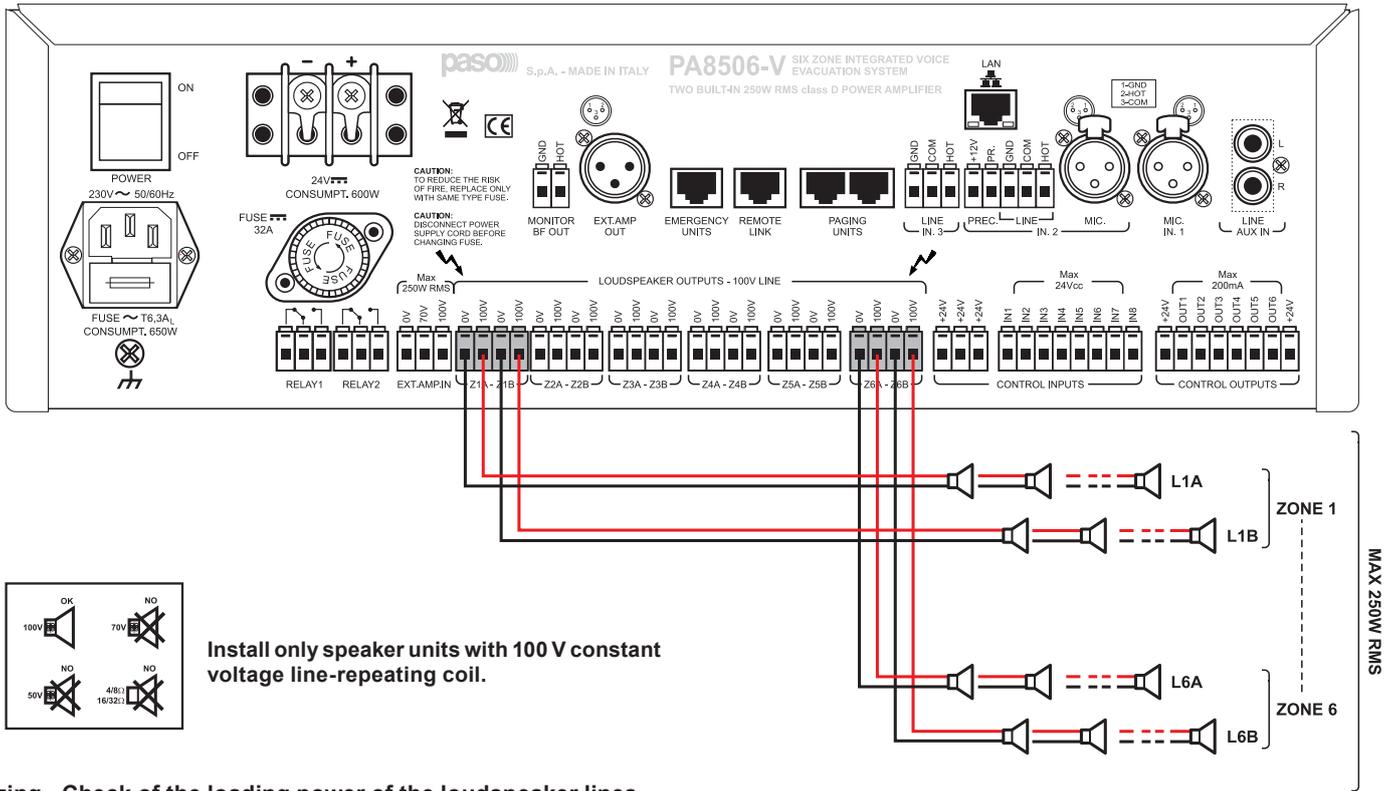
Install only speaker units with 100 V constant voltage line-repeating coil.

Sizing - Check of the loading power of the loudspeaker lines
Measure the impedance of each speaker line with a 1 kHz impedance-measuring device:
- Impedance of Line L1A, zone 1: $ZL1A$ (Ω)
- Impedance of Line L1B, zone 1: $ZL1B$ (Ω)
- Impedance of Line L2A, zone 2: $ZL2A$ (Ω)
- ....
- Impedance of Line L6B, zone 6: $ZL6B$ (Ω).

Calculate the power load absorbed by each line with a 100 V amplifier output:
- Loading power of Line L1A, zone 1: $PL1A = 10000/ZL1A$ (W)
- Loading power of Line L1B, zone 1: $PL1B = 10000/ZL1B$ (W)
- Loading power of Line L2A, zone 2: $PL2A = 10000/ZL2A$ (W) ecc.

The sum of the power absorbed by the lines connected to all the zones, from Z1 to Z6, must be lower than 250 W:

P.tot. Z1÷Z6: PL1A + PL1B + PL2A + PL2B + ... + PL6A + PL6B = < 250W

Note: *If it is planned to use the system to broadcast background music with a greatly attenuated volume for some zone outputs (zone volume -15 dB or -9 dB), it is advisable to connect a speaker load of at least 20 W to these zones, in order to improve stability of the diagnostics of the speaker lines.*

Example: PL1A + PL1B = PZ1 > 20W

Setting the system operating mode: **"NO EXT. AMPLIFIER"**
For details about programming this operating mode, refer to the "**set > AMPLIFIER MODE**" (par. 8.7.5).

5.1.2   100V 490W system - 1 off PA8506-V with PASO dedicated external amplifier (cod. AW5624)
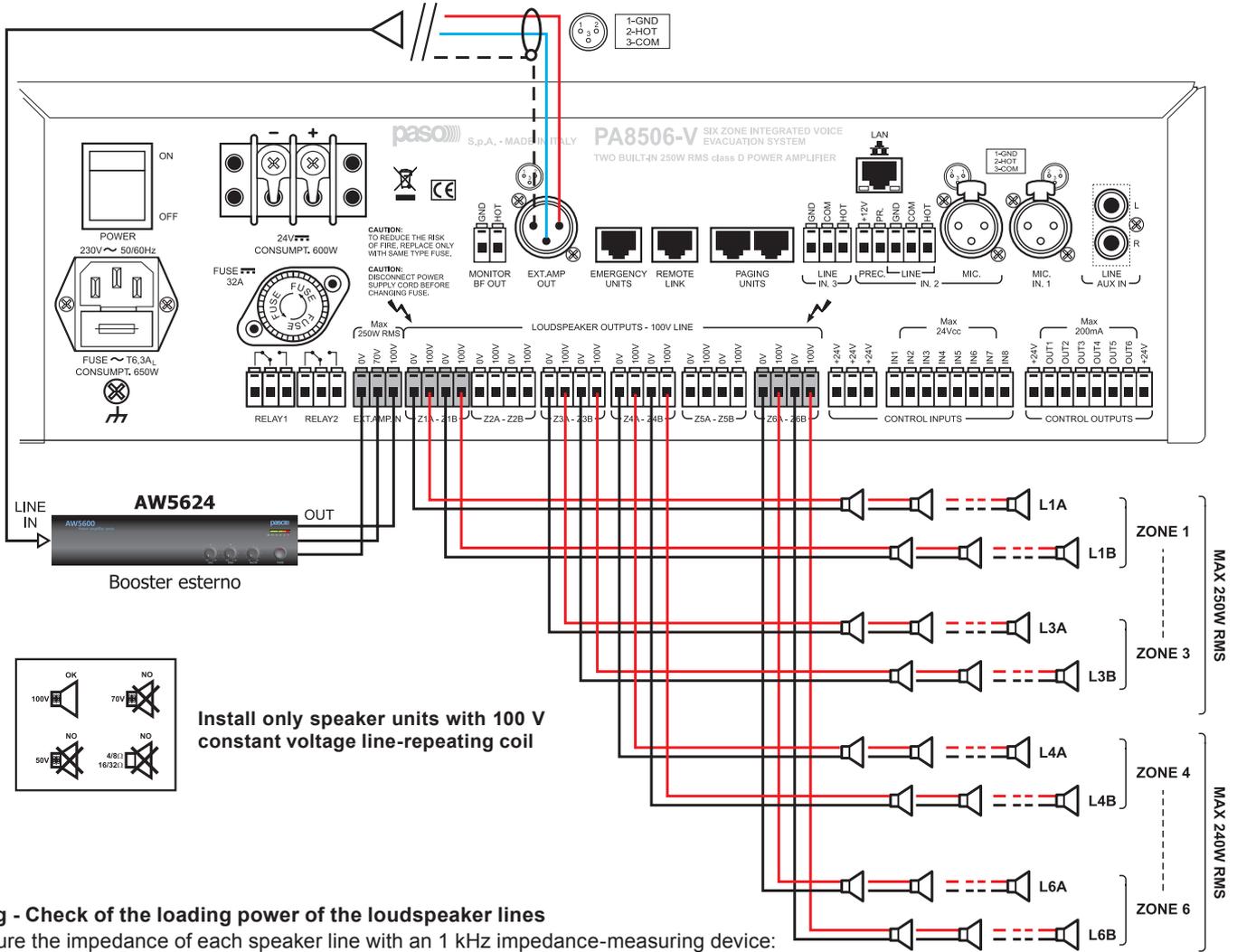
Install only speaker units with 100 V constant voltage line-repeating coil

Sizing - Check of the loading power of the loudspeaker lines

Measure the impedance of each speaker line with an 1 kHz impedance-measuring device:
- Impedance of Line L1A, zone 1: ZL1A (Ω)
- Impedance of Line L1B, zone 1: ZL1B (Ω)
- Impedance of Line L2A, zone 1: ZL2A (Ω)
- ....
- Impedance of Line L6B, zone 1: ZL6B (Ω).

Calculate the power load absorbed by each line with a 100 V amplifier output:
- Loading power of Line L1A, zone 1:   PL1A = 10000/ZL1A (W)
- Loading power of Line L1B, zone 1:   PL1B = 10000/ZL1B (W)
- Loading power of Line L2A, zone 2:   PL2A = 10000/ZL2A (W) etc.

The sum of the power absorbed by the lines connected to zones from Z1 to Z3 must be lower than 250W:

     P.tot. Z1÷Z3: PL1A + PL1B + PL2A + PL2B + PL3A + PL3B = < 250W

The sum of the power absorbed by the lines connected to zones Z4 to Z6 must be lower than 240W:

     P.tot. Z4÷Z6: PL4A + PL4B + PL5A + PL5B + PL6A + PL6B = < 240W

Note: If it is planned to use the system to broadcast background music with a greatly attenuated volume for some zone outputs (zone volume -15 dB or -9 dB), it is advisable to connect a speaker load of at least 20 W to these zones, in order to improve stability of the diagnostics of the speaker lines.

Example: PL1A + PL1B = PZ1 > 20W

Setting the system operating mode: "WITH EXT. AMPLIFIER".
For details about programming this operating mode, refer to the "**set > AMPLIFIER MODE**" (par. 8.7.5).

5.2   LOCAL INPUT CONTACTS

Examples of connection of control inputs with programming of the inputs for use with:

Example A: activation contacts Normally Open WITHOUT monitoring of connecting line.
Example B: activation contacts Normally Closed WITHOUT monitoring of connecting line.
Example C: activation contact Normally open WITH monitoring of connecting line.
Example D: activation contact Normally closed WITH monitoring of connecting line.

When monitoring a connecting line, it is necessary to connect the balancing resistors in the proximity of the activation contact. For details about the control input programming modes, refer to the Section on "**set > CONTROL INPUTS**" (par. 8.6.1).
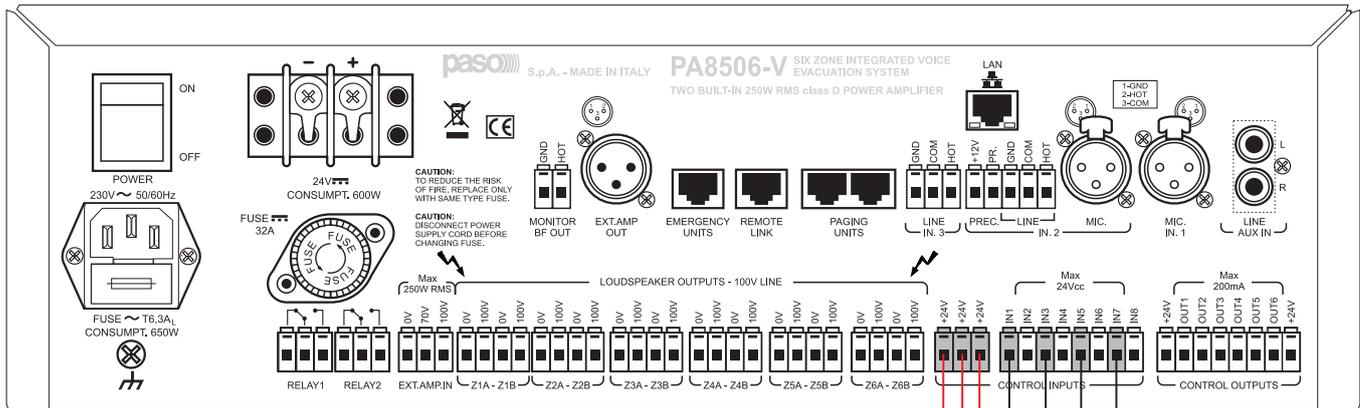
Example A
Set the following parameters for INPUT 1:
• "Active if Close"
• "Surveillance NO"

Example B
Set the following parameters for INPUT 3:
• "Active if Open"
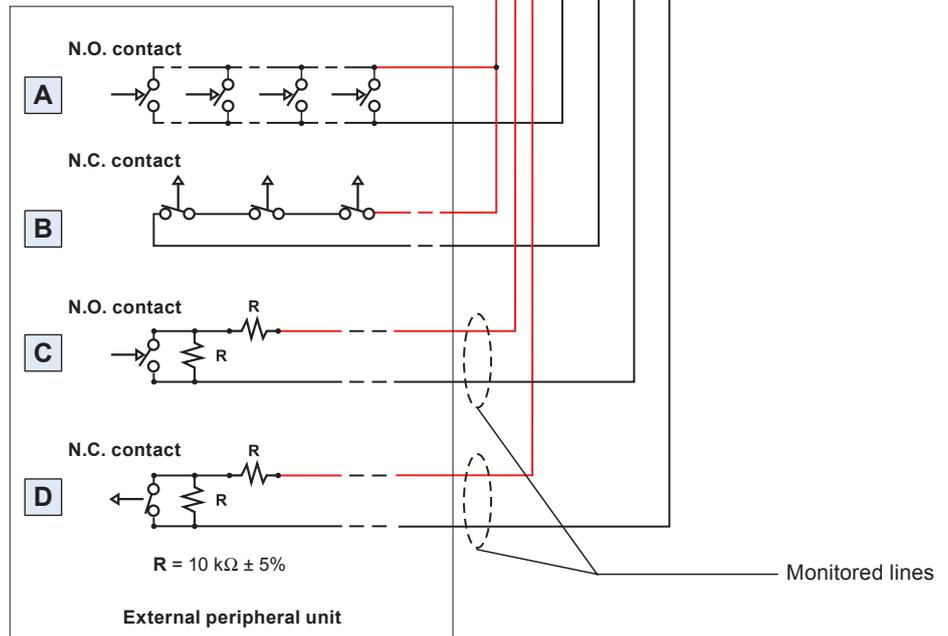• "Surveillance NO"

Example C
Set the following parameters for INPUT 5:
• "Active if Close"
• "Surveillance YES"

Example D
Set the following parameters for INPUT 7:
• "Active if Open"
• "Surveillance YES"

R = 10 kΩ ± 5%

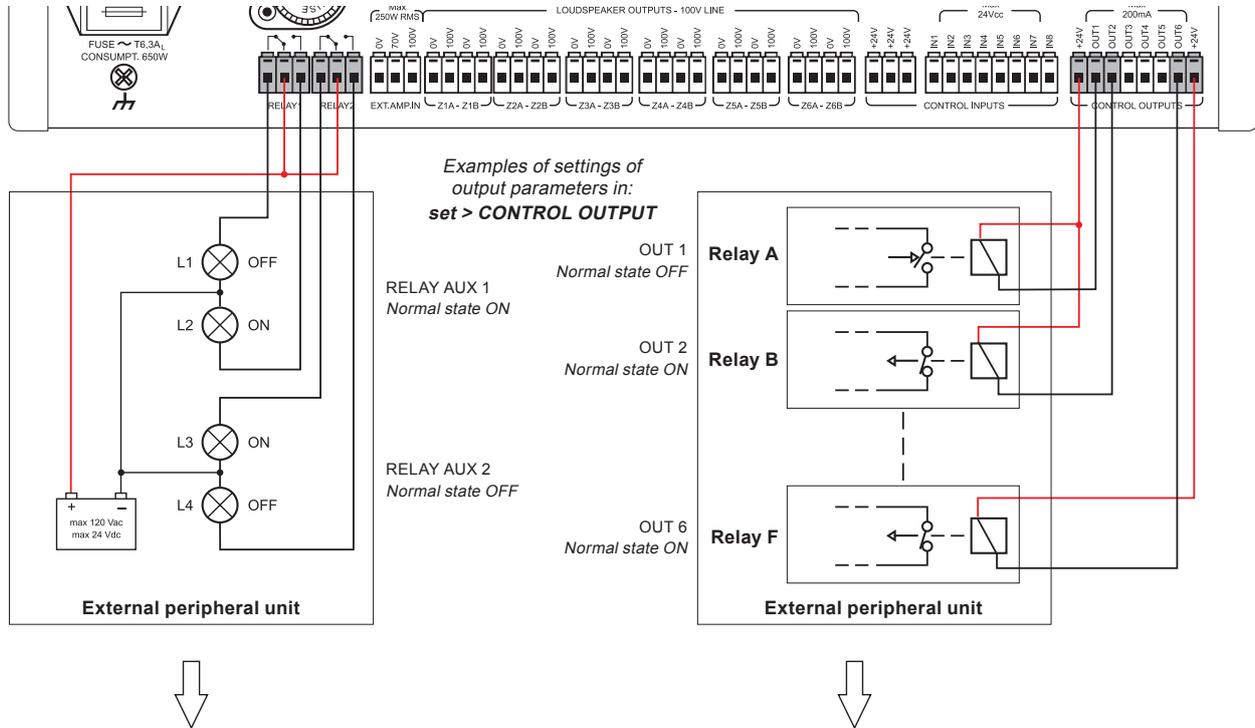**External peripheral unit**

Monitored lines

5.2.1 Local input contacts for a 12-zone system

The two PA8506-V units, connected to one another so as to form a 12-zone system, are managed as two separate systems. The contacts for activating the external peripheral unit have to be connected separately to each PA8506-V unit. Reference should be made to the heading "set > CONTROL INPUTS" (point 8.6.1) for programming each contact connected for each of the PA8506-V units.
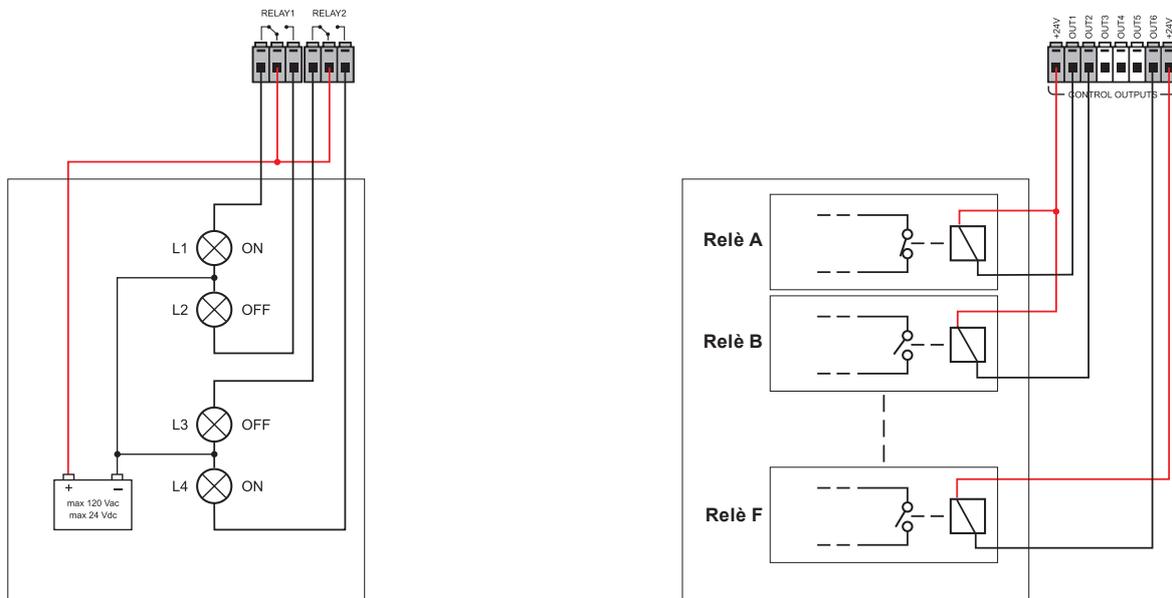
5.3   LOCAL OUTPUT CONTACTS

Examples of connection of the control outputs with programming of the outputs for a quiescent condition: *normally active* and normally not active. For details about programming the operating mode of the control outputs and the choice of activation events, refer to the section on "**set > CONTROL OUTPUT**" (par. 8.6.2).

• **Status of outputs with the system in a quiescent condition (output contacts not activated)**

• **Status of outputs with the system in an active condition (output contacts activated)**

5.3.1   Local output contacts for a 12-zone system

The two PA8506-V units, connected to one another so as to form a 12-zone system, will activate their output contacts depending on the individual status of each PA8506-V unit, regardless of that of the other unit. The output contacts (CONTROL OUTPUTS) from OUT1 to OUT6 of one PA8506-V unit cannot be connected to the output contacts of a second PA8506-V unit. The RELAY 1 and RELAY 2 output contacts of one PA8506-V unit can be connected to the RELAY 1 and RELAY 2 contacts of another PA8506-V unit, either in series or in parallel, so as to group their activation. To programme the output contacts for each of the PA8506-V units, refer to the heading "set > CONTROL OUTPUT" (point 8.6.2).

5.4 CONNECTION OF THE AUDIO INPUTS
For further details concerning the settings, reference should be made to the relevant headings indicated in the MUSIC and AUDIO SETTING menus.

5.4.1 Example n°1: Source of BGM, "music" amplification channel
Connection of an example of sound sources at line or microphone level, balanced or unbalanced, selectable from the MUSIC panel and addressable to the required zones by means of the zone activation keys. For details concerning the settings, refer to the relevant sections indicated in the MUSIC and AUDIO SETTING menus.

A - Source of music with unbalanced output at the level of the line connected to the AUX IN input.
> *To receive, select the "AUX" BGM source from the MUSIC menu.*

B - Receiver of the radio microphone kit with output balanced at the level of the microphone connected to the IN.1 input.
> *To receive, select the "INPUT 1" BGM source from the MUSIC menu.*
> *Set the following, via the INPUT 1 panel:*   *> MODE: OFF*
>   *> PH: OFF*
>   *> The Chime, Priority and Zone list parameters have no effect.*

C - Mixer with output balanced at the level of the Line connected to the IN.2 LINE input.
> *To receive, select the "INPUT 2" BGM source from the MUSIC menu.*
> *Set the following, via the INPUT 2 panel:*   *> MODE: OFF*
>   *> PH: OFF*
>   *> The Chime, Priority and Zone List parameters have no effect.*

Caution! Do not connect any other equipment to the MIC socket of the IN.2 input.
N.B.: In a 12-zone system, the BGM source connected to one PA8506-V unit can be shared with the other PA8506-V unit via the REMOTE LINK. For the settings, see point 8.1.1.
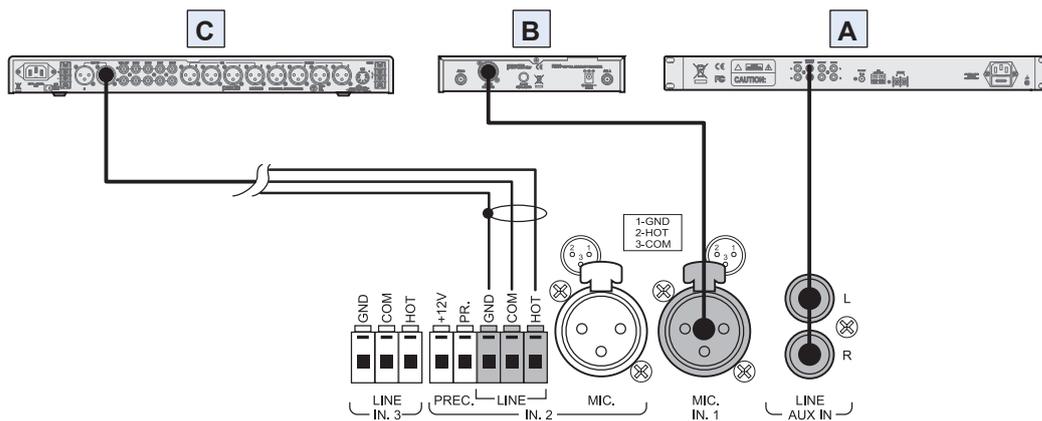
5.4.2 Example n°2: PA sources in the mixing mode, "voice" amplification channel
Connection by way of example of 2 table-top microphone stations, not pre-amplified, with the precedence contact on music, and operating in the mixing mode. For details concerning the settings refer to the relevant sections under AUDIO SETTING.

A - Table-top base with electret microphone, balanced output connected to the IN.2 input – MIC and precedence contact connected to the PREC input.
The announcement will be addressed to the group of zones according to the ZONE LIST on the basis of the priority that is set.
- Set the following, via the INPUT 2 panel: *> MODE: PRECEDENCE*
                                        > PH: ON
                                        > Priority and Zone list as desired
                                        > VOL.: as required for the application
- Set the following, via the CHIME panel: *> MIC 2: ON*

B - Table-top base with dynamic microphone, balanced output connected to the input IN.1– MIC and precedence contact connected to the input PREC.
The announcement will be addressed with priority, chime and zone group according to the settings made for INPUT 2.
- Set the following via the INPUT 1 Panel: *> MODE: MIXING ON INP. 2*
                                        > PH: OFF
                                        > VOL.: it is possible to attenuate up to 8dB in respect of INPUT 2.
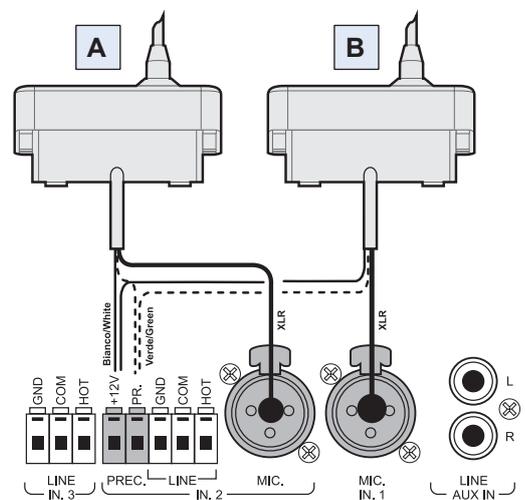
Caution! Do not connect any other equipment to the LINE terminals of the IN.2 input.
N.B.: In a 12-zone system, the PA source that has precedence on one PA8506-V unit is not shared with the other PA8506-V unit and is broadcast as a "local" source.

5.4.3 Example n°3: Various types of PA source with progressive degrees of priority, "voice" amplification channel
Connection by way of example of one table-top microphone station, not pre-amplified, with a precedence contact; of one grip-type microphone with automatic VOX activation over music; of one PABX with an audio output for automatic announcements over the sound-broadcasting system and digital stations of the PMB range for service announcements with zone selection. For details concerning the settings refer to the relevant sections indicated under AUDIO SETTING.

A - Table-top base with electret microphone, balanced output connected to the IN.1 input – MIC and precedence contact connected to the PPREC. input.
The announcement will be addressed to the group of zones indicated in the ZONE LIST on the basis of the priority set.
Set the via the INPUT 1 panel: *>MODE: PRECEDENCE*
     >PH: ON
     >Priority: 3
     >Zone list: as desired
     >VOL.: as desired
Set the via the CHIME panel: *> MIC 1: ON*
N.B.: In a 12-zone system, the microphone input that uses the precedence function on one PA8506-V unit is not shared with the other PA8506-V unit and is broadcast as a "local" source.

B - Grip-type dynamic microphone, balanced output connected to the input IN.2– MIC with VOX function.
The announcement will be addressed to the group of zones indicated on the ZONE LIST according to the priority that is set.
Set the via the INPUT 2 panel: *>MODE: VOX*
     >PH: OFF
     >Priority: 1
     >Zone list: as desired
     >VOL.: as desired
Set the via the CHIME panel: *> MIC 2: OFF*
N.B.: In a 12-zone system, the microphone input that uses the VOX function on one PA8506-V unit is not shared with the other PA8506-V unit and is broadcast as a "local" source.
Caution! Do not connect any other equipment to the LINE terminals of the IN.2 input.

C - PABX with balanced line output for external paging, connected to the IN.3 input – LINE with VOX function.
The announcement will be addressed to the group of zones indicated on the ZONE LIST depending on the priority that is set.
Set the via the INPUT 3 panel: *>MODE: VOX*
     >PH: OFF
     >Priority: 7
     >Zone list: as desired
     >VOL.: as desired
Set the via the CHIME panel: *> VOX: OFF*
N.B.: In a 12-zone system, the line input that uses the VOX function on one PA8506-V unit is not shared with the other PA8506-V unit and is broadcast as a "local" source". If necessary make a parallel connection on input IN 3 of the other PA8506-V unit and also set the input used on the remote PA8506-V accordingly.

Nota: i collegamenti tra PA8506-V e PAGING UNITS sono da effettuarsi esclusivamente con cavi di tipo CAT. 5 SF/UTP.

D - Digital microphone stations connected in cascade formation to the PAGING UNIT input. The announcement will be addressed to the zones indicated when programming the keys of the bases depending on the priority set for each base.
Set the PAGING UNITS panel: *>VOL.: as desired (volume of the whole line for all the bases)*
Set the CHIME panel: *> UNIT: ON*
N.B.: In a 12-zone system, refer to point 5.5 for the operating modes of the PAGING UNITS.

Sizing: For each PA8506-V unit, up to a maximum of 16 stations of the PAGING UNIT range can be connected. Use the Cat. 5 SF/UTP connecting cable, with its shielding plait. The following limits must be observed for the connections:
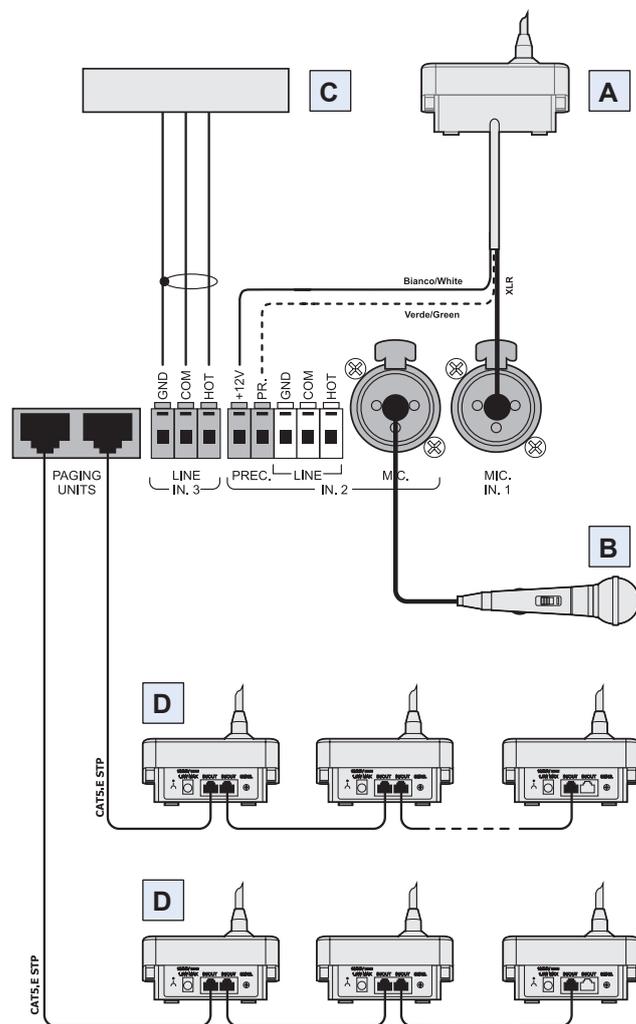N. 1 station connected to a line 800 metres long.
N. 8 stations distributed along 2 lines, each 200 metres long (4 stations per line).
For systems calling for greater distances or a higher number of stations to be connected, it is advisable to power the stations by means of the additional power supply unit connected to the local socket of the base.
The maximum length of the connecting line, adding up the lines connected to the two RJ45 sockets, is 1 km. For further details concerning the type of power supply, the configuration of the cable, programming of the selection keys and setting of the priorities and addresses, refer to the Instruction Manual of the stations of the PMB range.

*The following PAGING UNITS can be connected to the **PA8506-V**:*
- ***PMB106-G**: 6-zone paging unit.*
- ***PMB112-G**: 12-zone paging unit.*

N.B.: The connections between the PA8506-V and PAGING UNITS must be made solely with Cat. 5 SF/UTP cables.

5.5   12-ZONE SYSTEM

5.5.1   CONNECTION

Example of connection of two PA8506-V units so as to configure a system with a total of up to 12 zones, using the REMOTE LINK.

It is also possible to add to each PA8506-V unit its own optional AW 5624 amplifier for increasing the output power up to a total of 980 W. As far as concerns sizing and the settings for each PA8506-V unit, reference should be made to points 5.1.1 and 5.1.2.
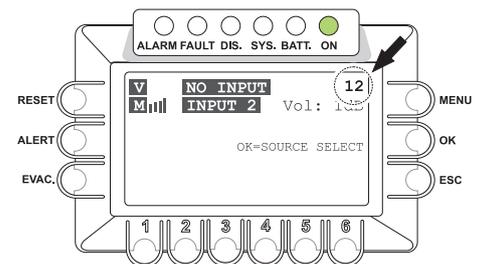
Basically, the two units function as two separate systems covering six zones each, but which share the generic signalling referred to their operating conditions for the "Failure", "Alarm" and "Disabled" status affecting the system as a whole.

With the addition of a PMB132-V or PMB132/12-V remote microphone station, connected to an EMERGENCY UNIT socket and set in the GLOBAL mode, it is possible to send out alerts and emergency messages throughout the 12 zones. For the settings see point 8.6.4

It is also possible to broadcast announcements selectively to the 12 zones via the PMB112-G PAGING UNITS.
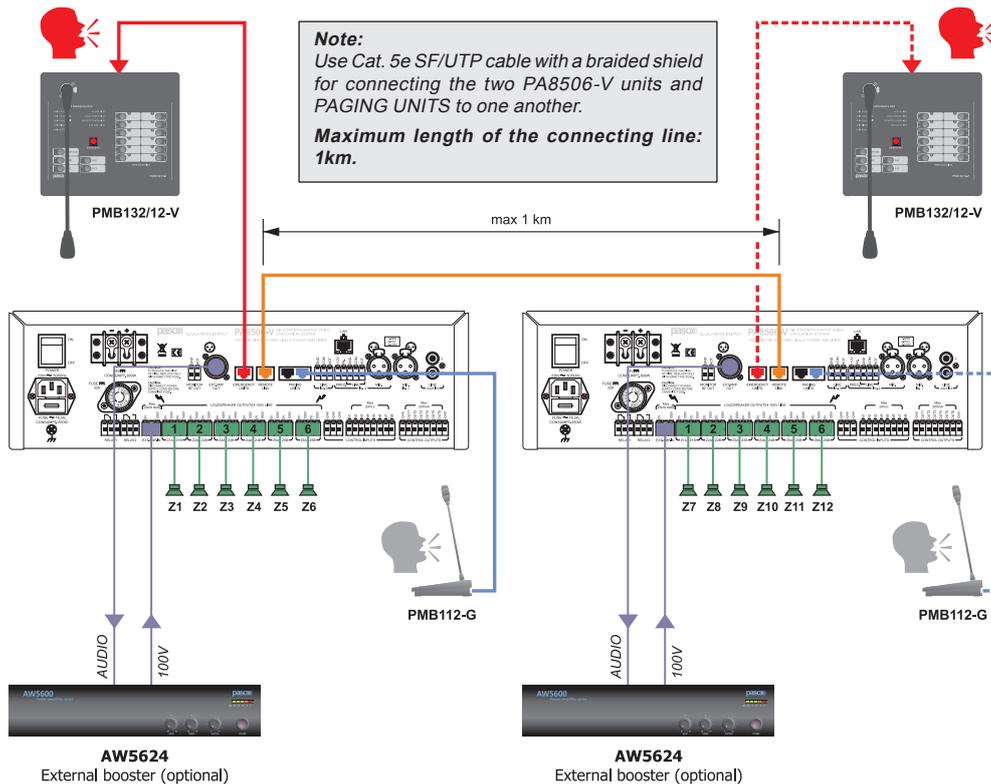
After making the connection via the REMOTE LINK, the two PA8506-V units configure themselves automatically without making any other settings. The logo "12" will appear in the top right-hand corner of the main page of the MUSIC Menu of each PA8506-V to indicate that the system is configured for 12 zones (see figure opposite).

Should the REMOTE LINK be broken off, both PA8506-V units will signal the failure as a "Remote Link Fault". To restore the standard 6-zone configuration, RESET the configuration as illustrated in point 8.6.6.2 "Restoring the 6-zone configuration" on page 111.

5.5.2   Assigning the output zones to the selection controls

• PA8506-V Units

The six numerical keys on the control panel of each PA8506-V affect only their respective output zones, so that the two units function basically as two separate systems covering six zones each.

• PMB132-V and PMB132/12-V remote emergency units

By connecting one or more remote emergency units to the EMERGENCY UNIT sockets, it is possible to achieve complete management of the 12-zone system. The emergency units can function either in the "Local" mode or in the "Global" mode, thus adapting them to various different needs according to the emergency plan. A station in the LOCAL mode can only access the six output zones covered by the PA8506-V unit to which it is connected, while a station in the GLOBAL mode can access all 12 zones of the system.

For further details on the station programming modes, see point 8.6.4.

Model PMB132-V has only the PTT key assigned to general switching (it may be programmable) and the programmable AUX key for sending pre-recorded messages to a pre-defined set of zones. In addition to all the functions available on the PMB132-V, model PMB132/12-V also has a selection keypad with 12 keys, each of which has 3 LEDs for signalling the various operating statuses of the relevant output zones.

The signalling LEDs of the zone-selection keypad are assigned to the output zones of the system with reference to the PA8506-V unit connecting them to the microphone station:
- The first group of LEDs of the zone-selection keys numbered from 1 to 6, is assigned to the output zones of the "local" PA8506-V to which the station is connected.
- The second group of LEDs of the selection keys numbered from 7 to 12 is assigned to the output zones of the "remote" PA8506-V unit, connected to the "local" PA8506-V unit via the REMOTE LINK.

The zone selection keys can also be programmed to activate a group of several output zones (see point 8.6.4.1.). In this case:
- When a zone is selected, the green LED corresponding to the chosen key will flash to indicate that the selection has been made.
- When the output signal is activated, the LEDs corresponding to the actual zones activated will light up on the basis of the current status.

• **PMB106-G and PMB112-G broadcasting microphone stations**
By connecting one or more remote paging units to the PAGING UNIT socket, it is possible to manage the whole 12-zone system for broadcasting announcements

Model **PMB106-G** has six zone-selection keys that can be assigned only to the six output zones of the "local" PA8506-V unit to which the station is connected. The PTT key (which may be programmable) functions in the GLOBAL mode and is assigned to selecting all 12 zones; model **PMB112-G** functions in the GLOBAL mode and has 12 zone-selection keys that can access all 12 zones of the system.

The zone-selection keys and their LEDs are assigned to the output zones of the system with reference to the PA8506-V unit connecting them to the microphone station:
- The first zone-selection group, numbered from 1 to 6, is assigned to the output zones of the "local" PA8506-V unit to which the station is connected.
- The second zone-selection group, numbered from 7 to 12, is assigned to the output zones of the "remote" PA8506-V unit, connected to the "local" PA8506-V unit via the REMOTE LINK.

The zone-selection keys can also be programmed to activate a group of several output zones (see the User Manual of the station), in which case the LEDs corresponding to the actual zones activated will light up both at the time of selection and at the time of the announcement. The figure shows how the zone-selection keypads are used.
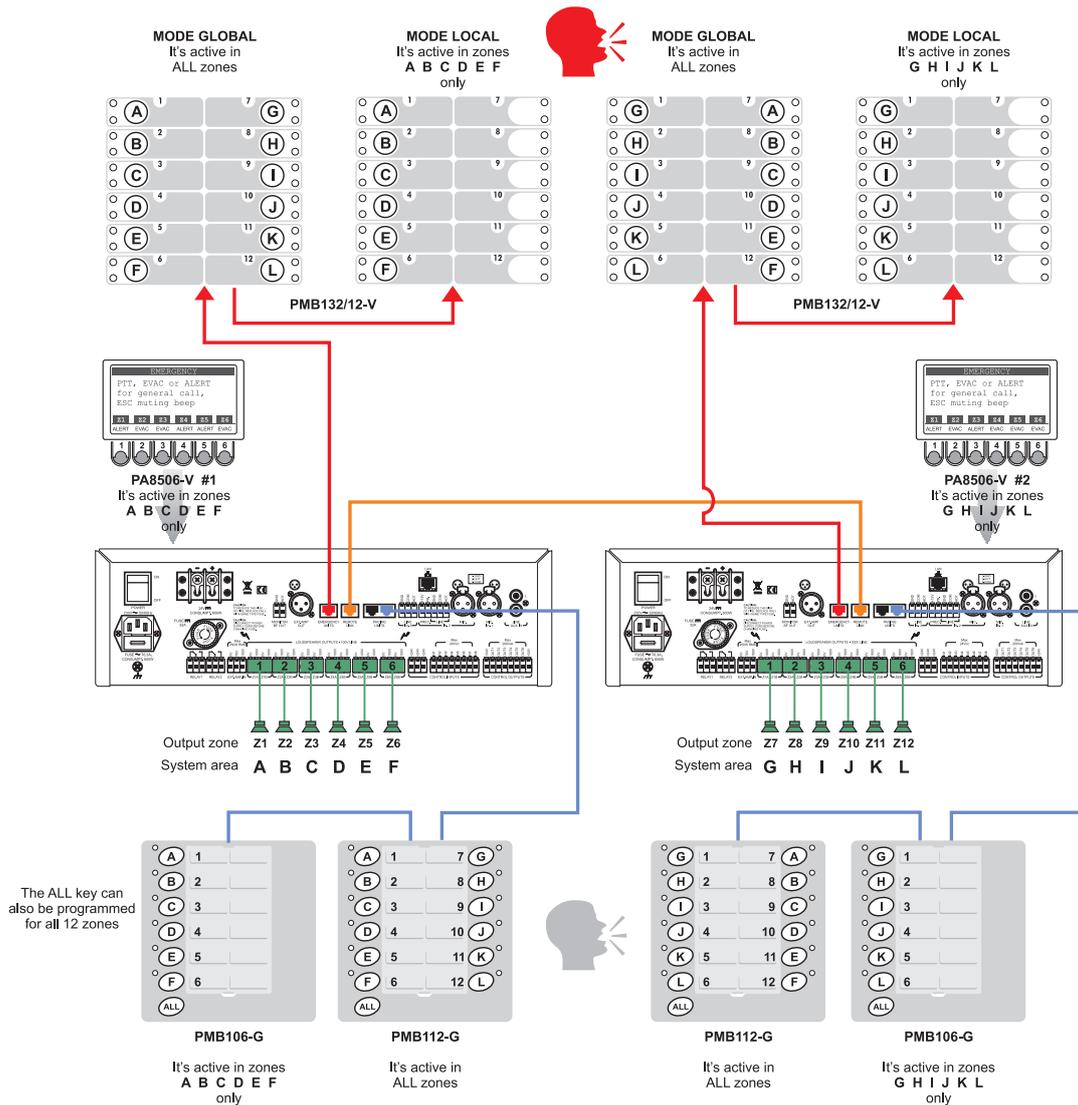
6. OPERATING CONDITIONS AND TERMINOLOGY

6.1 GENERAL DEFINITIONS

Following is a list of the signalling modes of the operating conditions of the system and of definitions used in the rest of the manual, completed by indications of a general nature:

6.1.1 Signalling of operating conditions

The PA8506-V system is structured to signal the different operating conditions on the basis of the following definitions:

"Quiescent condition" (ALARM – FAULT – DIS – SYS LEDs extinguished)
Normal operating condition, with no current failures or emergencies. This status enables the sources of music and voice to be managed for service announcements.

"Alarm Condition" (ALARM LED illuminated)
This operating condition signals the current presence of at least one alarm signal, either pre-recorded or live, on at least one output zone. The "Alarm Condition" can be activated in the form of an Automatic Emergency from an external peripheral unit connected to the Control Inputs or of a Manual Emergency through an authorised operator. During an "Alarm Condition", the functions of the music sources and of the voice services referred to the quiescent condition are not operational. In a 12-zone system with two interconnected PA8506-V units, generally speaking an "Alarm Status" is activated on both units, regardless of which output zone has triggered the alarm.

"Fault warning condition" (FAULT Led illuminated)
This operating condition signals the presence of at least one current failure, detected by the internal diagnostics system. It is accompanied by an acoustic signal (buzzer) indicating the failure. Depending on the causes of the failure, the system may in any case perform the functions relating to the "Quiescent" and "Alarm" conditions.

"Faulty status" (FAULT LED flashing)
In a 12-zone system with two interconnected PA8506-V units, it signals the presence of at least one current failure referred to the other remote PA8506-V unit or to the items connected to it and subjected to monitoring. It is accompanied by an acoustic fault alarm (buzzer). If the causes of the fault enable this, the system may in any case continue to perform the functions referred to the "Quiescent" and "Alarm" statuses.

"System Fault" (SYS LED illuminated)
This operating condition signals that the system is blocked as the result of a temporary or permanent malfunctioning of the CPU, detected by the watchdog. It is accompanied by an acoustic signal (buzzer) indicating the failure. During a System Fault, the functions relating to the "Quiescent" and "Alarm" conditions are not operational.

"Disablement condition" (DIS LED illuminated)
This operating condition signals that the Alarm signals for at least one output zone have been set to a Disablement condition. The system can in any case carry on the functions pertaining to the "Quiescent" condition for all the zones and, only for those zones that are not disabled, the functions pertaining to the "Voice Alarm Condition". In a 12-zone system with two interconnected PA8506-V units, a "Disabled Status" is signalled on both units, regardless of which output zone is affected.

"Automatic Emergency" (CONTROL INPUT STATUS Display with zones active)
This indicates a sequence of operations performed from an external peripheral unit connected to the Control Inputs. Depending on how these inputs are programmed, the "Voice Alarm Condition" or an Alarm Reset are activated.

"Manual Emergency" (LED of the EMERGENCY button ON/flashing)
This procedure is performed by an authorised operator using the manual controls, to activate VES sources or to reset the Alarms (Manual Alarm Reset). The operations carried out in the Manual Emergency mode have a higher priority than those activated by an Automatic Emergency. A PA8506-V unit or an emergency unit on which the EMERGENCY LED is illuminated is enabled for use for activating VES sources or for resetting the alarms. A PA8506-V unit or an emergency unit on which the EMERGENCY LED is flashing indicates that a Manual Emergency has been activated from a remote station.

Dual / single-channel operation
If the amplifiers for the "Music" and "Voice" channels are both operational, the PA8506-V system enables two signals to be played out in different zones, operating in a dual channel mode, as follows:
- In the "Quiescent condition": BGM source selected via the MUSIC MENU (out at 0dB = 70V constant voltage) and PA source with the highest priority (out= 100V constant voltage).
- In the "Voice Alarm Condition": ALERT message (out= 100V constant voltage) and EVAC message (out = 100V constant voltage).
- In the "Voice Alarm Condition", with the extension amplifier for a system with a total output power of 490W: ALERT message (out= 70V constant voltage) and EVAC message (out= 100V constant voltage).

By default, the signal from the emergency microphone is always sent to a single channel, and without any other simultaneous messages.

If an amplifier assigned to the "Voice" channel fails, the PA8506-V automatically switches the "Music" amplifier to replace it, and activates operation in the single-channel mode, thus enabling one signal at a time to be sent out, as follows:

- In the "Quiescent condition": only the active PA source with the highest priority (out= 100V constant voltage). The "Music" channel will not be available and the wording "NOT AVAILABLE" will appear on the Music menu display.
- In the "Voice Alarm Condition": only one VES source at a time, either an ALERT or EVAC message or the Emergency microphone (out= 100V constant voltage). The second emergency channel will not be available and the wording "only one channel available - FAULT CONDITION" will appear on the display.

For further information consult Section 9, *"Fault warning condition"*.

6.1.2 Glossary

Following is a list of definitions of terms used in this manual, completed by indications of a general nature.

"BGM Source":
One of the following audio sources using the "Music" amplification channel (BackGround Music):
- Audio source connected to the AUX input.
- Flash memory device containing *.mp3 files plugged into to the front-panel USB EXT socket.
- Sorgente audio collegata all'ingresso IN 1 (Microfonico) con modalità impostata MODE: IN OFF.
- Sorgente audio collegata all'ingresso IN 2 (Microfonico oppure di Linea) con modalità impostata MODE: IN OFF.
- One of the BGM sources mentioned above (USB-AUX-IN 1-IN 2) connected to and selected for the remote PA8506-V unit, and available on the local PA8506-V unit via the REMOTE LINK.

During a "Voice Alarm Condition", the BGM sources are not operational.

"PA Source":
One of the following audio sources using the "Voice" amplification channel for Public Address announcements:
- Source of sound connected to the IN 1 input (Microphone input), set in the ON or PRECEDENCE MODES.
- Source of sound to the IN 2 input (Microphone or Line input), set in the ON, VOX or PRECEDENCE MODES.
- Source of sound connected to the IN 3 input (Line), set in the ON or VOX MODE.
- EMERGENCY UNIT in the broadcasting mode, PAGING UNIT.
- One of the above PA sources (PAGING UNIT or EMERGENCY UNIT) connected to the remote PA8506-V unit and active on the local PA8506-V unit via the REMOTE LINK.

During a "Voice Alarm Condition" the PA sources are not operational.

"VES Source":
One of the following audio sources, using the "Voice" and/or "Music" channels for emergency voice announcements (Voice Evacuation System):
- Pre-recorded Alert message (ALERT).
- Pre-recorded Evacuation message (EVAC).
- Emergency Microphone (P.T.T.) connected to the front-panel MICROPHONE socket.
- Emergency microphone station connected to the rear-panel EMERGENCY UNITS socket.
- One of the VES sources indicated above (ALERT- EVAC – PTT – EMERG. UNITS) connected to the remote PA8506-V unit and active on the local PA8506-V unit via the REMOTE LINK.

Activation of a "VES source" generates an operational "Voice Alarm Condition".

"Voice channel":
Amplification channel of the PA8506-V system using the internal Voice amplifier and the additional external amplifier.
- During a "Quiescent condition" it is used by the "PA sources".
- During a "Voice Alarm Condition" it is used by the Emergency Microphone or to play out the pre-recorded Evacuation Message (EVAC).

"Music Channel":
Amplification channel of the PA8506-V system that uses the internal Music amplifier.
- During a "Quiescent condition" it is used by the "sources of BGM".
- During a "Voice Alarm Condition" it is used to play out the pre-recorded Alert message (ALERT).
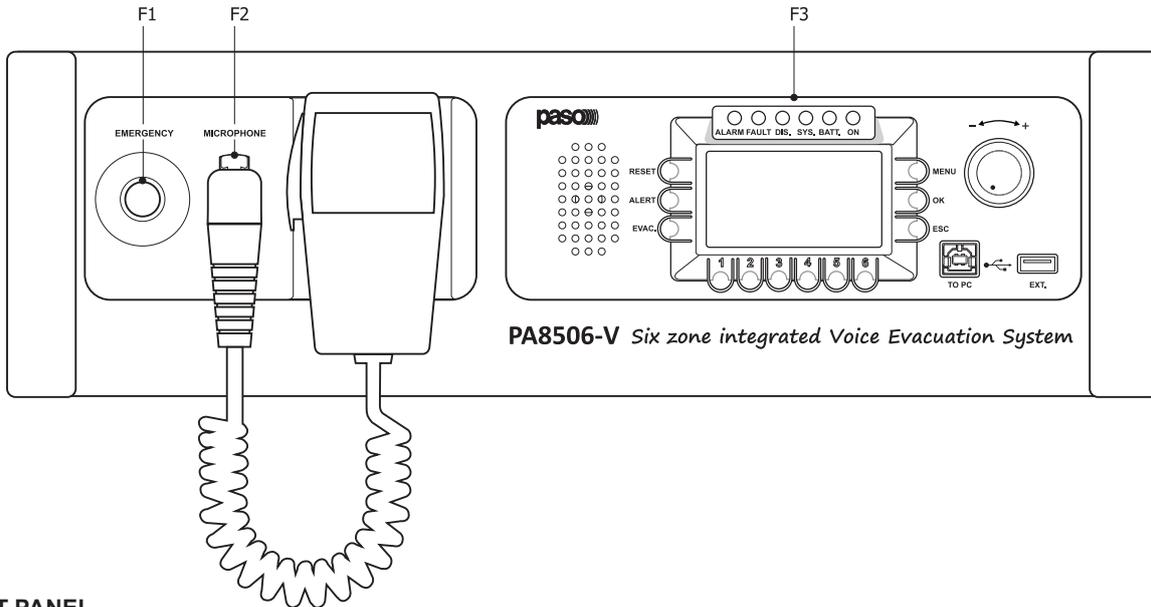
"Priority":
Use of the output zones by an audio signal or by a reset command is governed in the hierarchy by the level of priority assigned to each active source. A current activation of a zone can be interrupted only by another with a higher priority.

The PA8506-V system manages priorities as shown in the following tables:

Priority	System condition	Operating enviroment	Priority level	Active source	For setting see MENU
high ↑ ↓ **low**	"**Voice alarm condition**"	Manual Emergency	15	PA8506-V with emergency microphone	Fixed setting
			from 8 to 14	Emergency microphone stations	See the manual of the PMB132-V, PMB132/12-V
		Automatic Emergency	7	CONTROL INPUT for RESET function	Fixed setting
			6	CONTROL INPUT for EVAC message	Fixed setting
			5	CONTROL INPUT for ALERT message	Fixed setting
high ↑ ↓ **low**	"**Quiescent condition**"	PA Source	from 8 to 14	Emergency units in broadcast mode	See Emergency units manual
			from 1 to 7	Inputs IN 1 - IN 2 - IN 3 with the PRECEDENCE or VOX functions	See AUDIO SETTING section
				PAGING UNITS Microphone stations	See the manual of PMB106-G and PMB112-G
		BGM Source	0	Music source	Fixed setting

The active sources in the "Voice Alarm" condition always have priority over those active in "Quiescent" condition, regardless of the priority level set.

6.2   EQUIPMENT AND FUNCTIONAL SPECIFICATIONS

PA8506-V *Six zone integrated Voice Evacuation System*

### 6.2.1   FRONT PANEL

F1.   Emergency button with LED (red)

Flush-mounted push-button for activating the Manual Emergency mode. It enables access to the system, with top priority, from the "Quiescent condition" or during an Automatic Emergency, previously activated from an external peripheral unit. The LED, which is normally off, will be illuminated in the Manual Emergency mode activated by the associated unit. When the LED flashes, this indicates a Manual Emergency activated by an emergency unit. The Emergency button will also be used for exiting the Manual Emergency. The push-button is controlled by the internal diagnostics system.

F2.   Emergency microphone

Hand-held microphone with Push-to-Talk (P.T.T.) key, for live emergency announcements. The microphone is only operational in Manual Emergency conditions and has priority over pre-recorded emergency messages. The microphone capsule is controlled by the internal diagnostic system. Use only the microphone included in the supply, connected directly, without any extension cable, to the XLR socket on the front panel of the PA8506-V.

F3.   Graphic DISPLAY

Backlit black-and-white graphic display, 128x64 pixels, for displaying the many management windows, the contents of which will vary depending on the operating conditions of the system (quiescent or emergency). Together with the +/- knob and with the multi-purpose keys, it is useful for navigating through the menus, for adjusting working parameters and for managing advanced functions. It will also display all the information required concerning Fault, Disablement and Voice Alarm Conditions, that are not all signalled by the status LED's.
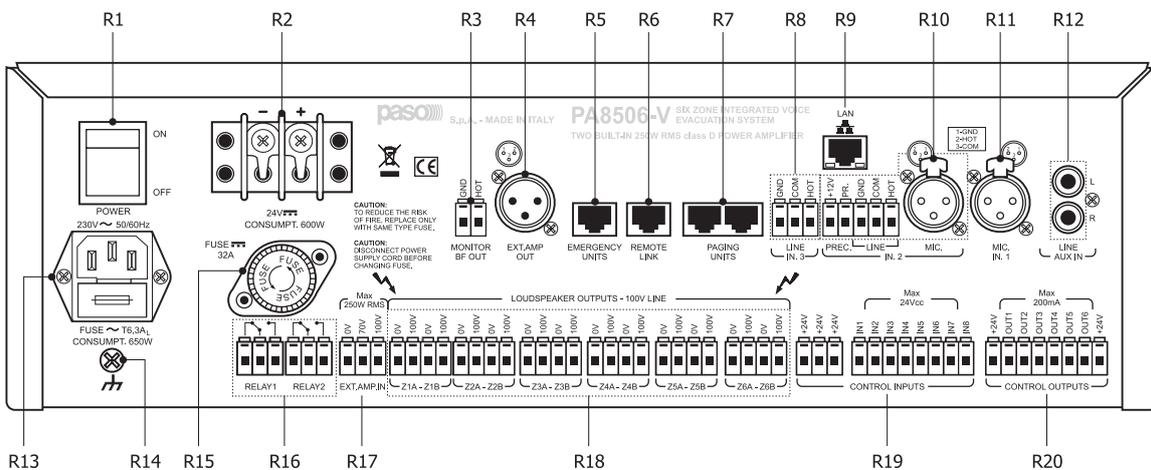
6.2.2   Rear panel

R1.   POWER switch

ON/OFF switch of the PA8506-V system. In the O (OFF) position, the system is switched off and in the I (ON) position the system is switched on. The switch affects only the main 230 VAC power supply (see the "Power Supply and Earthing" and "Safety Notes" sections for details about safety).

R2. **Terminals for external 24 VDC power supply**
Terminals for connecting the auxiliary 24 VDC power supply. This is not used when the 230 VAC mains power supply is available. The cables used must have a suitable cross-section based on the data supplied by the manufacturer of the power supply unit. Consumption of the system with a full load is 600 W. The input is protected against inversion of the poles. Consult the "Power supply and earthing" and "Safety Notes" sections for details about safety.

R3. **MONITOR BF OUT**
Output for the audio signal of the monitoring /beep loudspeaker. It can be used to remotise the tone of the acoustic signal indicating a Fault Condition. Two screw-down terminals for leads to be stripped with a balanced signal.

R4. **EXT. AMP OUT**
Output for the audio signal of an external amplifier. It enables the system to be expanded by increasing the available power up to a total of 500 W. Use a power booster with an output of up to a maximum of 250 W/rms. XLR-M plug with a balanced signal at line level for connecting a balanced shielded microphone cable. If the 24 VDC emergency auxiliary power supply is connected to the amplifier and to the PA8506-V, it is recommended that the shield of the cable be connected only on the side of the socket on the amplifier, leaving it disconnected from the connector on the side of the PA8506-V socket.

R5. **EMERGENCY UNITS**
Input for connecting remote emergency microphone stations. Use only the PASO PMB132-V and/or PMB132/12-V microphone stations. RJ45 socket for connection with Cat. 5e SF/UTP cable with a shielding braid and shielded STP connector (for details of the connection, consult the manual of the PASO 11/716 stations).

R6. **REMOTE LINK**
Output for connection to the remote PA8506-V unit. This can be done in order to expand the system, configuring it as a 12-zone system, by connecting two PA8506-V units to one another. The maximum length of the connection is 1 km. RJ45 socket for connection with Cat. 5e SF/UTP cable with shielding braid and shielded STP connector.

R7. **PAGING UNITS**
Input for connecting paging microphone stations (PMB106-G, PMB112-G) for broadcasting functions. It is possible to connect up to a total of 16 Paging Units. RJ45 sockets (2 off) for connection with Cat. 5e SF/UTP cable with shielding braiding and shielded STP connector. The connection with the Paging Units must be of the daisy-chain type. The two connecting lines can reach a total length between them of up to 1 km.

R8. **IN. 3 – LINE**
Balanced INPUT 3 for an external line, dedicated specifically to the voice channel, enabling easy interfacing with automatic message generators or with PABX's having suitable paging audio outputs. To programme this operating mode, the input must be enabled directly as a Voice source, or for automatic VOX activation, with an adjustable activation threshold and release time. The signal will be played out to the group of zones indicated in the list and on the basis of the priorities set, for which there are 7 levels. The socket with 3 terminals, HOT – COM – GND for wires to be stripped, enables a balanced signal of up to 3.6 to be connected, using shielded balanced microphone cable. For details concerning the settings of the IN. 3 input, refer to the instructions in the AUDIO SETTING > INPUT 3 menu.

R9. **LAN**
Socket for connecting an Ethernet 10/100 Local Area Network using the TCP/IP protocol. Provisions for a Web Server for access to the advanced functions of the system in the Remote Servicing mode. RJ45 socket for connection using CAT. 5e UTP cable.

R10. **IN. 2 – MIC. / LINE e MORSETTO DI PRECEDENZA**
INPUT 2 is a balanced input for a microphone or an external source, programmable as a Music or Voice source. Use the MIC input to connect dynamic or electret microphones, enabling the phantom power supply or, as an alternative, the input on the terminal strip for sources at line level such as mixers or pre-amplified microphone stations. The input can be set in many different ways, depending on how the operating mode is programmed:
- enabled directly as a Music or Voice source,
- mixed with input 1 (IN. 1).
- as a Voice source enabled by the precedence contact (PREC.), with a CHIME that can be activated/de-activated.
- as a voice source for automatic VOX activation with adjustment of the activation threshold and of the release time and the possibility of an activatable/de-activatable CHIME.
When used as a voice source, the priority can be set with 7 different levels, and the group of paging zones can be selected.
Do not use simultaneously the MIC. and LINE inputs of the IN. 2 input but:
- the XLR F socket for connecting a balanced signal of up to 100 mV, or
- the socket with 3 terminals, HOT-COM-GND, for stripped wire, for connection of a balanced signal of up to 1.8 V.
In both cases, use shielded balanced microphone cable. For details concerning the settings of the IN. 2 input, refer to the information shown in the Music menu and under AUDIO SETTINGS > INPUT 2 and CHIME.

PRECEDENCE TERMINAL STRIP
Terminal strip for connecting the precedence contact to the current music source, for activation of the IN. 1 or IN. 2. inputs and of the CHIME, if enabled. The precedence function can be used in either of the 3 following ways:
- IN. 1 input only connected to the precedence contact and with the IN. 1 input set in the "Precedence" mode
- IN. 2 input only connected to the precedence contact and with the IN. 2 input set in the "Precedence" mode
- IN. 1 and IN. 2 inputs both connected to the precedence contacts, with the IN. 2 input set in the "Precedence" mode and the IN. 1 input set in the "Mixing on IN 2" mode.
For details about the precedence settings, refer to the indications shown on the INPUT 1 and INPUT 2 panels and to the AUDIO SETTING menu. Activation is carried out keeping the +12 V terminal connected to the PR. terminal, by closing a dry contact or connecting the available precedence contact to PASO table-top microphones of the B701, B711 or B53 ranges.

R11. **IN. 1 – MIC 1**

INPUT 1 input for an external microphone, programmable as a Music or Voice source. It is possible to connect dynamic or electret microphones to this input, enabling the phantom power supply. This input can be set in many different ways based on how the operating mode is programmed:
- enabled directly as a Music or Voice source,
- mixed with input 2 (IN. 2).
- as a Voice source enabled by the precedence contact (PREC.), with a CHIME that can be activated/de-activated.

When it is used as a Voice source, it is possible to set priority, to 7 different levels, and the group of paging zones. The XLR -F socket enables a balanced signal of up to 100 mV to be connected, by means of shielded balanced microphone cable. For details concerning the settings of the IN. 1 input, refer to the indications contained in the INPUT 1 and CHIME of the AUDIO SETTING menu and in the MUSIC menu.

R12. **AUX IN**

Input for connecting an external source of music. It has one pair of RCA sockets, with conversion to mono, for sources with unbalanced outputs at line level. For the audio settings of the AUX input, refer to the information contained in the MUSIC menu.

R13. **Plug for 230 VAC mains power with built-in fuse**

Plug for connecting the equipment to the 230 VAC/50-60Hz mains power using the power cable supplied with it. If it is necessary to replace the mains fuse, this must be done with one of the same type, i.e. 6.3 A fuse, of the miniature 20 mm cylindrical type. (Consult the "Power supply and earthing" and "Safety Notes" sections for details about safety).

R14. **Frame connection**

The frame connection may be used to connect other equipment only for the purpose of shielding the low signals. This terminal may not be used to connect the frame to earth for safety purposes. (Consult the "Power supply and earthing" and "Safety Notes" sections for details about safety).

R15. **Fuse for external 24 VDC power supply**

32 A fuse, cylindrical type, 10x38 mm, and fuse-holder with bayonet coupling. This fuse must be replaced solely with another identical one (Consult the "Power supply and earthing" and "Safety Notes" sections for details about safety).

R16. **RELAY 1 – RELAY 2**

2 relay outputs for signalling to external peripheral units. The PA8506-V system enables the logical outputs to be programmed to link activation of the output with system status events or for override functions in connection with emergency conditions, or for signalling failures, emergencies and disabling. By default, the RELAY 2 output is programmed to signal CPU failures (SYS Fault) in the normally de-activated condition. All the outputs can be programmed as Normally Active or Normally De-activated. The connection provides 3 screw-down terminals for stripped wires for each relay, referred to the N.O., N.C. and exchange contacts.

R17. **EXT. AMP. IN**

Input socket for connection of the optional external amplifier PASO ref. AW5624. This enables the system to be expanded, increasing the available power up to a total of 490W. Connect the constant-voltage power output of the amplifier to the terminals provided for the 0V-70V and 100V signals of a PA8506-V unit. In a 12-zone system with two PA8506-V units connected to one another, do not use a single expansion amplifier for both PA8506-V units. Rather, install two separate amplifiers. In this case the total output power of the system will be 980 W.

R18. **LOUDSPEAKER OUTPUTS**

Power outputs for the loudspeaker lines. Use only speaker units with constant-voltage 100 V line-repeating coils. 6 output zones are available, each of which is split up into 2 lines, A and B, for creating the network of loudspeakers with double lines for redundancy. In the event of a short circuit of one line, the PA8506-V system will de-activate the failed line and continue to power the other line of the same zone, activating the failure signalling. 12 pairs of screw-down terminals for cables with a cross-section of up to 2.5 mm^2 are available for connecting the 0 V to 100 V lines.

R19. **CONTROL INPUTS**

8 digital inputs for monitoring via external peripheral units. They enable programmed events to be activated, including switching of the PA8506-V system to a Voice Emergency condition, requiring automatic sending of pre-recorded emergency messages. Activation is possible by means of Normally Open or Normally Closed contacts, relaying the +24 VDC voltage supplied from the service sockets. It is possible to enable diagnostics of the connecting stretch, arranging to install two 10-kOhm balancing resistors in the proximity of the contact for activating the remote peripheral unit. The connection provides 11 screw-down terminals for stripped wires: eight off control inputs and three off +24 VDC service sockets.

R20. **CONTROL OUTPUTS**

6 open-collector outputs for driving generic external or peripheral relays. The PA8506-V system enables the logical outputs to be programmed to link activation of the output with system status events or for override functions in emergency conditions or for signalling failures relating to the current emergency and to the disablement. These outputs can be programmed as Normally Open or Normally Closed and they have internal 24 VDC voltage with automatically resetting protection devices. The connection provides eight screw-down terminals for stripped wires: six off max. 200 mA open-collector outputs and two off +24 VDC service sockets.

6.2.3 Control panel
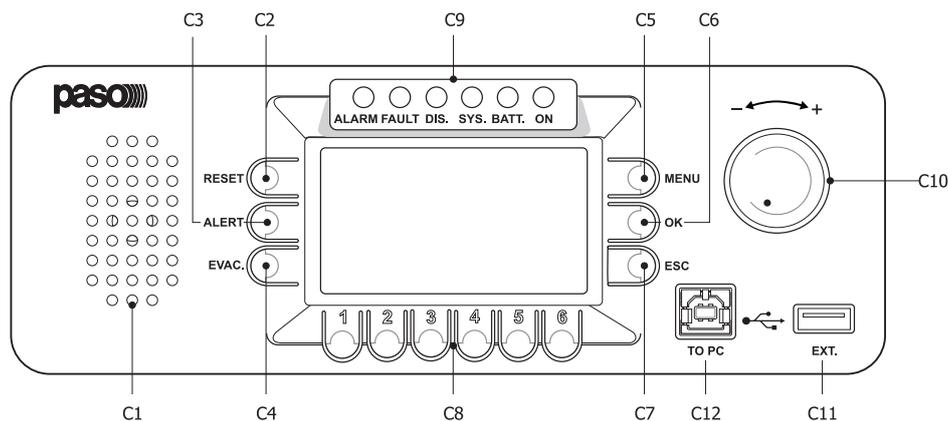
C1. Monitoring/beep loudspeaker

Built-in loudspeaker that, in quiescent conditions, can be used as a preliminary monitoring loudspeaker, since it can select the sources reaching the routing section or the voice and music channels sent to the amplifiers. The volume can be adjusted within a range from -10db to +10dB in respect of the volume set for the selected input. Regardless of the manual setting of the monitor, the PA8506-V system will use the loudspeaker, with top priority, for acoustic signalling (beep) of any failures detected. It will be muted when the failure conditions cease to exist. In addition, in order to avoid the Larsen effect, it will be muted by the system during use of the Emergency Microphone. The output volume of the signalling tone will be at its highest level for failures detected while the system is operating, while it will be at the level set previously for the monitor in the event of a System Fault (CPU Fault).

C2. RESET button

Key for resetting the pre-recorded emergency messages manually, operational during Manual Emergencies. Key for resetting the buzzer and for cancelling signalling of the failure, operational when there is a failure present or after a failure has been cleared. In the idle condition, this key is not operational.

C3. ALERT button

Key for sending pre-recorded Alert messages manually, operation during Manual Emergencies. In the idle condition this key is not operational.

C4. EVAC button

Key for sending pre-recorded Evacuation messages manually, operational during Manual Emergencies. In the idle condition this key is not operational.

C5. MENU key

Multi-purpose key for accessing the Main Page, for navigating among the menus and for specific functions of the submenus indicated on the displays.

C6. OK key

Multi-purpose key for confirming selections, for navigating among the menus and for specific functions of the submenus indicated on the displays.

C7. ESC key

Multi-purpose key for returning to the Music menu, for navigating among the menus and for specific functions of the submenus indicated on the displays.

C8. Numerical keys from 1 to 6

Multipurpose keys, operational throughout the system. These keys are used to select the zones, from 1 to 6. For the PA8506-V unit being used. They enable the access password to be entered or the specific functions indicated on the status bar on the display to be applied.

C9. Status signalling

• **ALARM LED (red)**

LED for signalling the existence of a "Voice Alarm Condition". A VOICE ALARM condition can be activated both automatically from an external peripheral unit, and manually by the operator of the PA8506-V or of an emergency microphone station. When the LED is illuminated steadily, this indicates that a pre-recorded or live emergency message is being broadcast to at least one zone (of the whole system, also when it includes 12 zones). During the VOICE ALARM condition, the standard functions for playing out music and the voice source service are disabled. In the "Quiescent condition" the ALARM LED is extinguished.

• **FAULT LED (yellow)**

LED for signalling the existence of a "Fault condition". This indicates that the diagnostic system has detected at least one failure in the PA8506-V unit or in one of the items of equipment connected to it and covered by the diagnostic procedure. When the fault condition is cleared, the FAULT LED extinguishes automatically and the wording "RES" is shown on the FAULTS display, to show that a failure has been detected and subsequently remedied (RESOLVED). The LED signalling that the fault has been cleared will extinguish once the MANUAL FAULT RESET procedure has been completed. In a 12-zone system with two PA8506-V units connected to one another, if the LED flashes, this indicates the presence of at least one current failure referred to the other remote PA8506-V or to an item of equipment connected to it and covered by the diagnostic procedure.

- **DIS. LED (yellow)**

LED for signalling activation of the disablement of the emergency zones (DISABLING). The DISABLING signal indicates that at least one zone has been disabled by the emergency envisaged when configuring the system. Activation of the DISABLING signal does not prevent normal operation of the system in a "Quiescent Condition".

- **SYS LED (yellow)**

LED for signalling an existing "System Fault" (System CPU Fault) condition. When the SYS LED is illuminated, all the operational functions, whether of the standard or emergency type, are disabled. When the PA8506-V is switched on, the SYS LED will flash to show that the system is being started up.

- **BATT. LED (green)**

This LED refers to the 24 VDC auxiliary power supply. The BATT. LED lights up to indicate that the 24 VDC power supply is connected to the system.

- **ON LED (green)**

This LED signals that the PA8506-V system is switched on and operational.

The ON LED continues to be illuminated when:

- 230 VAC power supply present and POWER switch in the ON position.

The ON LED will flash continuously when:

- there is no 230 VAC power supply but the 24 VDC power supply is available.

The ON LED will be Off in the following cases:

- no 230 VAC and no 24VDC power supply, or
- 230 VAC power supply in order, no 24 VDC power supply and POWER switch in the OFF position.

C10. +/- knob

This is a rotary control with no end-of-travel. It is a multi-purpose control that depends on the specific menu that is operational. It is used to move the cursor to select and adjust values. In an idle condition, in the Music menu it is used to control directly the master output volume of the BGM.

C11. "EXT." USB socket

This is a powered type A USB socket for plugging in external flash memory devices. It enables .mp3 music files to be played out directly using the controls of the USB Music menu. It also enables *.WAV files containing Chime tones and pre-recorded Alert and Evacuation messages to be transferred to the memory residing in the PA8506-V, during checking and diagnostic procedures. To load the files, refer to the procedures illustrated in the CHIME and Messages menus.

C12. "TO PC" USB socket

Type B USB socket, provisions for connecting the management PC in order to use the system software.

7. MENU STRUCTURE

The **PA8506-V** enables access to the system functions through a set of Management Panels, grouped according to operational typologies and intended uses into Option Menus accessible from the Main Page. Furthermore, the following Option Menus were assigned to different levels of access, with reference to the various different circumstances requiring different degrees of skill on the part of the personnel and different levels of authorisation.

• < **MUSIC** > Menu
Default window for using the system in normal Quiescent Conditions. It enables control of the BGM sources and adjustment of the volumes of the music section. This menu is not accessible during a Voice Alarm Condition. At this basic level, the RESET, ALERT and EVAC keys are not operational.

• < **AUDIO SETTING** > Menu
Group of basic options for standard operating conditions. It is intended for users for setting and adjusting the PA sources. At this basic level, the RESET, ALERT and EVAC keys are not operational.

• < **INSPECTION** > Menu
First access level, for investigating the status of the system. It is intended for the personnel responsible for initial checking of the causes leading to a failure or emergency condition. At this initial access level, the RESET key has the function of resetting the buzzer signalling a FAULT. At this basic level, the ALERT and EVAC keys are not operational.

• < **OPERATOR** > Menu
Second access level for trained personnel, authorised to manage the system in emergency, failure and disablement conditions. A password for accessing this level can be added.

• < **CONFIGURATION** > Menu
Third access level, for trained personnel authorised to use the advanced functions of the system and to alter the configuration parameters, for starting up and altering the system. A password for accessing this level can be added.

• < **SERVICE** > Menu
Fourth access level, included among the options of the CONFIGURATION Menu, for servicing activities, up-dating of firmware and altering the operating parameters of the PA8506-V system. Use is permitted only for technical personnel having the necessary access key.

• < **EMERGENCY** > Menu
Operational environment for managing Manual Emergencies, with top priority. Accessible at all times using the dedicated "Emergency" key, it may be used only by authorised personnel trained with regard to the Emergency and Evacuation Plan (EEP).

The functions associated with levels featuring restricted access, for which a password may be set, are highlighted by the symbol

### 7.1 "HOME" FUNCTIONS - ACCESS TO THE OPTION MENUS

7.1.1 Basic Level - MUSIC menu

After switching on the system, the software loading window will appear, followed by the panel for managing the Music Menu. To access the MAIN PAGE, press the MENU key. From the MAIN PAGE it will be possible to select the various different Option Menus for the advanced functions of the system and, by means of the MENU key, to access the MONITOR management panel. From the MAIN page, press ESC to return to the MUSIC management panel.
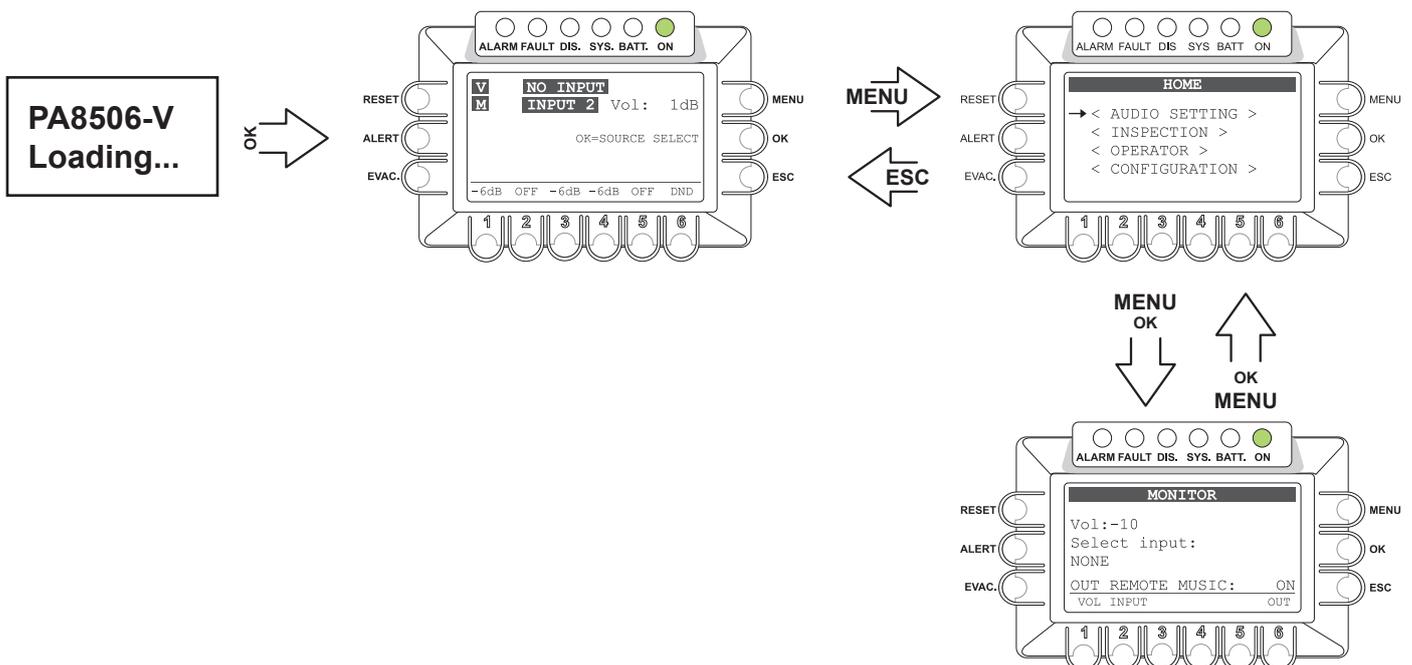
7.1.2 Basic Level - AUDIO SETTINGS

From the MAIN page, press OK to select AUDIO SETTING and access the menu in question. From the AUDIO SETTING menu, use the knob at the side of the display unit to browse through the options listed, then use OK to select the one you require. Press ESC to return to the MUSIC menu or MENU to return to the MAIN page. **For the specific features of each panel for managing the AUDIO SETTING menu, refer to the appropriate schedules in** *Section 8. USO / < AUDIO SETTINGS Menu>***.**
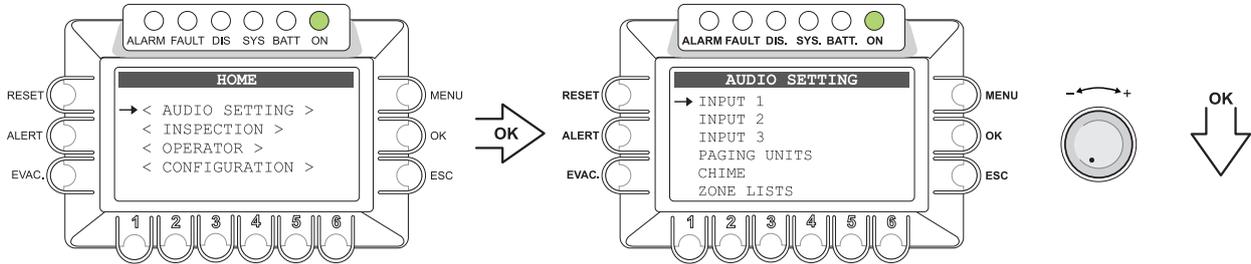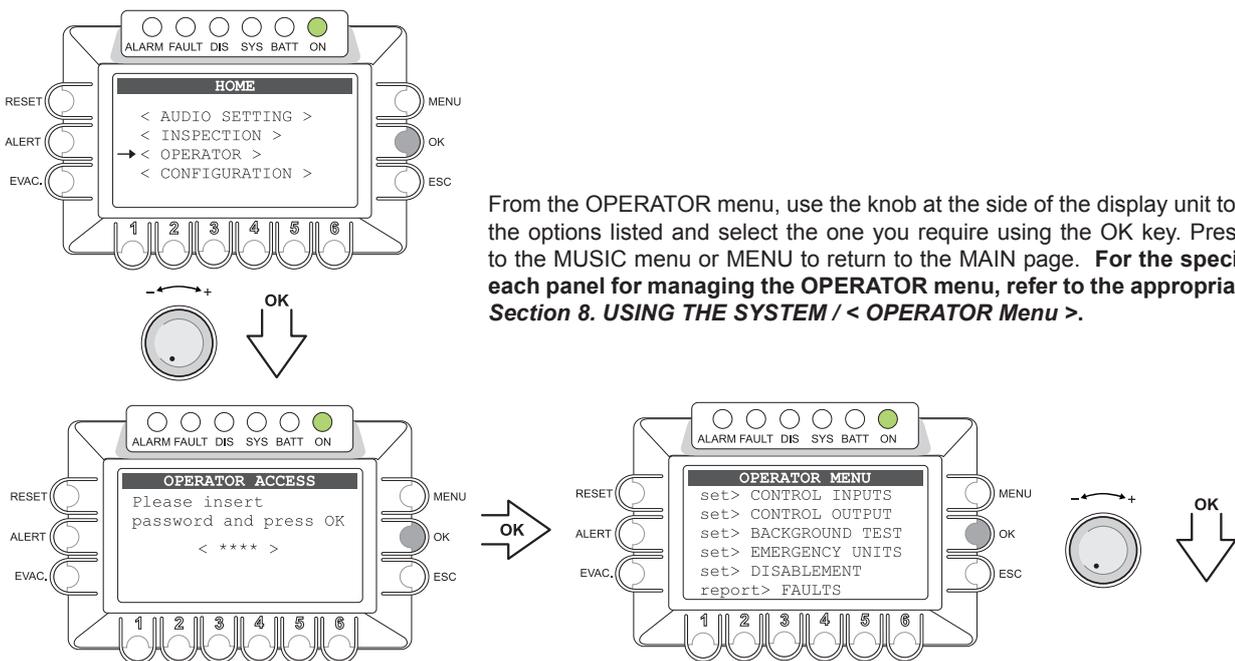

7.1.3 System Level - INSPECTIONS

From the MAIN page, turn the knob then press OK to select the item INSPECTION and access the menu in question.
From the INSPECTION menu, use the knob at the side of the display unit to browse through the options listed, then use OK to select the one you require. Press ESC to return to the MUSIC menu or MENU to return to the MAIN page. **For the specific features for each panel for managing the INSPECTION menu, refer to the appropriate schedules in** *Section 8. USING THE SYSTEM / < INSPECTION Menu >***.**
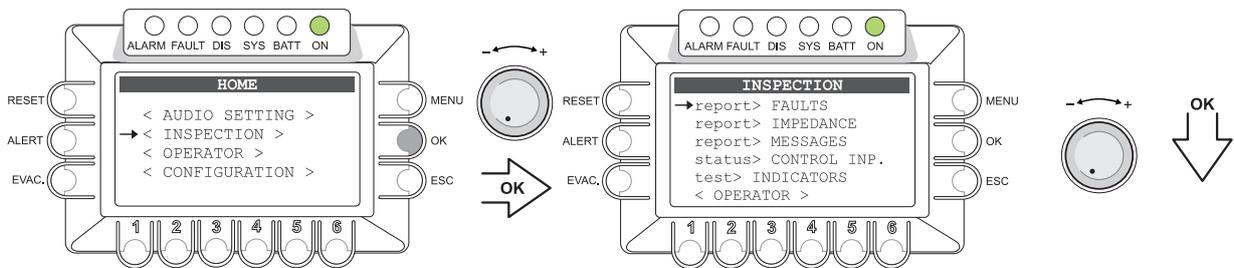
7.1.4 System Level - OPERATOR

From the MAIN page, turn the knob, then press OK to select the item OPERATOR: to access the menu in question it is it is necessary to enter a password and then press OK again. As an alternative press ESC to return to the MUSIC menu.

From the OPERATOR menu, use the knob at the side of the display unit to browse through the options listed and select the one you require using the OK key. Press ESC to return to the MUSIC menu or MENU to return to the MAIN page. **For the specific features for each panel for managing the OPERATOR menu, refer to the appropriate schedules in** *Section 8. USING THE SYSTEM / < OPERATOR Menu >***.**

7.1.5 System Level - CONFIGURATION

From the MAIN page, turn the knob, then press OK to select the item CONFIGURATION: to access the menu in question it is necessary to enter a password and then press OK again. As an alternative press ESC to return to the MUSIC menu.
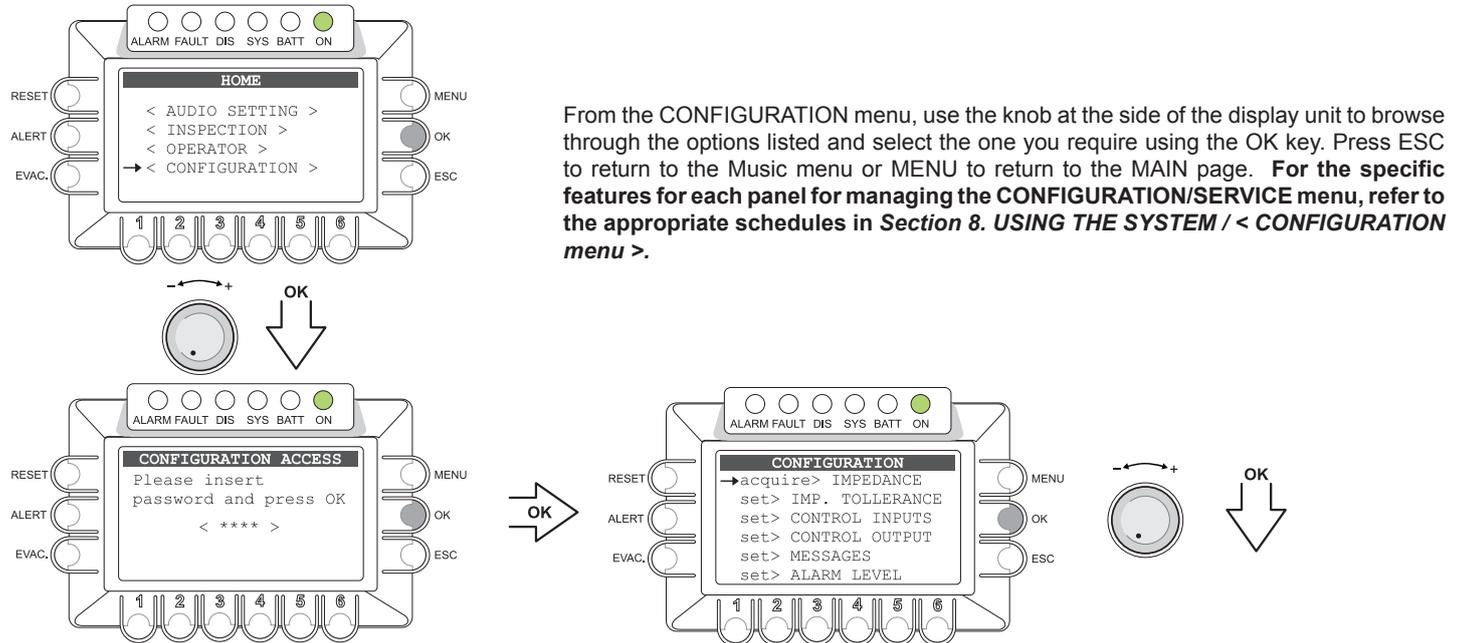
From the CONFIGURATION menu, use the knob at the side of the display unit to browse through the options listed and select the one you require using the OK key. Press ESC to return to the Music menu or MENU to return to the MAIN page. **For the specific features for each panel for managing the CONFIGURATION/SERVICE menu, refer to the appropriate schedules in** *Section 8. USING THE SYSTEM / < CONFIGURATION menu >.*

7.1.6 System Level - SERVICE

Access the CONFIGURATION menu then use the knob at the side of the display unit to scroll to the **<SERVICE>** option and press OK to select it. To access the menu in question it is necessary to enter another password and then press OK again. As an alternative press ESC to return to the MUSIC menu.
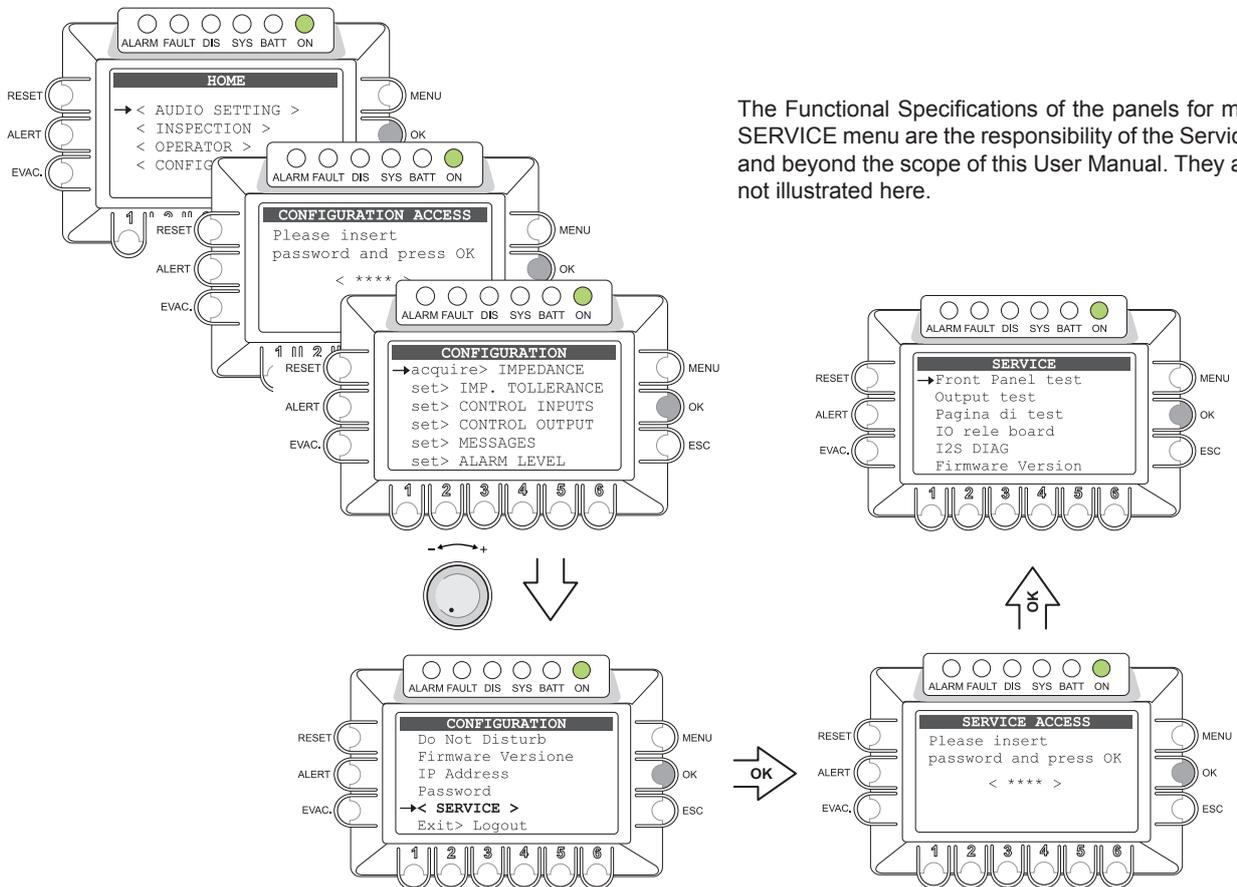
The Functional Specifications of the panels for managing the SERVICE menu are the responsibility of the Service personnel and beyond the scope of this User Manual. They are therefore not illustrated here.

8. USING THE SYSTEM

After making all the connections in accordance with the chapters on Sizing and Connections, start the PA8506-V by moving the POWER switch (4) to the ON position. The display will light up and show the welcome screen (loading takes about 30 seconds). Once loading is completed, the display will show the panel of the Music menu, from which it is possible to access the MAIN page by pressing the MENU key. If the system is being used for the first time, or if the configuration has been changed, proceed according to the indications shown in the section *8.2 Initialising the system*. If the initialise procedure is complete, see the instructions of the following sections:

- For normal use of background music and voice announcements, users can use just MUSIC and AUDIO SETTING menu.

- For the management of advanced features during fault, emergency and configuration condition, see the following menu INSPECTION, OPERATOR, and EMERGENCY CONFIGURATION.

- To reset the "beep", see Section INSPECTION (Section 8.5.1.1)

- To send emergency messages see Section EMERGENCY (par. 8.9).

- To manage the integrated monitor loudspeaker, refer to the information in par. 8.1.

The functions associated with levels featuring restricted access, for which a password may be set, are highlighted by this symbol.

8.1 MONITOR PANEL

This panel can be used to manage the loudspeaker monitor built into the front panel of the equipment. It is reached directly from the MAIN page by pressing the MENU key.

Once all the necessary adjustments have been made, press ESC to return to the MUSIC panel o press MENU to return to the MAIN page.

The RESET, ALERT, EVAC, OK and Zones 3 to 6 keys are not active.

Loudspeaker volume control:

- Hold key 1 (VOL) down and turn the +/- knob to adjust the volume, within a range of ±10 dB as compared to the current setting for the source selected.

Selecting the signal to be sent to the monitoring loudspeaker:

- Hold key **2** (INPUT) down and turn the knob to select the input from among the following:

> MIC1   Microphone source connected to the *IN 1* input.

> MIC2   Microphone or line source connected to the *IN 2* input.

> AUX IN / REMOTE MUSIC   The signal provided by the monitor, with reference to the two possible inputs, AUX IN or REMOTE MUSIC, will be either the current signal or the one selected earlier in the MUSIC management screen.

> VOX   source connected to the *IN 3* input.

> USB PLAYER / ALERT   If the signal of the alert message (ALERT) is present, it will have a higher priority than the USB input signal.

> CHIME / EVAC   If the signal of the evacuation message (EVAC) is present, it will have a higher priority than the CHIME signal.

> VOICE AMPLIFIER   The signal produced by the monitor will correspond to the source that is active on the voice or emergency channels (main channel with a high priority).

> MUSIC AMPLIFIER   The signal produced by the monitor will correspond to the current source active on the music or emergency channels (secondary channel with low priority).

> NONE   No input (monitoring loudspeaker off).

Note: *Regardless of which input is selected and of the volume set, in the event that the system goes into a Fault condition the loudspeaker monitor will produce an acoustic signal indicating a "current failure" (beep).*
*To reset the beep, access the "Manual beep reset" function (point 8.5.1.1).*

8.1.1 Enabling the music input to the remote PA8506-V

In a 12-zone system, with two PA8506-V units connected to one another, it is possible to enable the input selected for the music source of the local PA8506-V so that the sound can also by broadcast VES the remote PA8506-V.

- Press key **6** (OUT) cyclically to choose between the following options:

    - OUT REMOTE MUSIC: ON   The input of the local PA8506-V is available for playing out to the remote PA8506-V.

    - OUT REMOTE MUSIC: OFF   The input of the local PA8506-V is disabled for the remote PA8506-V.
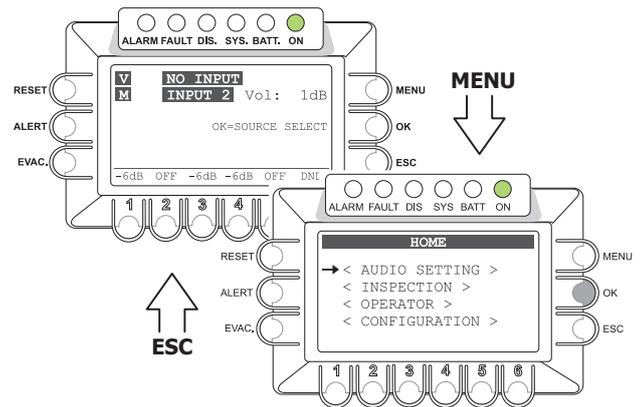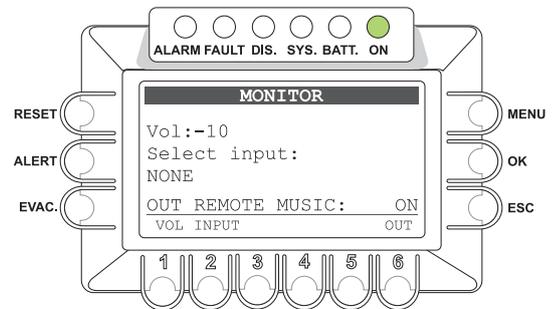
8.2 INITIALISING THE SYSTEM

• Password
From the MAIN page, select the CONFIGURATION menu and press OK to confirm your choice. If the restriction calling for access with a password has been enabled, the "CONFIGURATION ACCESS" screen will appear: enter the 4-digit code of the password, then press OK to confirm (the default password is 3333, see point 8.7).

• Resetting the BEEP
Failure signals may occur during the initialisation procedure due to the differences between the configuration of the system as connected and the default settings. To reset the acoustic signal (beep), access the "Report> FAULT" menu and press the RESET key. For details consult "FAULT" (see point 8.5.1.1).
     o **Path**: HOME / CONFIGURATION / *report> FAULT* (press the RESET key)

• External amplifier
Configure the PA8506-V with or without an external amplifier. For details see "AMPLIFIER MODE" (see point 8.7.5).
     o **Path**: HOME / CONFIGURATION / *set> AMPLIFIER MODE*

• Acquisition of impedances
From the MUSIC menu, set all the outputs with music "OFF". For details, see "MUSIC menu" (see point 8.3.4).
Acquire the new loading impedances of the loudspeaker lines, as indicated under "IMP. ACQUISITION" and enable the test by setting the measurement tolerances.
     o **Path**: HOME / CONFIGURATION / *acquire> IMPEDANCE* / *IMP. ACQUISITION* (press the OK key)
     o **Path**: HOME / CONFIGURATION / *set> TOLLERANCE* / *SET TOLLERANCE*

• Diagnostics for 24 VDC power supply
If the auxiliary 24 VDC power supply has been connected, enable the diagnostic test by setting "24 VDC P.S. ON", as illustrated under "BACKGROUND TEST" (see point 8.6.3.3).
     o **Path**: HOME / CONFIGURATION / *set> Background test* / *4-Power supplies*

• Emergency messages
Load the *.WAV files for the ALERT and EVAC messages in the resident memory of the PA8506-V, as illustrated under "MESSAGES" (see point 8.7.3).
     o **Path**: HOME / CONFIGURATION / *set> Messages*

• Input contacts
Based on the provisions of the Emergency and Evacuation Plan (EEP), programme the input contacts connected to the external peripheral unit suitably. For details see under "CONTROL INPUTS" (see point 8.6.1).
     o **Path**: HOME / CONFIGURATION / *set> CONTROL INPUTS*

• Output contacts
Based on the provisions, if any, relating to the specific system, programme the output contacts connected to the external peripheral units suitably. For details see under "CONTROL OUTPUTS" (see point 8.6.2).
     o **Path**: HOME / CONFIGURATION / *set> CONTROL OUTPUT*

• Volume control
Adjust the output volume of the VES sources suitably so as to ensure that the messages are as intelligible as possible. The level set will be used for "Voice Alarm Conditions" and will be the same for all the zones. To adjust the volume of the Emergency Microphone and of the ALERT and EVAC messages, follow the instructions provided under "ALARM LEVEL" (see point 8.7.4).
     o **Path**: HOME / CONFIGURATION / *set> ALARM LEVEL*

• Resetting failures
Upon completion of the system configuration, the reports concerning failure that have been stored and cleared should be cancelled (RESOLVED). A FAULT RESET should therefore be carried out as indicated under "FAULTS" (see point 8.6.5.1).
     o **Percorso**: HOME / CONFIGURATION / *report> FAULT, access the subpanels for viewing failures*

• After initialising the system
After completing the system initialisation procedure, LOG OUT in order to reinstate any access restrictions associated with passwords (see point 8.6.7).
     o **Percorso**: HOME / CONFIGURATION / *Exit> Logout* (press the OK key).

8.3 <MUSIC> MENU
Setting the audio parameters of the BGM sources
Music source control panel, shown by the PA8506-V in normal "Quiescent Condition".

• Navigation keys
MENU: For accessing the MAIN page
OK: For selecting a source of BGM
ESC: To go to MUSIC-USB for USB CONTROL
KEYS 1-6: For selecting music zones
RESET: Not operational
ALERT: Not operational
EVAC: Not operational

• Indications on the display
A) General output volume of the BGM Source
B) Status labels of each of the 6 zones:
   OFF   Music disabled
   ndB   Music enabled with the associated output volume
   CALL   Call in progress from a "voice" source (PA Source).
   DND   Zone disabled, see the "Do Not Disturb" function (see point 8.4.8).
C) BGM Source selected for the "music" channel.
D) Vu-Meter for the audio signal active on the "music" channel.
E) PA Source active on the "voice" channel for service announcements.
F) Vu-Meter for the audio signal active on the "voice" channel.
H) System configured for 12 zones with two PA8506-V units connected to one another (REMOTE LINK).
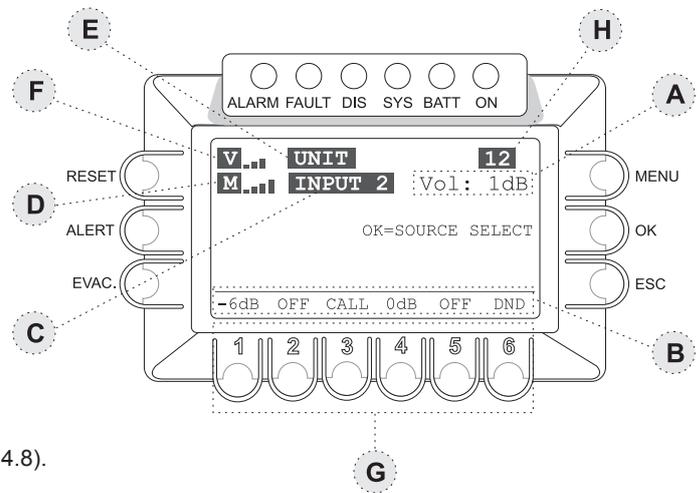
Note: If an amplifier fails, the "music" channel will be disabled, and field (C) will show "NOT AVAILABLE". For further details, see point 9.2 "System operation and signalling in case of failure of an amplifier".

8.3.1 Selection of a BGM Source for the "music" channel
Press **OK** to select the required source of music from among the following:
• AUX   Microphone source connected to the IN 1 Input.
• INPUT 2   Microphone source connected to the IN 2 input (LINE or MIC sockets).
• REMOTE   Source selected by the secondary PA8506-V via the REMOTE LINK socket (see Note1).
• USB   Flash memory device connected to the front-panel USB EXT socket (see Note2).
• NO INPUT   No input selected.

Note[1]
The output towards the remote station of the secondary PA8506-V must be enabled (see point 8.1 "MONITOR Panel").

Note[2]
*When the USB source is selected, the display will show a new operational command: **ESC = USB CONTROL** (see point 8.3.5).*
If no peripheral unit is detected as connected to the system, the acronym ~~USB~~ will appear on the display.

8.3.2 Overall volume control of the "music" channel BGM Source
• Use the **+/-** knob to adjust the volume.
The attenuation setting is visible directly on the display (**A**), with variations of 1 dB.
The volume that is set is stored for each BGM Source selected.

8.3.3 Adjustment of the music volume for each output zone
• Hold the numerical key of the required zone (from 1 to 6) down and turn the **+/-** knob.
The output volume is adjustable to any of 5 levels of attenuation in respect of the master volume (**A**); the attenuation steps are as follows:
-15dB (maximum attenuation), -9dB, -6dB, -3dB, 0dB (no attenuation).
The volume that is set refers only to the "Music" channel.

8.3.4 Activation and de-activation of music for each output zone
• Press and then release the numerical key of the required zone **(from 1 to 6).**
The status label (B) will switch between **OFF** (music disabled) and ndB (music **ON** and associated output volume).

Note: The PA8506-V system enables service announcements to be made from a PA Source to the required zones while continuing to broadcast music to all the other zones not affected by the call. When an announcement is being made, the display will show the source that is being used on the voice channel (E), and the status label of each zone selected (B) will indicate the word CALL.
Service announcements will be broadcast at the volume set for the input of the PA Source (see AUDIO SETTINGS menu) and if appropriate will also be sent to the zones for which music is de-activated (OFF).

8.3.5 MUSIC-USB control panel

Control panel for the music sources, displayed when the USB source is selected. On pressing the EC key cyclically, the system will toggle between the panel for managing the zone commands and the one for managing the USB functions.

• **Navigation keys**

MENU: access to the MAIN page
OK: selection of BGM Source
ESC: toggling between MUSIC and ZONE CONTROL panel
KEYS 1 to 6: USB function controls
RESET: not operational
ALERT: not operational
EVAC: not operational
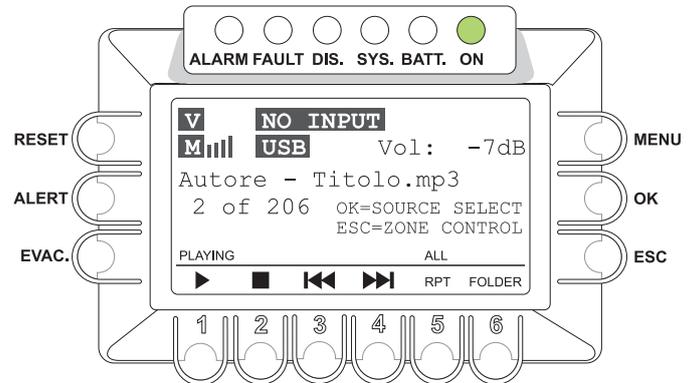
• **Indications on the display and commands**

A) Overall output volume of the BGM Source
B) Status of the USB source:
   PLAYING: Music being played out
   ALL: Repetition of the whole folder
C) BGM Source selected for the "music" channel.
D) Vu-Meter for the audio signal active on the "music" channel.
E) PA Source active on the "voice" channel for service announcements.
F) Vu-Meter for the audio signal active on the "voice" channel.
G) Control keys for playing from the USB:
   1) PLAY
   2) STOP
   3) SELECTION OF PREVIOUS TRACK
   4) SELECTION OF NEXT TRACK
   5) REPEATED PLAYING OUT OF FOLDER
   6) SELECTION OF FOLDER

8.3.6 Using an external Flash Memory device for the USB source

Connect the flash memory device to the front-panel **USB EXT.** socket and wait for a few seconds while it is loaded. Then press the **FOLDER** key (**6**). **The DIRECTORY SELECTION** panel will open, showing a list of the folders contained in the external storage unit.

• Use the **+/-** knob to choose a folder, then press OK to confirm. As an alternative press ESC to return to the USB panel.
• After selection of a folder has been confirmed, the display will show the name of the first track and the total number of files contained in the folder.
• Use the **+/-** knob to select the required track, then press PLAY (**1**) to start playing.
• Use the PLAY control keys to manage the tracks.

Note: If an Automatic or Manual Emergency is activated, the track being played out will be stopped. Once the Emergency has been cleared, press PLAY to resume playing.
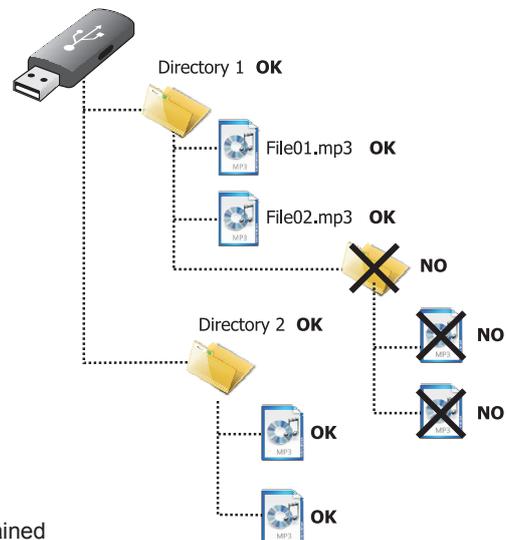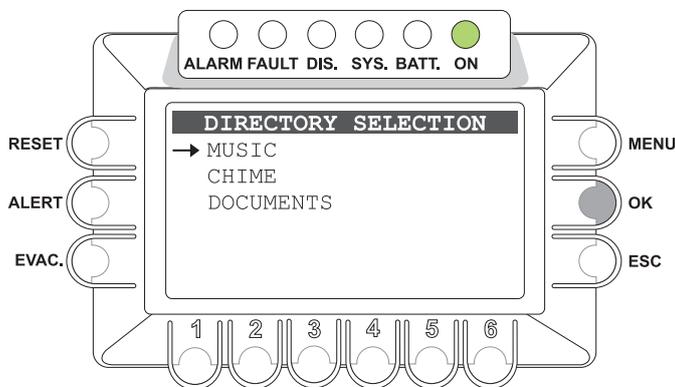
8.3.7 Requisites for audio files for the USB music source

These files must be in the *.mp3 format and be contained in main folders. Files contained in the root directory or in any sub-folders will not be read.
See the figure opposite for further details.

8.4 < AUDIO SETTING > MENU
**Setting the audio parameters of the PA sources**
Menu for accessing the panels for managing the audio parameters of the music and voice sources.
Turn the knob to browse through the items listed and select the required item.
Then press OK to confirm, or:
- Press MENU to return to the MAIN page.
- Press ESC to return to the MUSIC menu.

The options of the AUDIO SETTINGS menu enable the following panels to be accessed:
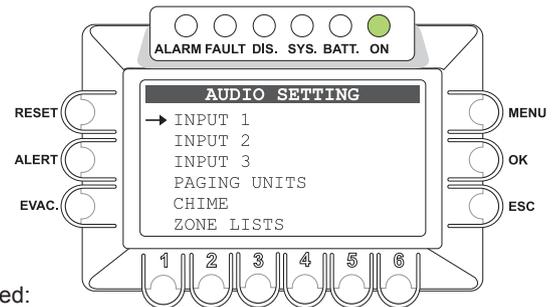
8.4.1 INPUT 1
Volume control and setting of the operating mode of the IN 1 input (MIC.).

8.4.2 INPUT 2
Volume control and setting of the operating mode of the IN 2 input (MIC. or LINE).

8.4.3 INPUT 3
Volume control and setting of the operating mode of the IN 3 input (LINE).

8.4.4 PAGING UNITS
Setting the general volume of the announcements broadcast by the PAGING UNITS, EMERGENCY UNITS and REMOTE LINK.

8.4.5 CHIME
Volume control, assignment of voice sources and choice of files for the USB EXT. input for the warning signal.

8.4.6 ZONE LISTS
Creating the group of output zones to be reached by the call from a PA source using the Precedence or VOX functions.

8.4.7 Do Not Disturb (DND)
Function for disabling music or service announcements for each zone, regardless of the commands set via the MUSIC menu or when programming the *voice* sources.

8.4.1 INPUT 1
Management of the source on the IN 1 input
Hold the numerical key associated with the function down and turn the +/- knob to adjust the setting.
- **Vol**: to adjust the volume within the -80dB/+40dB range (key 1 + knob).
- **Chime**: the setting of the warning signal is shown (ON/OFF). To adjust the settings, see point 8.4.5.
- **Priority**: priority assigned to the input when it is used as a voice source for service announcements. There are seven priority levels. This input is subject to muting by other voice sources with higher priority levels.
- **Ph**: Condition set for the phantom power supply (OFF=de-activated / ON=active). To change the setting, press and release key 6 (Ph).
- **Zone list**: List of zones assigned to the input when it is used as a voice source. To select one of the 36 available lists, hold key 3 (ZONES) down and turn the +/- knob. If the selected list is empty, the input will inhibit use of the voice channel by PA sources with a lower priority. For details about programming the zone list, see point 8.4.6.
- **Mode**: Setting of the operating mode of the input for using the voice channel as a PA Source.
  Hold key 5 (MODE) down and turn the +/- knob to select the required mode from among the following:
  > **Mixing on INP. 2**:
  The source that is connected will function in the mixing mode together with that connected to the IN 2 input, and acquire the latter's settings. It is only possible to activate and de-activate the phantom power supply and to adjust the volume within the range -8dB/0dB in respect of the volume set for the IN 2 input.
  > **On**:
  The input is connected directly as a voice source, and is operational on the basis of the priority and the zone list set.
 > **Precedence**:
  The input is enabled for broadcasting as a voice source by closure of a contact connected to the precedence terminals.
  ⚠ *Caution! It is not advisable to set the precedence mode for this input if the IN 2 input is also set to this mode. If it is wished to connect 2 microphones with precedence contacts to the 2 inputs MIC 1 and MIC 2, use the "Mixing on INP. 2" mode for the INP 1 input and the PRECEDENCE mode for the INP 2 input.*
  > **Off**: input disabled for the PA announcement function. The source connected continues to be available for selection as a BGM Source.
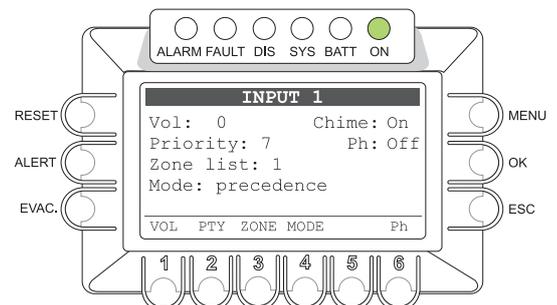
The RESET, ALERT, EVAC, MENU and OK have no functions.
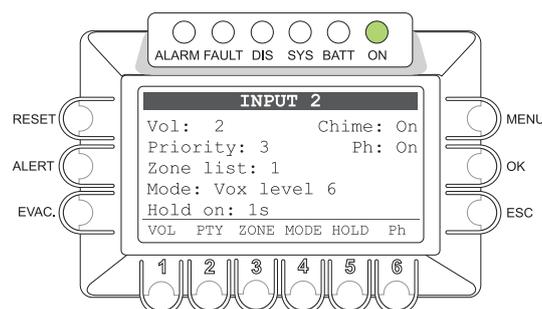Press ESC to return to the AUDIO SETTINGS menu.

8.4.2 INPUT 2
Management of the source on the IN 2 input
Hold the numerical key associated with the function down and turn the +/- knob to adjust the setting.
- **Vol**: to adjust the volume within the range of -80dB/+40dB (key 1 + knob).
- **Chime**: to view the setting of the warning signal (ON/OFF). See point 8.4.5 for the settings.
- **Priority**: priority assigned to the input when used as a voice source for service announcements. There are seven priority levels. This input is subject to muting by other voice sources with higher priority levels.
- **Ph**: Condition set for the phantom power supply (OFF=not active / ON=active). To change the setting, press and release key 6 (Ph).
- **Zone list**: List of zones assigned to the input when it is used as a voice source. To select one of the 36 available lists, hold key 3 (ZONES) down and turn the +/- knob. If the list that is selected is empty, the input will inhibit use of the voice channel by PA sources having lower priority levels. For details about programming the zone list, see point 8.4.6.
- **Mode**: Setting the operating mode of the input for using a *voice* channel as a PA Source.

  Hold key 5 (MODE) down and turn the +/- knob to select the required mode from among the following:
  - **On**: the input is connected directly as a *voice* source and is operational on the basis of its priority and of the zone list selected.
  - **Vox level 1÷7**: the input is set as a voice source with automatic precedence activated by the presence of the incoming audio signal. The precedence is activated when the audio signal exceeds the setting for the threshold level. Up to seven increasing threshold levels can be chosen. Careful adjustment of the threshold will enable prompt broadcasting of the signal to be achieved, avoiding involuntary activation of precedence by noise induced on the cable.
  - **Precedence**: the input is enabled for broadcasting as a voice source by closure if a contact connected to the precedence terminals.
    Caution! It is not advisable to set the precedence mode on this input if the IN 2 input is also set to this mode. If required, two microphones with precedence contacts can be connected to the two MIC 1 and MIC 2 inputs, using the "Mixing on INP. 2" mode for the IN. 1 input and the PRECEDENCE mode for the IN 2 input.
  - **Off**: input disabled for the PA announcement function; the source connected still be available for selection as a BGM Source.
- **Hold on**: Setting of the release time, at the end of the input signal, when the VOX mode is selected. Hold key 4 (HOLD) down and turn the +/- knob to choose the length of time between 1 sec and 100 secs.

The RESET, ALERT, EVAC, MENU and OK keys have no functions.
Press ESC to return to the AUDIO SETTINGS menu.

8.4.3 INPUT 3
Management of the source on input IN 3
Hold the numerical key associated with the function down and turn the +/- knob to adjust the setting.
- **Vol**: to adjust the volume within the range -80dB/+40dB (key 1 + knob).
- **Chime**: to view the setting of the warning signal (ON/OFF). See point 8.4.5 for the settings.
- **Priority**: priority assigned to the input when it is used as a voice source for service announcements. There are seven priority levels. This input is subject to muting by other voice sources with higher priority levels.
- **Zone list**: list of zones assigned to the input when it is used as a voice source. To select one of the 36 available lists, hold key 3 (ZONES) down and turn the +/- knob. If the list selected is empty, the input will inhibit use of the voice channel by PA sources having a lower priority.
- **Mode**: Setting of the operating mode of the input for using the *voice* channel as a PA Source.

  Hold key 5 (MODE) down and turn the +/- knob to select the required mode from among the following:
  - **On**:
    The input will be connected directly as a voice source and will be operational on the basis of the priority and of the zone list that is selected. If the zone list is empty, the input will inhibit use of the voice channel by PA sources featuring lower priority levels. For details about programming the zone list, see point 8.4.6.
  - **Vox level 1÷7**:
    This input is set as a voice source with automatic precedence activated by the presence of the incoming audio signal. The precedence is activated when the audio signal exceeds the threshold level that has been set. It is possible to choose from among seven increasing threshold levels. Careful adjustment of the threshold will enable prompt broadcasting of the signal to be achieved, avoiding involuntary activation of precedence by noise induced on the cable.
  - **Off**: input disabled for the PA announcement function.
- **Hold on**: Setting of the release time, at the end of the input signal, when the VOX mode is selected. Hold key 4 (HOLD) down and turn the +/- knob to choose the length of time between 1 sec and 100 secs.

The RESET, ALERT, EVAC, MENU and OK keys are not operational.
Press ESC to return to the AUDIO SETTINGS menu.
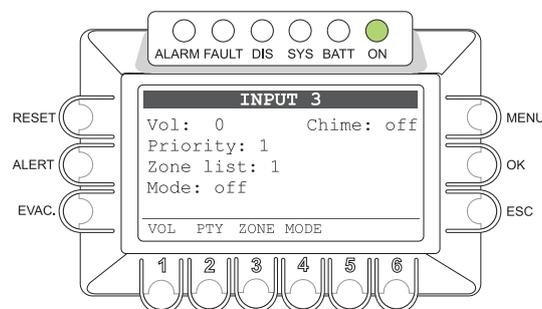
8.4.4 PAGING UNITS
Setting the volume of the broadcasting stations
Panel for setting the volume of the microphone stations for broadcasting announcements and viewing the setting of the chime.

• UNIT VOLUME:

This control sets the general volume of broadcasting microphone stations of the PMB106-G and PMB112-G ranges output from the PA8506-V unit to which the stations are connected by means of the "PAGING UNITS" socket.

• EMG UNITS VOL.:

This control sets the general volume of the emergency units of the PMB132-V and PMB132/12-V ranges solely for broadcast announcements output from the PA8506-V unit to which the units are connected via the "EMERGENCY UNITS" socket. Press key 2 (VOL) and hold it down and turn the +/- knob to adjust the volume of the line within a range from -30dB to 0dB.

• REMOTE LINK:

In a 12-zone system, this control adjusts the general volume of the microphone stations of the PMB106-G and PMB112-G ranges and of the emergency units of the PMB132-V and PMB132/12-V ranges for broadcast announcements received from the remote PA8506-V unit connected to the local PA8506-V unit via the "REMOTE LINK" socket. Hold down key 3 (VOL) and turn the +/- knob to adjust the volume of the line.

• CHIME:

This control shows the setting of the chime (ON/OFF) for announcements broadcast by stations of the PMB106-G and PMB112-G ranges and by emergency units of the PMB132-V and PMB132/12-V ranges. For the settings, see point 8.4.5 illustrating the CHIME panel.

To set the priority and the paging zones of each unit, consult the appropriate instruction manual.

The RESET, ALERT, EVAC, MENU, OK keys and keys from 2 to 6 are not operational. Press ESC to return to the AUDIO SETTING menu.
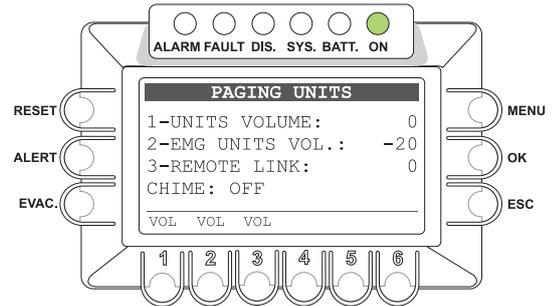
8.4.5 CHIME
Management of the warning signal (chime)
Panel for setting the chime that is produced on activating a *voice* source.

• **Attivazione del tono di Chime**:

Press keys 1, 2, 3 and 4 then release them to set the chimes for the various different sources:

1- MIC1: Input IN.1 programmed to activate the announcement via the Precedence contact (see point 8.4.1)..

2- MIC2: Input IN.2 programmed to activate the announcement via the Precedence or VOX contacts (see point 8.4.2).

3- UNIT: Microphone stations of the PMB106-G and PMB112-G ranges connected to the "Paging Unit" socket and Emergency Units PMB132-V and PMB132/12-V for broadcast announcements connected to the "Emergency Unit" socket.

4-VOX: Input IN.3 programmed to activate the announcement via the VOX function (see point 8.4.3).

The label shows the setting that has been selected:

ON=Chime active, OFF=Chime de-activated)

• **Adjustment of the volume of the Chime tone:**

Hold key 5 (VOL) down and adjust the volume by turning the +/- knob within the range -30 dB/0 dB; the volume is common to all four inputs and is separate from the volume adjustment assigned to the sources.

• **Loading the Chime tone from an external storage device:**

It is possible to replace the warning signal with another available in the USB flash memory device. Plug the flash memory device into the USB EXT. front panel socket, press key 6 (FOLDER), use the +/- knob to choose a folder from the Directory Selection screen, then press OK to confirm.

The display will show the name and the number of the file chosen from among those contained in the folder. Browse through the contents with the +/- knob and press OK to copy the file with the new chime to the memory resident in the PA8506-V system.
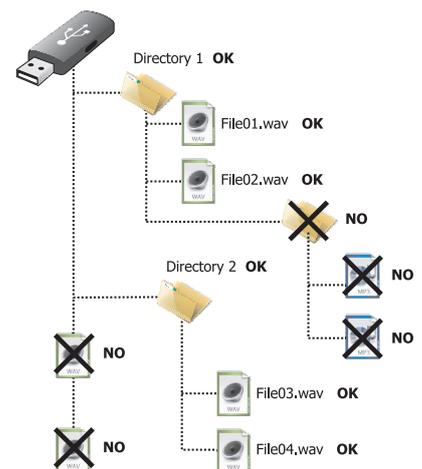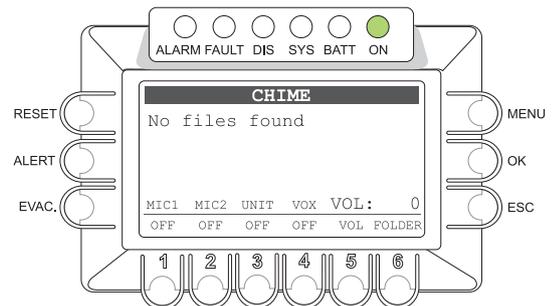
The previous chime file will be overwritten and it will not be possible to restore it. See the figure opposite for further details.

The RESET, ALERT, EVAC, MENU and OK keys are not operational.
Press ESC to return to the AUDIO SETTING menu.

Requisiti del file audio per il tono di Chime

• Formato: *.WAV
• Risoluzione: 16 bit / mono
• Frequenza di campionamento: 48 kHz

8.4.6   ZONE LISTS
Programming the groups of zones activated by a voice source

Panel for setting the groups of the zones selected during the announcement from a "voice" source that activates the Precedence or VOX functions. It is possible to create up to 36 lists that occupy the six zones of the PA8506-V unit to which the voice source is connected:

• **Programming a zone list:**

> Use the +/- knob to select the number of the list you wish to programme (ZONE LISTS from 1 to 36). Refer only to the "PA8506-V ADDRESS: 1" unit.

> Activate or de-activate announcing in the zone concerned by pressing and releasing the corresponding numbered key:

OFF = zone excluded

ON = zone active
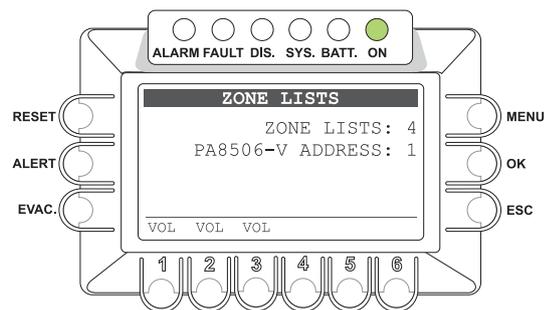
Note: The current firmware version enables programming only for the six zones of the local PA8506-V unit. In a 12-zone system, with two PA8506-V units connected to one another, it is not possible to relay the voice source activated via Precedence or VOX to the remote unit. Thus, the Zone Lists referred to the "PA8506-V ADDRESS: 2" unit cannot be programmed.

Press ESC to return to the menu AUDIO SETTING.
The RESET, ALERT, EVAC and MENU keys are not operational.

8.4.7   DO NOT DISTURB
Disabling music and service announcements

Panel for setting the Do-Not-Disturb function for each output zone.

This function is operational only when the system is in the Quiescent condition. It can be used to enable protection of the output zones to stop music and service announcements being sent to it from the PA sources.

The criterion for activation of this prevention is associated with the priority of the PA Source involved. When a zone is in the "Do Not Disturb" mode, the display referred to the MUSIC panel will show the **DND** label on the status bar for that zone.
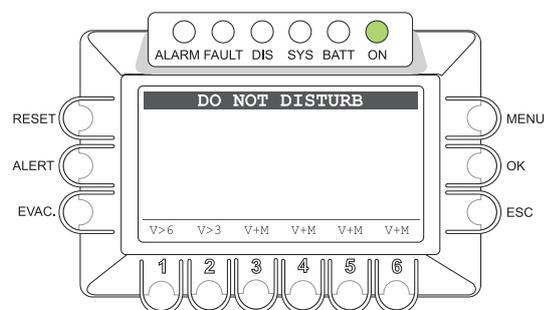
• **Setting the DND function for each zone:**

Hold the numerical key (1-6) associated with the zone to be programmed down and turn the +/- knob to select one of the following modes:

• V+M: Do Not Disturb function disabled. The zone will broadcast music and announcements from all the PA sources.
• V>0: The zone will broadcast only the announcements from all the PA sources. Music will not be broadcast.
• V>1: The zone will broadcast only announcements from the PA sources with priority levels from 2 to 7. Music will not be broadcast.
• V>2: The zone will broadcast only the announcements from the PA sources with priority levels from 3 to 7. Music will not be broadcast.
• V>3: The zone will broadcast only the announcements from the PA sources with priority levels from 4 to 7. Music will not be broadcast.
• V>4: The zone will broadcast only the announcements from the PA sources with priority levels from 5 to 7. Music will not be broadcast.
• V>5: The zone will broadcast only the announcements from the PA sources with priority levels from 6 to 7. Music will not be broadcast.
• V>6: The zone will broadcast only the announcements from the PA sources with priority level 7. Music will not be broadcast.
• OFF: The zone is blocked for announcements from all PA sources up to priority level 7 and for music.
      Only emergency messages and announcements broadcast by PMB132-V and PMB132/12-V emergency units can be broadcast.

Press ESC to return to the AUDIO SETTING menu.
The RESET, ALERT, EVAC, OK and MENU keys are not operational.

Note: The DND function is not affected by the programming of the paging zones associated with the PA source and has priority over it. No feedback is sent to the PA Source to indicate that the zone is engaged. Thus, for example, a microphone programmed for announcements to all zones will broadcast the call only to those zones that are enabled, while those for which the DND function is active will remain mute.
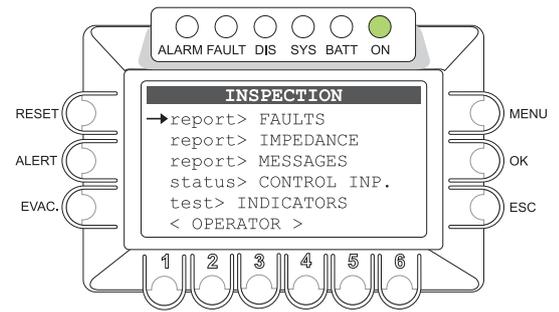
8.5 < INSPECTION > MENU

Panel for selecting options for investigating the status of the system. Only personnel authorised to carry out initial investigation of the causes leading to a *fault* or *emergency* condition may use this panel.

Turn the knob to browse through the options listed:
- **report > FAULTS**
- **report > IMPEDANCE**
- **report > MESSAGES**
- **status > CONTROL INP.**
- **test > INDICATORS**

< OPERATOR >
< CONFIGURATION >

Press OK to select the required item *or*
- press ESC to return to the MUSIC screen.
- press MENU to return to the MAIN page.

The options of the INSPECTION menu enable the panels for managing the following to be accessed:

8.5.1 FAULTS panel (from the **report> FAULTS** option)
For checking the status of the current or cleared past failures query. It can be used to reset the acoustic signal (beep).

8.5.2 IMP. REAL TIME panel (from the **report> IMPEDANCE** option)
For viewing in real time the line impedance values detected by the system, indicating the percentage of deviation from the value stored at the time of initialising the system.

8.5.3 CHECK MESSAGES panel (from the **report> MESSAGES** option)
For checking the emergency messages stored and detect checksum values.

8.5.4 CONTROL INPUT STATUS panel (from the **status> CONTROL INPUT** option)
For viewing in real time the status of the input contacts of the PA8506-V that can activate an Automatic Emergency.

8.5.5 INDICATORS TEST panel (from the **test> INDICATORS** option)
For checking the functionality of the signalling elements connected with the emergency (buzzer loudspeaker, display and LEDs).

< OPERATOR >
To go directly to the OPERATOR menu - see point 8.6.

< CONFIGURATION >
To go directly to the CONFIGURATION menu - see point 8.7.

8.5.1 FAULTS
For viewing the failed components

Six groups are listed, with a generic indication of the fault condition.
From this panel it is possible to reset the beep (see point 8.5.1.1).
The categories of failed parts and generic signalling of their states are shown in the table below.

Press the associated numerical key (1-6) to select the sub-panel and view the details of the failure, as illustrated under points 8.5.1.3 to 8.5.1.8 below

or

Press ESC to return to the INSPECTION panel.
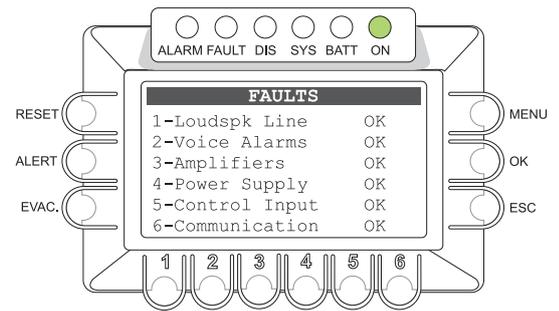
Label	Diagnostic category	See panel		Signalling	Cause
1-Loudspk Line	Loudspeaker lines	LOUDSPK. LINE FAULT	ALL	OK	No faults
2-Voice Alarms	VES emergency sources	VOICE ALARMS FAULT			
3-Amplifiers	Power amplifiers Ground fault loudspeaker lines	AMPLIFIER FAULTS			
4-Power Supply	Primary and secondary power supplies Management memory display	POWER SUPPLY FAULTS		FAULT	At least 1 fault detected and on-going
5-Control Input	Local input contacts	CONTROL INPUT FAULT		RES	At least 1 fault cleared and no on-going faults
6-Communication	PA8506-V internal data communication	COMMUNICATION FAULT			

Tab. 8.5.1.1

8.5.1.1 Manual resetting of the acoustic signal (beep) by acknowledging the failure

When the built-in monitoring system of the PA8506-V detects a new fault, the acoustic signal (beep) is automatically activated and sounded at any and all emergency units and, in a 12-zone system, also on the remote PA8506-V.
To reset the beep, access the "FAULTS" menu showing the list of six groups of diagnostic signals, of which at least one will show a FAULT condition. To do this, follow the path:

HOME/INSPECTION/report> FAULTS

• Press the RESET key

The beep will be reset on all the units within the system and on any remote emergency units. The FAULT LED will remain active to indicate that a "Fault Condition" continues to exist. If the Fault LED is steady ON, it will be possible to identify the faulty item of equipment by accessing the options of the FAULT menu (see points 8.5.1.3 to 8.5.1.8) to find the fault. If the Fault LED is flashing, this means that the fault has to do with the remote PA8506-V unit, in which case you should access the FAULTS menu proceeding via the other PA8506-V unit.
After resetting the beep, it will be possible to return to the MUSIC panel by pressing repeatedly the ESC key.
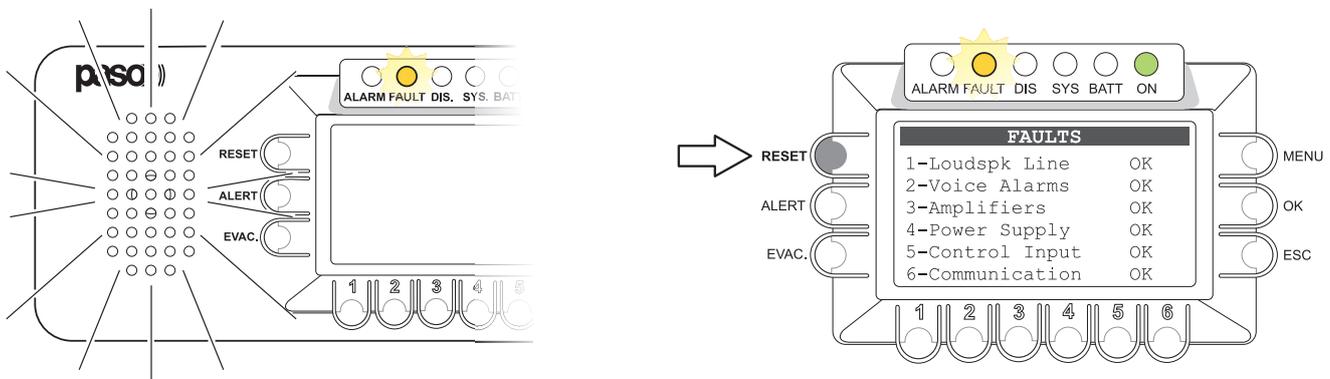
8.5.1.2 Automatic resetting of the acoustic signal (beep) following clearing of a failure
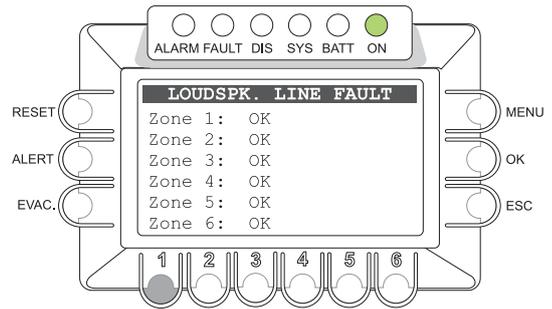
If the cause of a failure is cleared before the beep is reset manually, the PA8506-V will reset the beep automatically, extinguish the FAULT LED and indicate RES (RESOLVED) in the label of the part that had FAILED. The RESOLVED signal will be stored until a MANUAL RESET of the failure signal is carried out from the FAULTS panel via the OPERATOR menu.

8.5.1.3 LOUDSPK. LINE FAULT
Diagnostics of line speaker units

From the FAULTS panel (point 8.5.1), press numerical key 1 and access the panel for viewing the loudspeaker line diagnostics: the diagnostics for each output zone are shown as indicated in the following table.

Press ESC to return to the FAULTS panel.

```
        ALARM FAULT DIS SYS BATT ON
        ┌─────────────────────────┐
RESET   │   LOUDSPK. LINE FAULT   │   MENU
        │ Zone 1:  OK             │
        │ Zone 2:  OK             │
ALERT   │ Zone 3:  OK             │   OK
        │ Zone 4:  OK             │
        │ Zone 5:  OK             │
EVAC.   │ Zone 6:  OK             │   ESC
        └─────────────────────────┘
          1   2   3   4   5   6
```

Label	Part being diagnosed		Signalling	Cause	Action required
			OK	No failure	-
Zone 1	Loudspeaker lines Zone 1		Short A	Short circuit on the line connected to output A	Eliminate the short circuit and carry out a MANUAL RESET of the FAILURE signal (from the OPERATOR menu)
Zone 2	Loudspeaker lines Zone 2		Short B	Short circuit on the line connected to output B	
Zone 3	Loudspeaker lines Zone 3		Short A+B	Short circuit on both lines of the zone (Note 1)	
Zone 4	Loudspeaker lines Zone 4	ALL	Impedance Hi	Impedance level higher than acquired value detected, beyond the tolerance set during configuration (Note 2)	Check the connections of the speaker units and if necessary repeat the line acquisition procedure (ACQUIRE IMPEDANCE)
Zone 5	Loudspeaker lines Zone 5		Impedance Low	Impedance level lower than acquired value detected, beyond the tolerance set during configuration (Note 2)	
Zone 6	Loudspeaker lines Zone 6		Res. imp. Hi	Failure ("Impedance Hi" signal) cleared	Access the Report > FAULTS panel from the OPERATOR menu and carry out a MANUAL RESET of the FAILURE signal
			Res. imp. Low	Failure ("Impedance Low" signal) cleared	

Tab. 8.5.1.3

Note 1:

It may happen that an occasional short circuit of a single line does not give the diagnostic system sufficient time to identify the line that has failed. In this case, the message "Short A+B" may be displayed.

Note 2:

*"Impedance Hi" and "Impedance Low" failures are not reported if the tolerance is set at a higher level than the measured variation of the impedance or if the test is disabled. For details concerning programming, see the **SET TOLERANCE** panel (point 8.7.2).*
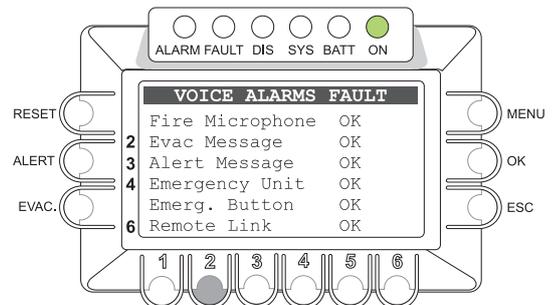
8.5.1.4 VOICE ALARMS FAULT
Diagnosing faults of the VES emergency sources

From the FAULT panel (point 8.5.1), press numerical key 2 and access the panel for viewing the diagnostics of the VES emergency sources. The diagnostic state of each item monitored is reported, as shown in the following table.

For some items of equipment it may be necessary to access the sub-panel, by pressing the corresponding numbered key.

Press ESC to return to the panel FAULTS.

```
        ALARM FAULT DIS SYS BATT ON
        ┌─────────────────────────┐
RESET   │   VOICE ALARMS FAULT    │   MENU
        │ Fire Microphone  OK     │
      2 │ Evac Message     OK     │
ALERT 3 │ Alert Message    OK     │   OK
      4 │ Emergency Unit   OK     │
        │ Emerg. Button    OK     │
EVAC. 6 │ Remote Link      OK     │   ESC
        └─────────────────────────┘
          1   2   3   4   5   6
```

Label	Part being diagnosed	Display	Cause	Action required
Tutti	Tutti	OK	No failure	-
		N.T.	Diagnostics disabled during configuration (see Set> BACKGROUND TEST menu)	-
		Res.	Failure (Fault signal) cleared	Access the Report> FAULTS panel from the OPERATOR menu and carry out a MANUAL RESET of the FAILURE signal.
Fire Microphone	Hand-held emergency microphone	Fault	Current failure due to *critical path*	Check the connection and operation of the hand-held emergency microphone. Check the volume setting from the Set> ALARM LEVEL panel in the CONFIGURATION menu (recommended: 0 to 16). If the failure persists, contact Servicing.
2-Evac Message	Recorder/player of the emergency EVAC message	Fault	Presence of two or more failures *(see Tab. 8.5.1.4b)*	Press key 2 to access the dedicated "EVAC MESSAGE FAULT" sub-panel. See the type of fault in Table 8.5.1.4b.
3-Alert Message	Recorder/player of the emergency ALERT message	Fault	Presence of two or more failures *(see Tab. 8.5.1.4b)*	Press key 3 to access the dedicated "ALERT MESSAGE FAULT" sub-panel. See the type of fault in Table 8.5.1.4b.
4-Emergency Unit	Emergency microphone stations	Fault	At least one microphone station faulty.	Press key 4 to access the dedicated "EMERGENCY UNIT FAULT" sub-panel under point 8.5.1.4a
		Res.	Fault cleared with reference to a fault signalled earlier.	Press key 4 to access the dedicated "EMERGENCY UNIT FAULT" sub-panel and check the address of the faulty station. Access the "report> FAULTS" panel from the OPERATOR Menu and RESET the FAULT signal manually.
Emerg. Button	Key for accessing MANUAL EMERGENCY	Fault		Check operation of the key. If the failure persists, contact Servicing.
6-Remote Link	Intercommunication with remote PA8506-V	Fault	Communication error	If the problem was caused by the change from a 12-zone system, to a 6-zone system, carry out the "Restore the 6-zone configuration" procedure as indicated under point 8.6.6.2. As an alternative, press key 6 to access the dedicated "REMOTE LINK FAULT" sub-panel. Check the connecting cable between the two PA8506-V units for the REMOTE LINK. If the failure persists, contact Servicing.

Tab. 8.5.1.4a

Types of fault affecting the Emergency Message recorder/player, shown in the "EVAC MESSAGE FAULT" or "ALERT MESSAGE FAULT" sub-panels.
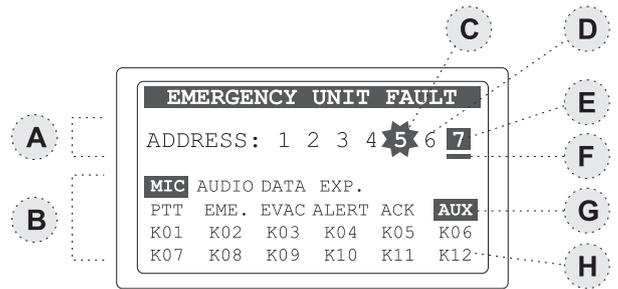
Label	Part being diagnosed	Cause	Action required
Memory checksum error	*Memory checksum*	On-going fault due to internal error	Try re-writing the message (see the MESSAGES panel in the CONFIGURATION Menu). If the fault persists, contact your Service Centre.
Open file error	File diagnostics	On-going fault due to file *not found*	
Frame I2S error	*Audio communication*	On-going fault due to internal error	If the fault persists, contact your Service Centre.
Data I2S error	*Data communication*	On-going fault due to internal error	
Memory checksum resumed Open file resumed Frame I2S resumed Data I2S resumed	See faulted items	Fault cleared following earlier signalling of *fault*	Access the report> FAULTS panel from the OPERATOR Menu and RESET the FAULT signal manually.

Tab. 8.5.1.4b

8.5.1.4a EMERGENCY UNIT FAULT
Diagnosing faults of the emergency units

From the VOICE ALARM FAULT panel (point 8.5.1.4), press numerical key 4 and access the panel displaying the diagnosis of the emergency units.

The panel is split up into two sections. The first section is used to select the address of the station and the second to display the faulted items.
Use the +/- knob to select the address of the station and check on the panel whether there are any faulted items, following the indications in the figure provided below.

```
┌─────────────────────────────────┐
│  EMERGENCY UNIT FAULT           │
│                                 │
│  ADDRESS: 1 2 3 4 5 6 7         │
│                                 │
│  MIC  AUDIO DATA EXP.           │
│  PTT  EME. EVAC ALERT ACK  AUX  │
│  K01  K02  K03  K04  K05  K06   │
│  K07  K08  K09  K10  K11  K12   │
└─────────────────────────────────┘
```

Key
A field for selecting an address.
B field showing faults.
C address with flashing dark background: station with cleared failure (resumed).
D address with white background: fault-free station.
E address with dark background: station with at least one on-going fault.
F underscored address: cursor for selecting an address.
G label with dark background: faulty item.
H label with white background: no faults detected.

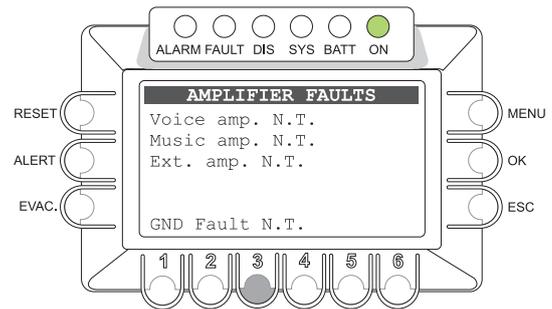| Typology	Fault	Operation required
MIC.	Fault detected in the microphone capsule.	Check whether the microphone and stem are fitted correctly into the connector on the microphone base; try making an announcement in order to test operation. If the fault persists, contact your Service Centre.
AUDIO	Fault detected on the audio communication line from the microphone station to the PA8506-V unit.	Inspect the cable connecting the station. Make a test announcement in order to check operation. If the problem persists, even with the announcement played out correctly, adjust the level of the 20 kHz test tone following the procedure indicated under point 8.6.4 "EMERGENCY UNIT CONFIG".
DATA	Fault detected on the data communication line from the microphone station to the PA8506-V unit.	Inspect the cable connecting the station; if the problem persists, contact your Service Centre.
EXP.	Fault detected in the station selection keypad on the 12-zone PMB132/12-V unit.	If the fault persists, contact your Service Centre.
PTT, EME, EVAC K01÷K12	Fault detected in the activation key on the microphone base.	The associations of the keys are shown in the following figure. Check the functioning of the key. If the problem persists, contact your Service Centre.

Tab. 8.5.1.4c
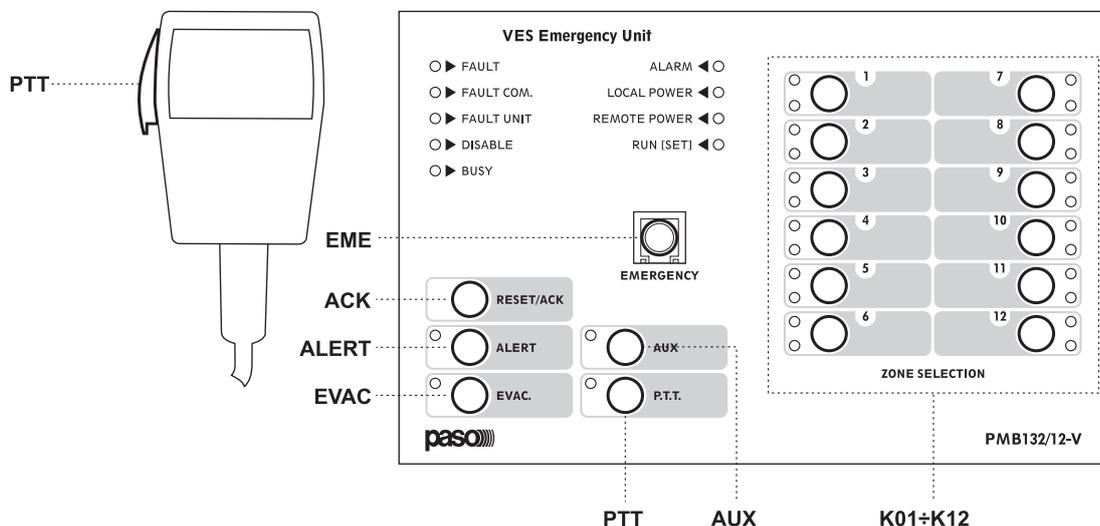
8.5.1.5 AMPLIFIER FAULTS
Power amplifier diagnostics and GND fault

From the FAULTS panel (point 8.5.1), press numerical key 3 and access the panel for viewing the power amplifier diagnostics and ground faults of the loudspeaker lines.

The diagnostic state of each item monitored is reported, as shown in the following table (Table D).

Press ESC to return to the panel FAULTS.

ALARM FAULT DIS SYS BATT ON

RESET   MENU

AMPLIFIER FAULTS
Voice amp. N.T.
Music amp. N.T.
Ext. amp. N.T.

GND Fault N.T.

ALERT   OK

EVAC.   ESC

1 2 3 4 5 6

Label	Part being diagnosed	Display	Cause	Action required
All	All	OK	No failure	-
		N.T.	NOT TEST. Diagnostics disabled during configuration (See *Set> BACKGROUND TEST* menu)	-
		Res.	Failure cleared due to previous Fault signal	Access the *report> FAULTS* panel from the OPERATOR menu and carry out a MANUAL RESET of the FAILURE signal.
Voice amp.	Internal amplifier of *voice* channel	Fault	Current failure due to *critical path*	Contact Servicing.
Music amp.	Internal amplifier of *music* channel			Contact Servicing.
Est. amp.	External amplifier for power expansion			Check the cables connecting the amplifier to the EXT.AMP IN / EXT. AMP OUT sockets and operation of the external amplifier.
Gnd Fault	Ground Fault		Dispersion to earth from at least one speaker line	Disconnect one speaker line at a time to identify the failed line. Restore line insulation. Reconnect the speaker line and carry out a MANUAL RESET of the FAILURE signal by accessing the Report> FAULTS panel from the OPERATOR menu.

Tab. 8.5.1.5

8.5.1.6 POWER SUPPLY FAULTS
Power supply and display memory diagnostics
From the FAULTS panel (point 8.5.1), press numerical key 4 to access the panel for viewing the diagnostics of the primary and secondary power supplies and of the memory for managing the display.

The diagnostic state of each item monitored is reported, as shown in the following table.

Press ESC to return to the FAULTS panel.

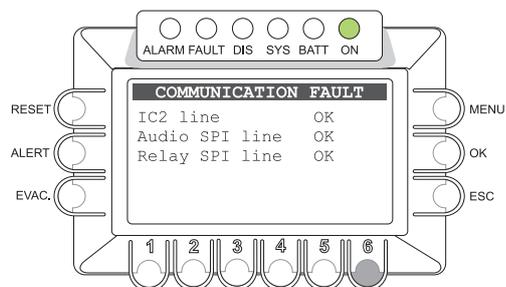| Label	Part being diagnosed	Display	Cause	Action required
All	All	OK	No failures	-
		N.T.	NOT TEST. Diagnostics disabled during configuration (See Menu *set> BACKGROUND TEST*)	-
		Res.	Failure cleared due to previous failure signal	Access the Report> FAULTS panel from the OPERATOR menu and carry out a MANUAL RESET of the FAILURE signal.
Main P.S.	Primary power supply 230Vac	Fault	Primary power supply not detected	Check the 230 VAC power supply, the connecting cable and the mains fuse. If the failure persists, call Servicing.
24Vdc P.S.	Secondary power supply 24Vdc		Secondary power supply not detected	Check the external 24 VDC power supply system. If the failure persists, call Servicing.
Display	Memory managing the graphic display		Memory checksum error	Call Servicing.

Tab. 8.5.1.6

8.5.1.7 CONTROL INPUT FAULT
Diagnostics of the local control inputs

From the FAULTS panel (point 8.5.1), press numerical key 5 to access the panel for viewing the diagnostics of the local control inputs (CONTROL INPUTS).

The diagnostic state of each item monitored is reported, as shown in the following table.

Press ESC to return to the panel FAULTS.

| Label	Part being diagnosed	Display	Cause	Action required
No input fault found		Empty list	No failure, or monitoring not enabled for any input contacts	-
Input in fault:	Input contacts 1 to 8	List number of inputs	Break or short circuit in the line connecting the contact	Check integrity of the line connecting the balancing resistors and the activation contact. If the problem persists, disconnect the line connecting the activation contact and connect a 20 kΩ resistor between the +24V service terminals and the control input. If the problem persists, contact Servicing.
Inputs fault resumed:			Failure cleared due to previous failure signal	Access the Report> FAULTS panel from the OPERATOR menu and carry out a MANUAL RESET of the FAILURE signal.
General Input Fault:		Empty list	Failure of the internal communication between the CPU and the inputs controlled stage.	If the problem persists, contact Servicing.
General Fault resumed:			Failure cleared due to previous failure signal	Access the Report> FAULTS panel from the OPERATOR menu and carry out a MANUAL RESET of the FAILURE signal.

Tab. 8.5.1.7

8.5.1.8 COMMUNICATION FAULT
Diagnostics of the internal data communication

From the FAULTS panel (point 8.5.1), press numerical key 6 and access the panel for viewing the diagnostics of the internal data communication.

The diagnostic state of each item monitored is reported in the following table.

Press ESC to return to the panel FAULTS.

Label	Data being diagnosed	Display	Cause	Action required
I2C line	Management data of amplifiers and keys interface.	OK	No failure.	-
Audio SPI line	Management data of audio matrix.	N.T.	NO TEST. Diagnostics disabled during configuration (see *set> BACKGROUND TEST*).	-
Relay SPI line	Management data of outputs switching section.	Res.	Failure (Fault signal) cleared.	Access the Report> FAULTS panel from the OPERATOR menu and carry out a MANUAL RESET of the FAILURE signal.
		Fault	Current failure due to communication data error.	Contact Servicing.

Tab. 8.5.1.8

8.5.2 IMP. REAL TIME
Real-time line impedance

Panel for checking the impedance values measured in real time, and percentage variations from the value stored during start-up, using the "Line impedance acquisition" procedure. The 6 zones are listed, with their impedances, measured in Ohms. The measure indicated is referred to both lines - A and B - connected to the zone output. If the percentage of variation exceeds the level of tolerance set at the time of configuring the system, a "LOUDSPK LINE FAULT" due to an excessively high or low impedance (Impedance Hi or Impedance Low) will be signalled.

Press ESC to return to the INSPECTION panel.
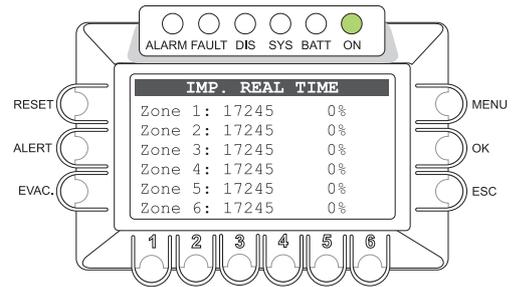
8.5.3 CHECK MESSAGES
Diagnosis of stored messages

Panel for checking all stored data for each of the emergency messages. Referring to the two messages EVAC and ALERT, it shows the checksum data in alphanumeric format (see example in the figure). A different checksum data is generated when the new message is stored.

Press ESC to return to the INSPECTION panel.
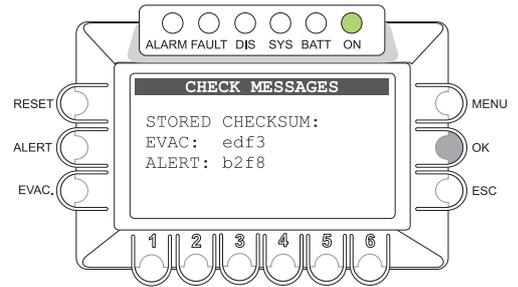
8.5.4 CONTROL INPUTS STATUS
Status of the local input contacts

Panel for viewing the status of the local input contacts (CONTROL INPUTS). A list of the input contacts activated by external peripheral units is provided. The CONTROL INPUT STATUS panel shows the active inputs, both if no events are associated with them and if an output message event is associated with them. In the event of activation of a programmed CONTROL INPUT, the PA8506-V system will trigger an "Alarm Condition" (VOICE ALARM), cause the ALARM LED to light up and the CONTROL INPUT STATUS panel to be displayed automatically. The display will show a list of all the active inputs (whether programmed or otherwise) and will indicate the type of pre-recorded message being output to each zone. In the event of an active input contact programmed for a GENERAL RESET, the ALARM LED will be extinguished.

For further information concerning programming, consult point 8.6.1, OPERATOR/Set> CONTROL INPUTS. For details on activity in the "Voice Alarm Condition", consult point 8.8 Automatic Emergency – Voice Alarm Condition.
Press ESC to return to the panel INSPECTION.
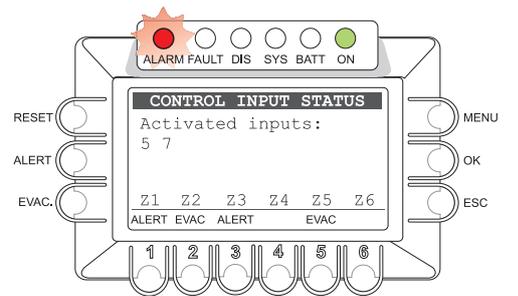
Note: *if several input contacts are activated simultaneously, with different programming of the messages in relation to the zones, for each zone output the system will enable the event with the highest priority (see table). The CONTROL INPUT STATUS panel will therefore show the zone outputs as configured following enabling of all the active contacts.*

Maximum priority	General reset of messages (RESET)
High priority	Pre-recorded Evacuation message (EVAC)
Low priority	Pre-recorded Alert message (ALERT)
Minimum priority	No event (NONE)

8.5.5 INDICATORS TEST
Check of the functionality of the visual and audio signal elements

Panel for checking speaker functionality (BEEP), display and operating emergency LED indicators. All LEDs on the front panel (excluding 'ON' LED) and the EMERGENCY key LED are flashing. Horizontal bar scrolls on the display and beep warning tone are ON. The functionality of the built-in speaker, all LEDs and all the display pixels are checked. Please contact Support in case of failure. Press ESC to return to the INSPECTION panel.
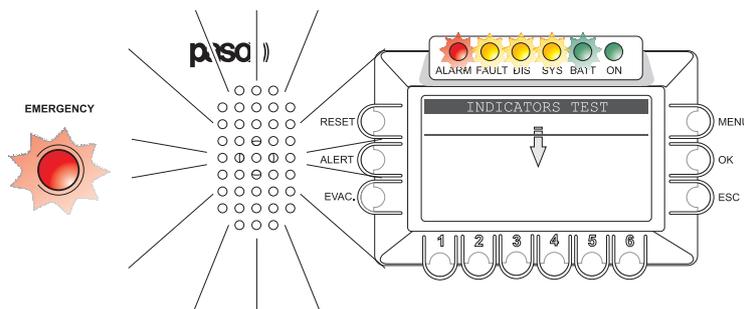
8.6 < OPERATOR > MENU

Panel for selecting options for which the personnel instructed and authorised to manage the system in emergency, failure and disablement conditions are responsible.

If an access password was enabled during configuration, the following panel will be shown: **OPERATOR ACCESS**.
- Enter the 4-digit password and OK to proceed,
  or
- press ESC to return to the MAIN page.

The default password is 2222.

Following access, from the OPERATOR menu,
turn the knob to browse through the options listed:
- **set > CONTROL INPUTS**
- **set > CONTROL OUTPUT**
- **set > BACKGROUND TEST**
- **set > EMERGENCY UNITS**
- **set > DISABLEMENT**
- **report > FAULTS**
- -> --
- -> --
- **Firmware Version**
< **INSPECTION** >
< **CONFIGURATION** >
- **Exit > Logout**

Select the required item by pressing OK, or
- press ESC to return to the MUSIC panel,
- press MENU to return to the MAIN page.
The options of the OPERATOR menu enable the following management panels to be accessed:

8.6.1 CONTROL INPUTS panel (via the set > CONTROL INPUTS option)
For setting the eight input contacts of the P8506-V, in order to programme the events that activate a "Voice Alarm Condition".

8.6.2 CONTROL OUTPUT panel (via the set > CONTROL OUTPUT option)
For programming the output contacts of the P8506-V, of which six open collector and 2 relay contacts, for connection to external peripheral units, for the purpose of signalling diagnostics, operating conditions, overrides or remote activations.

8.6.3 BACKGROUND TEST panel (via the set > BACKGROUND TEST option)
For enabling and disabling monitoring of parts affecting the ability of the system to function in emergency conditions.

8.6.4 EMERGENCY UNITS panel (via the set > EMERGENCY UNITS option)
Dedicated section for PMB132-V and PMB132/12-V emergency units. This section enables the addresses to be acquired, the parameters to be set and the keys to be configured.

8.6.5 DISABLEMENT panel (via the set > DISABLEMENT option)
For disabling, in one or more emergency zones, the activity envisaged for an "Alarm Condition" (Voice Alarm Condition). If at least one zone is set to a "Disablement Condition", the dedicated "DIS." LED will signal the existence of a "Disablement Condition".

8.6.6 FAULTS panel (via the report > FAULTS option)
Query concerning the status of current and cleared failures as described in the Section on INSPECTION. In addition, this level enables MANUAL RESETTING OF FAILURE SIGNALS.

8.6.7 FIRMWARE VERSION panel (via the Firmware Version option)
This panel shows the version of the firmware installed in the system.
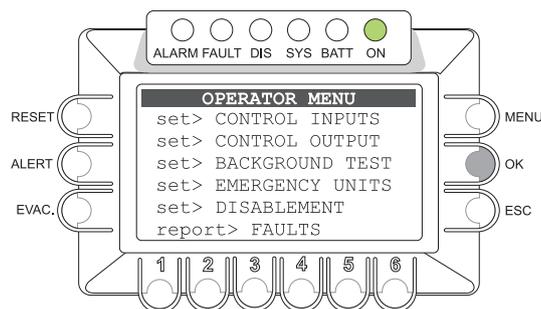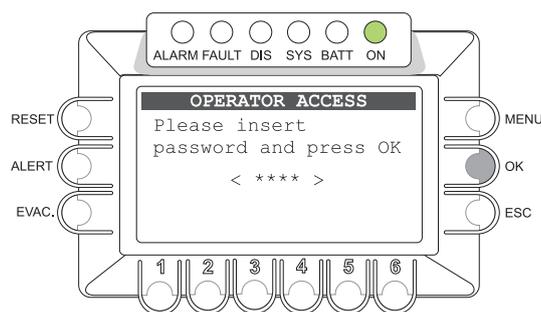
< INSPECTION >
For going directly to the INSPECTION menu, see point 8.5.

< CONFIGURATION >
For going directly to the CONFIGURATION menu, see point 8.7.

8.6.8 Exit > Logout option
To exit from the service level and return to the basic level, reinstating the access password.

8.6.1 CONTROL INPUTS
Local input contacts

This panel is for programming each of the eight local control input (CONTROL INPUTS), for which it is possible to choose the type of activation contact, to enable diagnostics for the connecting line, to associate a type of pre-recorded emergency message with each output zone or to carry out a general reset of all zones.
For details concerning the connection, see point 5.2.

CAUTION: Activation of the input contacts by an external peripheral unit generates an Automatic Emergency. For details about management of Automatic Emergencies, see point 8.8 "Automatic Emergency".
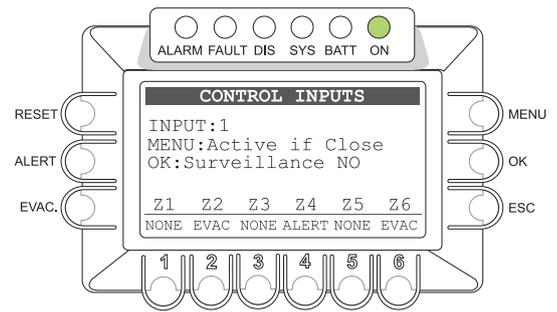
8.6.1.1 Programming the input contacts
Note: The display will show the programming that has been set.

Choice of the input contact::
Turn the +/- knob to select the contact number:
> *INPUT:* **from 1 to 8**

Choice of the type of activation of the contact, Normally Open (N.O.) or normally closed (N.C.):
Press MENU to select the state of the contact for activation:
> "**Active if Close**": cconnect the activation contact as N.O.
> "**Active if Open**":connect the activation contact as N.C.

Setting the diagnostics for the line connecting the contact:
Press OK to enable or disable diagnostics:
> **Surveillance NO**: diagnostics disabled
> **Surveillance YES**: diagnostics enabled
Note: With diagnostics enabled, the balancing resistors must be installed on the contact of the activating external peripheral unit (see point 5.2).

Configuration of the messages sent to the output zones:
Press the numerical key of zones 1 to 6 cyclically to associate the zones in question with the required message:
> **NONE**: No associated message
> **EVAC**: Pre-recorded Evacuation message
> **ALERT**: Pre-recorded Alert message

Configuring the contact for a GENERAL RESET of the alarms:
Press the RESET key. The label indicating the state of each zone will show RESET.

On completing the programming, press ESC to return to the OPERATOR Menu.

> **N.B.:** *If more than one contact associating various different events in the same area is activated, the event with the highest priority level will be selected, on the basis of the table provided on page 2 in Section 6.*

#### 8.6.1.2 Programming the input contacts in a 12-zone system
The two PA8506-V units are considered to be two separate systems. Follow the procedure indicated in the foregoing paragraph for each of the two units.

8.6.2   CONTROL OUTPUT
         Local output contacts
Panel for programming the six local output contacts (CONTROL OUTPUTS) and the two service relays, RELAY 1 and RELAY 2.
For each output it is possible to choose the idle status and to associate the system status event leading to its activation.

On completing the programming, press ESC to return to the OPERATOR menu.
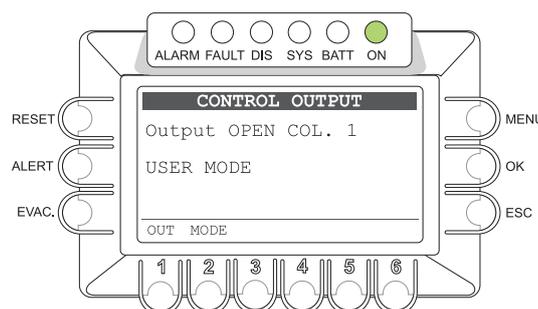
8.6.2.1 Programming the output contacts
Note: The display will show the programming that has been set.

Choosing the output to be programmed:
Hold the OUT key (**1**) down and turn the **+/-** knob to select the number of the output from among the following:
  > **OPEN COL. outputs from 1 to 6:** open-collector CONTROL OUTPUTS.
  > **RELAY AUX outputs from 1 to 2:** RELAY 1 and RELAY 2 OUTPUTS.

Programming an output to associate it with a system event:
Hold the MODE key (**2**) down and turn the **+/-** knob to select one of the following options:
  > **USER MODE:** unprogrammed output.
  > **Override Z1 - Z6:** seizing of the zone indicated by a PA Source or a VES source.
  > **Voice Alarm State:** system currently in a generic "Voice Alarm Condition".
  > **Manual Voice Alarm:** system currently in a "Voice Alarm Condition" activated by a Manual Emergency (Operator) procedure.
  > **Automatic Voice Alarm:** system currently in a "Voice Alarm Condition" activated by an Automatic Emergency (Control Input) procedure.
  > **Z1- Z6 Voice Alarm:** system currently in a "Voice Alarm Condition" affecting the output zone indicated.
  > **Evac Message Playing:** system currently in a "Voice Alarm Condition" with the pre-recorded Evac message being played out.
  > **Alert Message Playing:** system currently in a "Voice Alarm Condition" with the pre-recorded Alert message being played out.
  > **Disablement Condition:** currently in a "Disablement Condition".
  > **General Fault:** currently in a generic "Fault Warning Condition".
  > **Fault - Loudspk. Line:** at least one speaker line currently in a "Fault Warning Condition".
  > **Fault - Voice Alarm:** at least one VES source currently in a "Fault Warning Condition".
  > **Fault - Amplifier:** at least one amplifier currently in a "Fault Warning Condition".
  > **Fault - Main Powerr:** main 230 VAC power supply currently in a "Fault Warning Condition".
  > **Fault - 24 VDC:** secondary 24 VDC currently in a "Fault Warning Condition".
  > **Fault - Control Input:** at least one local input contact currently in a "Fault Warning Condition".
  > **Fault - Emerg. Unit:** at least one emergency microphone station currently in a "Fault Warning Condition".
  > **Fault Line Z1 - Z6:** one of the speaker lines pertaining to the zone indicated currently in a "Fault Warning Condition".
  > **Reply Input 1-8:** the input contact indicated is in an active condition.
              This also applies to inputs that are not programmed or that are inhibited by a higher priority.
  > **Reply any Input:** any input contact is in an active condition.
               This also applies to inputs that are not operational or that are inhibited by a higher priority.

Choice of the idle condition of an output with regard to the activating event (excluding the USER MODE):
Press the STATE key (6) to select:
  > **Normal State OFF:** output de-activated if the event is not active.
  > **Normal State ON:** output active if the event is not active.

• **Programming of the output contact to signal a System fault (System CPU Fault):**
The RELAY 2 output can also be programmed to signal a "System fault" detected by the watchdog system.
After selecting the RELAY 2 output:2:

• Press W-D key (5) to select:

> **watch dog OFF**
for an output not programmed to signal System faults,

or

> **watch dog ON**
for an output programmed to signal System faults.

Note: If the output is programmed as "watchdog ON", the idle condition of the output can only be "Normal State OFF".
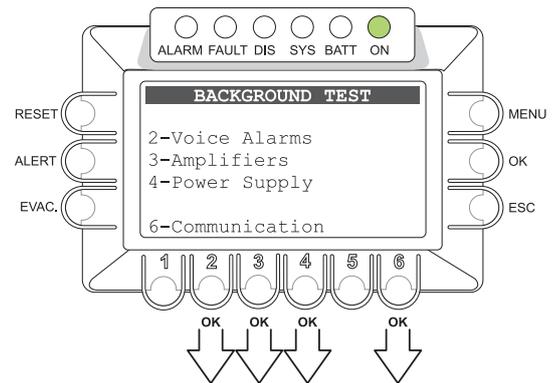
8.6.3 BACKGROUND TEST
Setting the background tests
Panel for enabling and disabling background testing of the critical sources affecting the ability of the system to function in emergency conditions. The categories for choosing the items subjected to diagnostics are listed as shown in the figure opposite.

- The categories for choosing the items subjected to diagnostics are listed as shown in the figure opposite.

  > 2-Voice Alarms   see point 8.6.3.1
  > 3-Amplifiers   see point 8.6.3.2
  > 4-Power Supply   see point 8.6.3.3
  > 6-Communication   see point 8.6.3.4

or
press ESC to return to the OPERATOR panel.

8.6.3.1 VOICE ALARM TEST
Setting the Test for Emergency Sources
Panel for enabling and disabling background testing of the "Hand-held Emergency Microphone" and the "Manual Emergency Access Key".

- Press the appropriate numerical key to enable or disable the diagnostic test:
> 1-Fire Microphone: **on** (test enabled) - **off** (test disabled)
> 2-Evac Message: **on** (test enabled) - **off** (test disabled)
> 3-Alert Message: **on** (test enabled) - **off** (test disabled)
> 5-Emerg. Button: **on** (test enabled) - **off** (test disabled)
> 6-Remote Link: **on** (test enabled) - **off** (test disabled)

Note: The display will show the programming that has been set.

Press ESC to return to the BACKGROUND TEST panel.
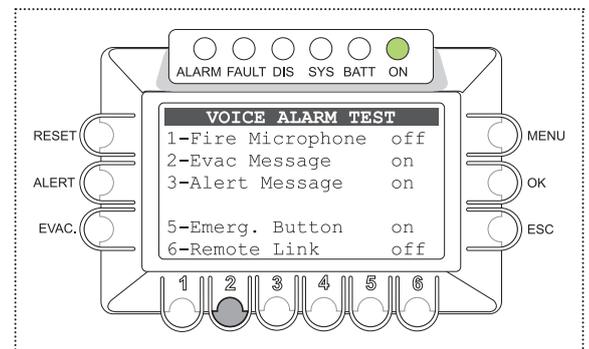

8.6.3.2 AMPLIFIER TEST
Setting the tests for the Amplifiers
Panel for enabling and disabling background testing of the internal "Voice" and "Music" amplifiers, of the "External" amplifier and of the circuit for checking insulation of the lines with regard to dispersion to earth (GND Fault).

- Press the appropriate numerical key to enable or disable the diagnostic test:

> 1-Test voice amp.:   **on** (test enabled) - **off** (test disabled)
> 2-Test music amp: **on** (test enabled) - **off** (test disabled)
> 3-Test ext. amp: **on** (test enabled) - **off** (test disabled)
> 6-Test gnd fault: **on** (test enabled) - **off** (test disabled)

Note: The display will show the programming that has been set.

Press ESC to return to the BACKGROUND TEST panel.
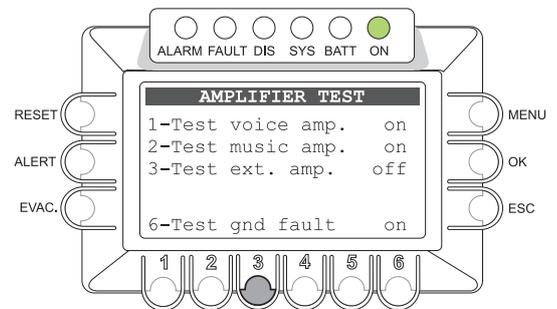
### 8.6.3.3 POWER SUPPLY TEST
Setting the test for the Power Supplies
Panel for enabling and disabling background testing of the primary 230 VAC power supply, the secondary 24 VDC power supply and the memory for managing the display.

- Press the appropriate numerical key to enable or disable the diagnostic test:

> 1-Main P.S.:   **on** (test enabled) - **off** (test disabled)
> 2-24Vdc P.S.:   **on** (test enabled) - **off** (test disabled)
> 6-Display: **on** (test enabled) - **off** (test disabled)

Note: The display will show the programming that has been set.

Press ESC to return to the BACKGROUND TEST panel.
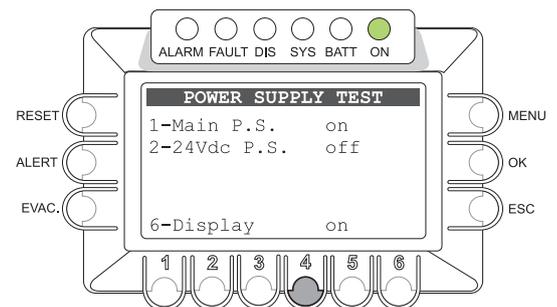
8.6.3.4 COMMUNICATION TEST
Setting the test for internal data communication
Panel for enabling and disabling testing applied to communication data between internal sections of PA8506-V.

• Press the appropriate numerical key to enable or disable the diagnostic test:

> 1-IC2 line: **on** (test enabled) - **off** (test disabled)
> 2-Audio SPI line: **on** (test enabled) - **off** (test disabled)
> 3-Relay SPI line: **on** (test enabled) - **off** (test disabled)
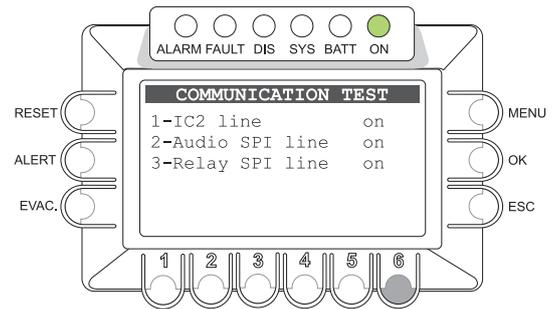
8.6.3.5 EMERGENCY UNITS
Managing the addresses of the emergency units
Panel for displaying, acquiring and selecting the addresses of the emergency units.

First of all, it must be said that it is essential for each station to have its own univocal address. It is possible to connect up to seven PMB132-V or PMB132/12-V stations to a PA8506-V unit. These stations will have the addresses numbered from 1 to 7. The default address of all microphone stations is 1. At the time of connecting each of them to the EMERGENCY UNIT port, the system automatically acquires its address and enables its diagnosis. In order to avoid lengthy conflicts between stations, it is recommended that the stations should be added one at a time, setting each with a new free address.
N.B.: With regard to setting of the addresses, refer to the manual of the microphone station, under the heading "SETTINGS>Address".
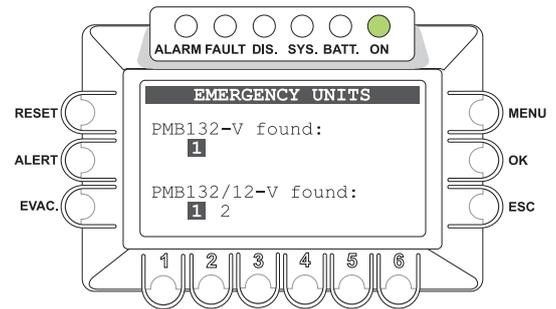
Once all the stations have been connected to the system, the EMERGENCY UNIT panel displays the stations that have been acquired, showing their respective addresses under the line of the corresponding model (PMB132-V or PMB132/12-V).

• **Up-dating of the system configuration**
If a station acquired by the system is disconnected or is given a different address, the PA8506-V signals a fault.
To up-date the memory on the basis of the new condition, press the RESET key. Any addresses of stations that are not present will be erased, keeping only those that are detected.

• **Configuring the microphone station**
Turn the +/- knob to position the cursor on the address of the station concerned (when an address is free, the cursor is shown on the two lines of both models).

press OK,

The "EMERGENCY UNIT CONFIG" panel of the selected station will appear.
Consult point 8.6.4 "EMERGENCY UNIT CONFIG" for the settings of the single bases.
To return to the previous level, press ESC.

8.6.4 EMERGENCY UNIT CONFIG
Configuring an emergency unit
Panel for displaying and changing the operating parameters of an emergency unit.
- **Adjusting the sensitivity of the microphone**
  - Press key **1** - *Mic attenuation* and hold it down.
  - Use the +/- knob to set the required level of attenuation within a range from 1 (maximum sensitivity) to 30 (minimum sensitivity).

N.B.: Once the parameter has been set, it is operational both in the Emergency mode and in the Broadcasting mode.

- **Setting the output volume**:
  - Press key **2** - *Output level* and hold it down.
  - Use the **+/-** knob to set the required volume level within a range from **–6** (minimum output level) to **+21** (maximum output level).

N.B.: The parameter set is operational only in the Emergency mode. To set the volume for the Broadcasting mode, see under "AUDIO SETTING>.

- **Diagnostic settings:**
  - Press key **3** – *Test* cyclically.
    - > OFF: diagnostics disabled
    - > ON: diagnostics enabled

N.B.: The addresses of the stations for which diagnostics have been disabled remain in any case in the configuration of the acquired system.

- **Setting the 6-zone or 12-zone operating mode:**
In a 12-zone system with two PA8506-V units connected to one another, it is possible to configure these stations for operation limited to the 6 zones covered by the unit in question or extended to all 12 zones within the system as a whole.
- Press key **4** – *Mode* cyclically.
  - > GLOBAL: When a microphone station is in the Global mode, it can be used to make selective announcements or general announcements in all 12 zones of the system. Access is governed by the priority settings of all the "Global" or "Local" stations connected to the two PA8506-V units.

  - > LOCAL: When a microphone station is in the Local mode, it can be used to make selective announcements or general announcements only to the zones covered by the local PA8506-V unit to which it is connected. This mode enables another "Local" microphone station connected to the other PA8506-V unit to make announcements to the six zones it covers at the same time. Access is governed by the priority settings of all the stations connected to the PA8506-V unit with which they are associated and to those of the other PA8506-V unit that are set in the "Global" mode.

N.B.: To manage the system correctly, it is suggested that priority levels set for the "Global" microphone bases should be higher than those set for the "Local" microphone bases. In any case, the PA8506-V unit with its own hand-held emergency microphone connected to the front panel is configured for LOCAL operation and with the highest level of priority, higher than any remote station of the PMB132 range.

- **Setting the level of the 20 kHz test tone:**
This control adjusts the level of the 20 kHz test tone generated by the microphone station so as to offset any losses of the signal in the event of long-distance connections.
- Press key 6. The line "20 kHz level" will appear, followed by a six-bar vu-meter showing the value set for the test signal. It is advisable to set the level in such a way that at least two or three bars of the vu-meter are active.
- Hold down key 6 and use the +/- knob to set the required level, within a range from 0 to 200.

N.B. The change in the level shown by the vu-meter will not occur immediately. After setting the level, wait for about 30 seconds before reading it again.

- **Priority**
The priority level set for the microphone station is shown on the bottom line to the left. The values can vary between 8 (lowest priority) and 14 (maximum priority). The parameter is displayed only. To change its value, consult the manual of the PMB132-V and PMB132/12-V stations (code no. 11/716, point 4.2).

- **Low Cut Filter**
The setting of the LOW CUT filter is shown on the bottom line at the centre.
> LCON: filter active
> LCOFF: filter not active
This parameter is only displayed. To change its value, consult the manual of the PMB132-V and PMB132/12-V stations (code no. 11/716, point 4.6).

- **P.T.T. Toggle**
The toggle mode of the PTT key is shown on the bottom line on the right-hand side.
PTT: Toggle OFF
LOCK: Toggle ON

Note: The setting of this parameter is operational only in the Broadcasting mode. In Emergency conditions the Toggle mode is always OFF. This parameter is only displayed. To change its value, consult the manual of the PMB132-V and PMB132/12-V stations (code no. 11/716, point 4.3).
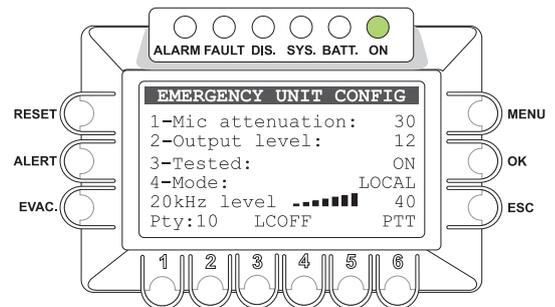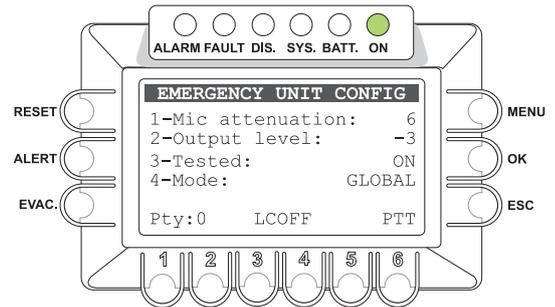
8.6.4.1 KEYS UNIT # SETTING
Configuring the keys of an emergency unit
Panel for viewing the parameters associated with the keys of a microphone station and for changing their values.

From the "EMERGENCY UNIT CONFIG" panel, press the MENU key. The following panel, concerning the address chosen for the microphone station, will appear.

It is possible to programme the PTT and AUX keys and, only for the PMB132/12-V, each of the 12 selection keys in order to alter the manner of activation of the 12 zone-selection keys so as to enable selection of groups of zones (keys 1 to 12 and the PTT key) or to create a specific combination of messages for the various different zones (AUX key).

The default configurations of the keys are as follows:

Selection key 1 (Key 1): for selecting zone 1
Selection key 2 (Key 2): for selecting zone 2
Selection key 3 (Key 3): for selecting zone 3
..\..
Selection key 12 (Key 12): for selecting zone 12
PTT key: selection of all zones from 1 to 12
AUX key: no effect (NONE)

To programme the keys, it is necessary to select the key in question and then to set the required parameter for each zone.

- **Programming keys 1 to 12 and the PTT key to create a multiple zone selection:**
With the cursor with the black background positioned on the "Key select" line, select the key to be programmed by turning the +/- knob to run through the fields from 1 to 12 and PTT.

- Press the OK key.

The cursor will move to the bottom zone-selection panel.
- Move the +/- cursor and position it on the zone with the parameter to be altered.
- Press the MENU key cyclically

to set the following:
> NONE: zone not selected
> SEL: zone selected

- **Programming the AUX key to create a specific combination of messages for various different zones:**
With the cursor with a black background positioned on the "Key select" line, turn the +/- knob to select the AUX key.
- Press the OK key.

The cursor will move to the bottom zone-selection panel.
- Move the +/- cursor and position it on the zone with the parameter to be altered.
- Press one of the following keys: MENU, ALERT or EVAC

to set the following:
> NONE: zone not activated (MENU)
> ALERT: zone with pre-recorded WARNING message
> EVAC: zone with pre-recorded EVACUATION message.

*N.B.: The AUX key is operational only in Manual Emergency conditions.*
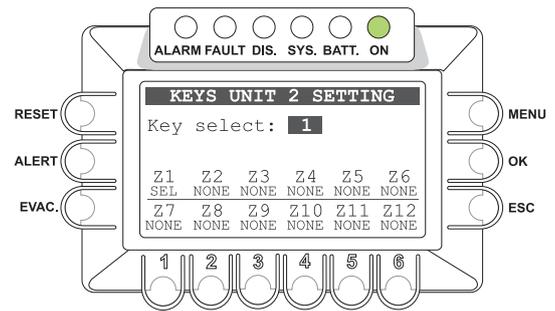
8.6.5 DISABLEMENT
Disabling the emergency zones

Panel for setting the "Disablement Condition" for each output zone.

Application of the "Disablement Condition" refers to the functions envisaged for a "Voice Alarm Condition", and does not affect the system in terms of its usual activities in a "Quiescent Condition". Thus, if "Disablement" is set for at least one output zone, the dedicated "DIS" LED will in any case light up to show that there is a generic "Disablement Condition" within the system.
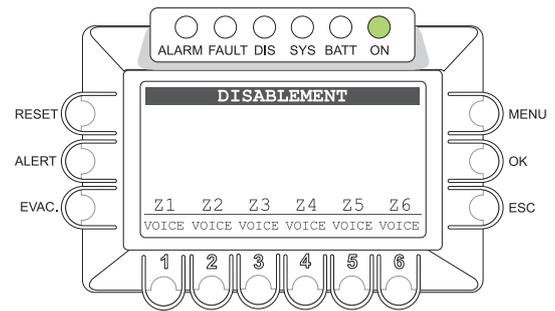
The zone in a "Disablement Condition" will not be affected by voice or pre-recorded emergency messages, regardless of how the input contacts (CONTROL INPUTS) are programmed and of how the Operator proceeds during a Manual Emergency procedure. The "disabled" zone will therefore not be affected by a "Voice Alarm Condition" of the system.

The status label of each zone will signal a possible "Disablement Condition" set with a priority higher than the signals called for by a "Voice Alarm Condition" and a "Fault Warning Condition". During a Manual Emergency procedure, it will not be possible to select the disabled zone for sending alarm messages. For details consult point 8.8.

• Configuring "Disablement" for the output zones:
Press each numerical zone key (1 - 6) to associate the required setting with that zone, choosing one of the following options:

> **VOICE**: Zone not Disabled. The output zone will broadcast Alarm messages as called for in case of an Emergency or Manual Alarm.

> **DIS:** Zone Disabled. The output zone will not broadcast any Alarm messages, even if called for by the Input Programming.

Note: The display will show the programming that has been set.

Upon completing configuration, press ESC to return to the OPERATOR menu.
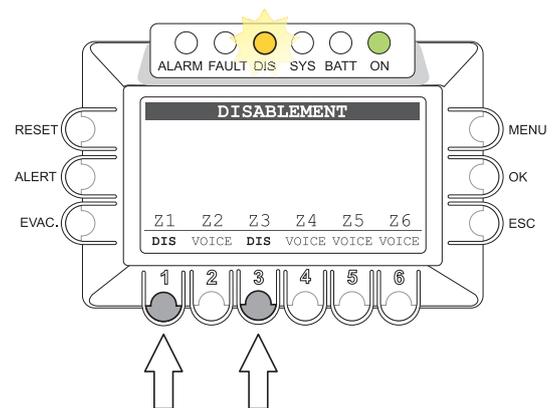
8.6.6   FAULTS
Viewing of Failures (from the OPERATOR menu)

The OPERATOR menu provides access to the "FAULTS" panel, as illustrated in the "FAULTS" section of the <INSPECTION> menu (see point 7.5.1). The additional function enabled on accessing the "Report> FAULTS" panel from the OPERATOR level is "Manual Resetting of a Failure Signal".

8.6.6.1   Manual Resetting of a Failure Signal (RES)

Manual Resetting is necessary in the following cases:

• To reinstate operation of a speaker output line following detection of a failure due to a short circuit (**SHORT A**, **SHORT B** or **SHORT A+B**).

• To cancelled a stored **RES** (resumed) signal following detection and subsequent clearing of a failure, for all the other items being monitored.

To RESET the FAULT signalling manually, from the general FAULT display panel, access each of the following display panels by pressing the corresponding numbered key:

1- LOUDSPK. LINE FAULT
2- VOICE ALARMS FAULT
3- AMPLIFIER FAULTS
4- POWER SUPPLY FAULTS
5- CONTROL INPUT FAULT
6- EMERG UNIT FAULTS
7- COMMUNICATION FAULT

• Press the RESET key.

Upon completion of the procedure, press the ESC key repeatedly to return to the OPERATOR menu.
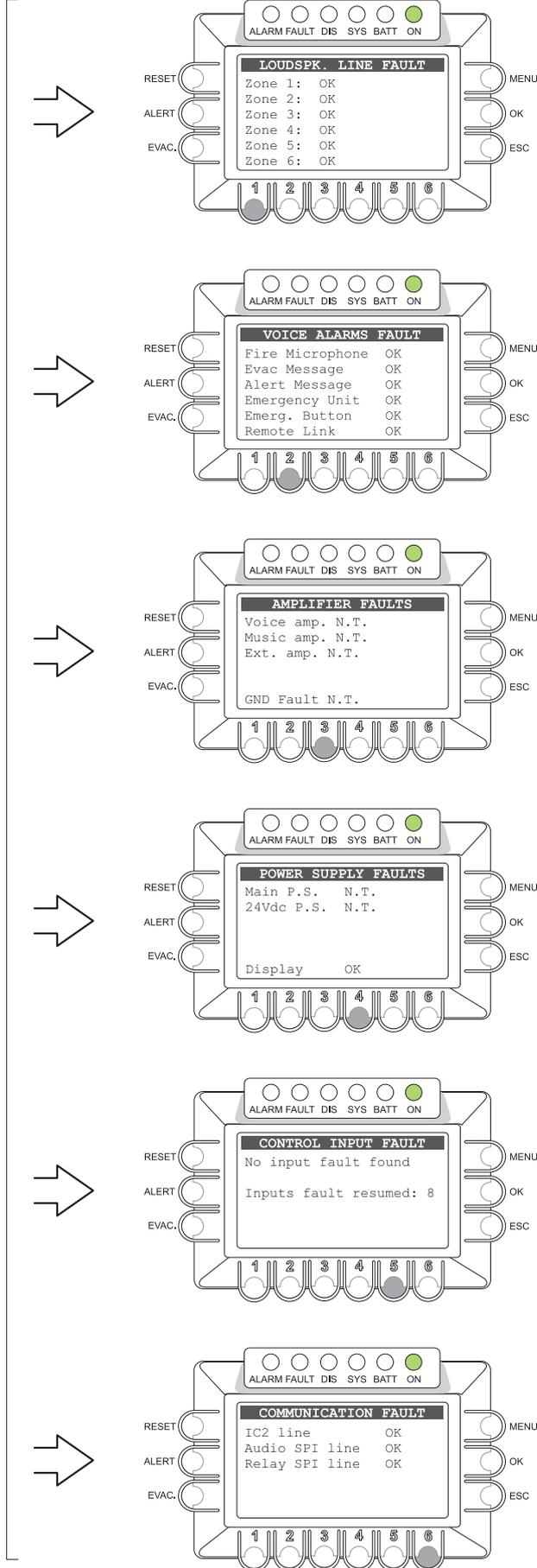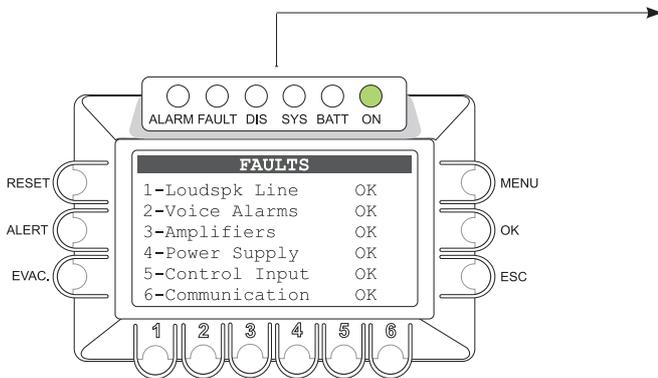
8.6.6.2   Restoring the 6-zone configuration

In a 12-zone system, when the REMOTE LINK between two PA8506-V units connected to one another fails, the REMOTE LINK FAULT is signalled.
To clear this fault signal and restore the normal configuration, access the "FAULTS" panel from the OPERATOR Menu. Press key 2 to go to the "VOICE ALARM FAULT" panel, then press RESET.

The FAULT LED will extinguish to indicate that the fault is no longer present.

Repeat the procedure on both PA8506-V units.

8.6.7   **FIRMWARE VERSION**
        For viewing the Firmware version

Panel for viewing the version of the firmware installed in the system. The firmware of the following three sections is indicated:

> **Main software**
  Main software installed in the system CPU

> **Matrix firmware**
  Firmware for managing the inputs/sources section

> **Misur. firmware**
  Firmware for managing the outputs/diagnostic section

The version that determines the degree to which the functions of the **PA8506-V** system are up-dated, to be considered for checking the documentation notifying the service personnel is the Main software.
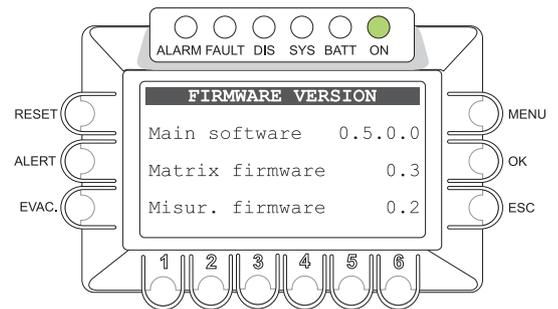
8.6.8   **Exit > Logout**
        Exiting from a System Level

Upon completing the various activities, before returning to the Basic Level of the Music Menu, it is advisable to log out of the System Level of the current menu, in order to reinstate the password required for accessing the system again in future, thus preventing unauthorised personnel from accessing the advanced functions of the system.
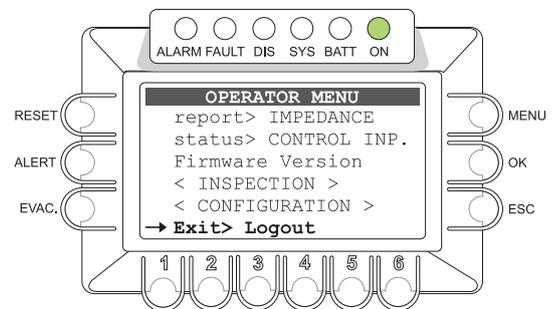
From the options list of the OPERATOR MENU:

• turn the +/- knob to select the following option:

        Exit> Logout

• press the OK key

The system will return to the Basic Level, showing the MUSIC Menu panel. The prompt requiring the access password to be entered will also be reinstated for any other levels that had been reached.

8.7 < CONFIGURATION > MENU
Panel for selecting options pertaining to personnel specifically trained and authorised to use the advanced system functions and to modify the configuration parameters for starting and maintaining the system.
A password for accessing these functions may be added.

If an access password has been enabled, at the time of configuration the **CONFIGURATION ACCESS** panel will be displayed:

- enter the four-digit password then press OK to proceed,
or
- press ESC to return to the MAIN page.

The default password is 3333.

Once the CONFIGURATION Menu is accessed, all the options illustrated earlier in the "AUDIO SETTING", "INSPECTION" and "CONFIGURATION" menus will be shown, as well as the following new options specific to the CONFIGURATION menu.
Turn the knob to browse through the options listed:
• **acquire > IMPEDANCE**
• **set > IMP. TOLLERANCE**
• ->-
• ->-
• **set > MESSAGES**
• **set > ALARM LEVEL**
• ->-
• **set > AMPLIFIER MODE**
• ->-
• ->-
• **IP address**
• **Password**
< **SERVICE** >
• **Exit > Logout**

Press OK to select the required item, or
- press ESC to return to the MUSIC panel.
- press MENU to return to the MAIN page.
The characteristics of the specific panels of the **CONFIGURATION** Menu are illustrated below. For the other available options, refer to the appropriate sections above.
At the end of the setup, log out by selecting "**Exit> Logout**" as described in paragraph 8.6.8.

The options of the **CONFIGURATION** Menu enable the following management panels to be accessed:

8.7.1   IMP. ACQUISITION panel (via the **acquire > IMPEDANCE** option)
For acquiring and storing the impedance values of the speaker unit lines, which is necessary for system initialisation and diagnostics.

8.7.2   SET TOLERANCE panel (via the **set > IMP. TOLERANCE** option)
For setting the tolerance applicable to the line impedance. When the diagnostic system detects impedance that is out of tolerance, a "Fault Warning Condition" is activated.

8.7.3   MESSAGES panel (via the **set > MESSAGES** option)
Panel for transferring the audio files for the Alert and Evacuation messages from an external Flash Memory Stick to the resident memory of the PA8506-V, for future use in "Voice Alarm" emergency conditions.

8.7.4   ALARM LEVEL panel (via the **set > ALARM LEVEL** option)
Panel for adjusting the output volume of the VES sources: Emergency Microphones and Alarm Messages.

8.7.5   AMPLIFIER MODE panel (via the **set > AMPLIFIER MODE** option)
For setting the system operating mode in relation to the presence or otherwise of an external amplifier.

8.7.6   IP ADDRESS panel (via the **IP address** option)
For setting the networking parameters for accessing the system functions via a Web Server.

8.7.7   PASSWORD panel (via the **Password** option)
Panel for enabling, disabling and customising the password for accessing the system service levels.

< SERVICE >
Connection to the SERVICE menu for technical personnel having the necessary password. It is used to change the operating parameters of the PA8506-V system, up-dating the firmware and servicing it.

Note: The settings of the Service Menu are not covered in this Manual.
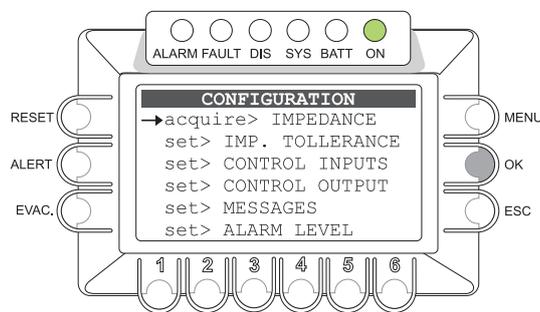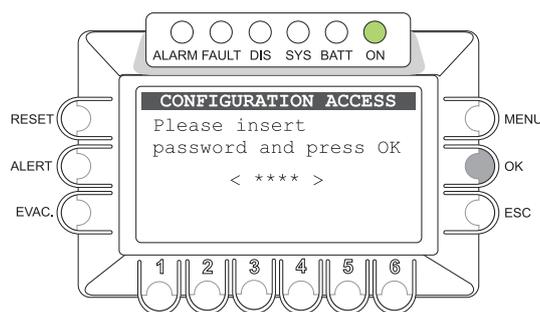
8.7.1 IMP. ACQUISITION
Line impedance acquisition
Panel for acquiring and storing the impedance levels of the speaker unit lines. This information is necessary for system initialisation and diagnostics.

• Loudspeaker line impedance acquisition

Foreword

Before acquiring the impedance values, make sure that the following steps have been completed:
- *Preliminary check of the impedance of the lines using a suitable instrument (IMPEDANCE-METER) and of the loading conditions as prescribed in the SIZING Section.*
- *Connection of the speaker unit lines as indicated in the CONNECTIONS Section.*
- *Setting of music to "OFF" in the output zones and no service announcements being sent out by any PA sources. For details, consult the MUSIC Menu (see point 8.3.4).*

After selecting "Acquire> IMPEDANCE" from the CONFIGURATION menu, the "IMP. ACQUISITION" panel will show the impedance values stored at the time of the previous acquisition:

• press the OK key

The new impedance values acquired will be stored automatically in the system and shown on the labels of each zone. They are in Ohms and refer to both lines, A and B, connected to the output of each zone. The impedance values residing in the memory will be compared by the monitoring system with the values measured subsequently during the diagnostics routine.

Note: To measure the impedance of the speaker unit lines, the monitoring system provided in the PA8506-V uses an inaudible 20 kHz tone. Due to the inductance of the loudspeaker coils, the impedance at 20 kHz may be considerably different from that measured with an impedance meter, which usually uses a 1 kHz measuring tone. The value acquired by the PA8506-V is therefore usually indicative only as a comparative value for diagnostic purposes. For this reason, when calculating the power absorbed by the speaker unit lines for the purpose of sizing the system it is recommended to use the value measured with an impedance meter.

Press ESC to return to the CONFIGURATION menu.

Upon completing the procedure, carry out a MANUAL RESET of the FAILURE SIGNALLING, as described under point 8.6.5.1.

Note: For a 12-zone system, repeat the procedure on both PA8506-V units.
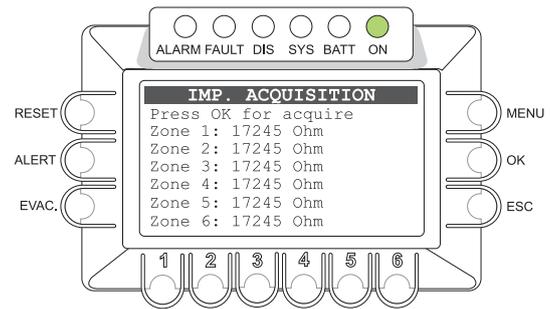
8.7.2 SET TOLERANCE
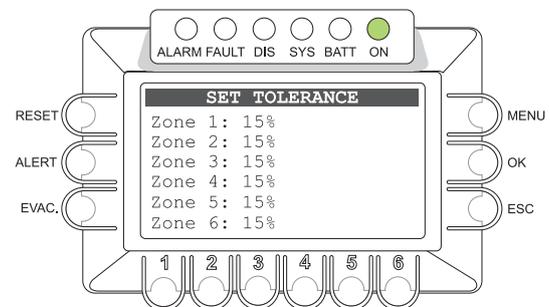#### Setting the line tolerance
Panel for setting the tolerance for checking the line impedance.

If the diagnostic system detects a difference between the impedance measured in real time and the value stored in the system greater than the tolerance that was set: an "Impedance Low" or "Impedance Hi" "Fault Warning Condition" will be activated. For details about signalling of failures, see the "LOUDSPK. LINE FAULT" panel (point 8.5.1.3).

• Setting the tolerance for measuring the lines

Foreword

The measurement tolerance must be set after completing acquisition of the line impedance (see point 8.7.1):

After selecting the "Set> IMP. TOLERANCE" option from the CONFIGURATION menu, the "SET TOLERANCE" panel will show the current tolerance settings for each output zone.
- Hold the numerical key corresponding to the zone (1-6) down.
- Turn the +/- knob to choose the required value.

>**Values from 5% to 100%**: tolerance above or below the stored value.
>**Test Disabled**: Impedance check disabled. Testing for short circuits and GND faults will in any case be carried out.

Press ESC to return to the CONFIGURATION menu.

Upon completion of the procedure, if appropriate carry out a MANUAL RESET OF THE FAILURE SIGNALLING as described under point 8.5.6.1.

Note: For a 12-zone system, repeat the procedure on both PA8506-V units.

8.7.3   MESSAGES
Management of emergency messages

Panel for transferring the audio files for the Alert and Evacuation messages from the external Flash Memory Stick to the resident memory in the PA8506-V, supervised, for future use in "Voice Alarm" emergency conditions.

N.B.: For a 12-zone system, each PA8506-V unit will play from its outputs the message residing in its memory. The following procedure should therefore be repeated for both PA8506-V units.

Loading of Alert and Evacuation messages from the external memory:
* Plug the flash memory device into the EXT USB front panel socket.
* Press key 6 (FOLDER)

The DIRECTORY panel, with a list of the folders in the external memory, will be shown.
* Use the +/- knob to choose a folder.
* Press OK

The MESSAGE display will show the name and number of the first file chosen from all the files contained in the selected folder.
* Use the +/- knob to choose a file.

Transferring the ALERT message to the resident memory of the PA8506-V:
* Hold the ALERT key down and
* Press OK

Wait for about 5 seconds while the new message is downloaded.

Note: *The file containing the previous message will be overwritten and it will not be possible to recover it.*
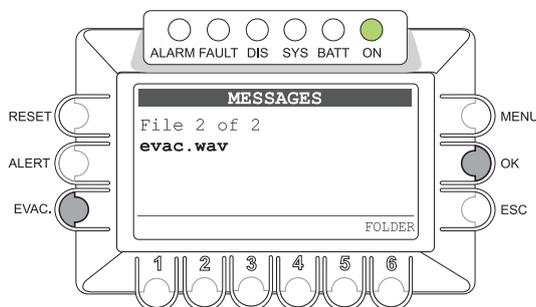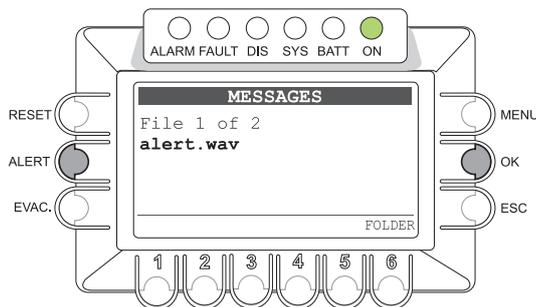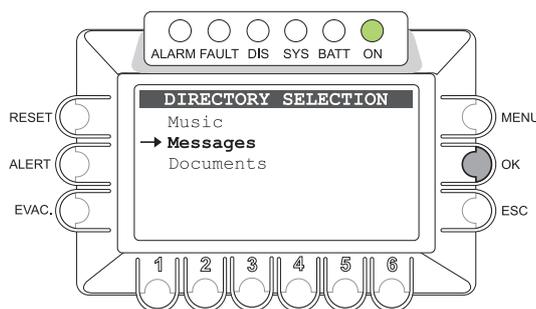
Transferring the EVAC message to the resident memory of the PA8506-V:
* Hold the EVAC key down and
* Press OK

Wait for about 5 seconds while the new message is downloaded

Note: *The file containing the previous message will be overwritten and it will not be possible to recover it.*

Upon completion, press ESC to return to the CONFIGURATION menu.
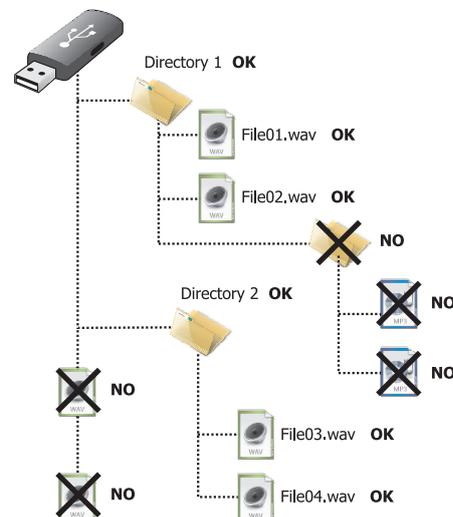
• Requisites of the audio file for the ALERT and EVACUATION messages

The audio file must have the following characteristics:

* Format: *.WAV
* Resolution: 16 bit / mono
* Sampling frequency: 48 kHz

The files must be contained in main folders. Files contained in the root directory or in any sub-folders will not be read.
See the figure opposite for further details.
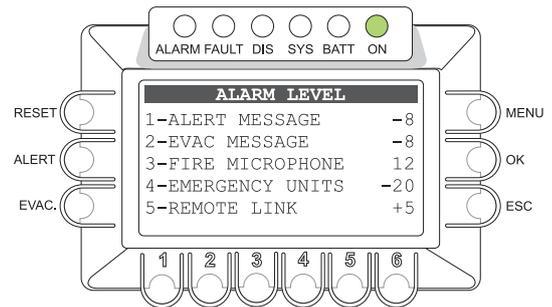
8.7.4 ALARM LEVEL
Adjustment of the volume of VES sources
Panel for adjusting the output volume of VES sources for the purpose of calibrating the system.
To adjust the volume of the required source:
• hold the corresponding numbered key (1 - 5) down.
  and
• use the +/- knob to adjust the volume
Note: The volume set will be the same for all the output zones.

Upon completion, press ESC to return to the CONFIGURATION menu.

```
           ALARM  LEVEL
1-ALERT MESSAGE        -8
2-EVAC MESSAGE         -8
3-FIRE MICROPHONE      12
4-EMERGENCY UNITS     -20
5-REMOTE LINK          +5
```

1-Output volume of the pre-recorded ALERT message: the range within which the ALERT MESSAGE can be set is comprised between -20 dB to 0 dB.

2-Output volume of the pre-recorded EVACUATION message: the range within which the EVAC MESSAGE can be set is comprised between -20 dB to 0 dB.

3-Output volume of the Hand-held Emergency Microphone: the range within which the FIRE MICROPHONE can be set is comprised between 0 dB and +20 dB (in most cases it is suggested that a level of +16 dB should not be exceeded).

4-Output volume from the Emergency Units connected to the Local PA8506-V unit: the setting range for the EMERGENCY UNITS is between -20 dB and +10 dB.

5-Output volume from the Emergency units connected to the remote PA8506-V unit: the setting range for REMOTE LINKS is between -20 dB and +10 dB.

8.7.5 AMPLIFIER MODE
Amplification system operating modes
Panel for setting the operating mode of the system in relation to its configuration with a possible external amplifier for increasing its power. To configure the system, refer to the contents of points 5.1.1 and 5.1.2.

• Use the +/- knob directly to choose between the following:

> **NO EXT. AMPLIFIER** for a PA8506-V with no external amplifier
> **WITH EXT. AMPLFIER** for a PA8506-V with an external amplifier

• press OK to confirm the setting.

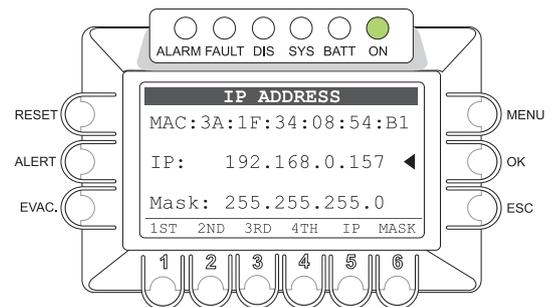Upon completion, press ESC to return to the CONFIGURATION menu.

```
        AMPLIFIER MODE
NO EXT. AMPLIFIER


Please select and
press OK to confirm
```
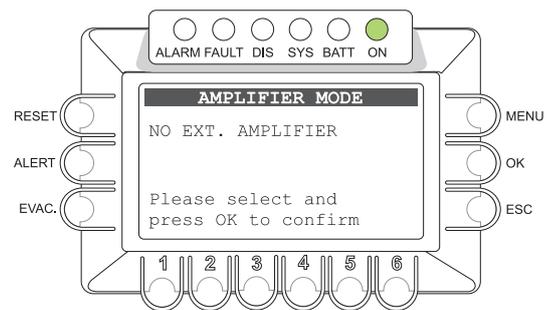
8.7.6 IP ADDRESS
Setting the networking parameters
Panel for setting the networking parameters for accessing the system functions via Web Server. The MAC code includes the physical address of the networking card. It is possible to change the IP address to adapt it to the local network to which the system is connected and the MASK address for any sub-networks.
• Use numerical keys 5 or 6 to select the code to be altered, **IP** or **MASK**.
• Hold down the keys from 1 to 4 one at a time and use the +/- knob to change the four fields of the address code.
• Upon completion, press OK to confirm the setting and return to the CONFIGURATION menu.

```
          IP ADDRESS
MAC:3A:1F:34:08:54:B1

IP:   192.168.0.157 ◄

Mask: 255.255.255.0
1ST  2ND  3RD  4TH  IP  MASK
```

8.7.7 PASSWORD
Setting the password
Panel for enabling, disabling and customising the password for accessing the system service levels.
• Use the +/- knob to position the cursor on each digit of the password to be changed
• Use the numerical keys (1-6) to enter the new password
• Press OK to enable or disable the password as set.
Note: *The display will show the new password programming that has been set.*

In order to recover the password, e.g. if it has been forgotten, it will be necessary to access the system via the web server in the Service mode, requesting assistance. Upon completion of the activity, press ESC to return to the CONFIGURATION menu.

```
            PASSWORD
Pw Oper. Disabled 2222
Pw Conf. Disabled 3333
Pw Serv. Disabled 4444

OK for Enable/Disable
```
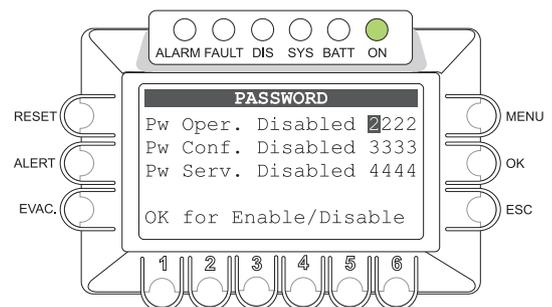
8.8   AUTOMATIC EMERGENCY - Alarm Condition activated from an external peripheral unit
Following is a description of the operating mode of the system in the event of an Automatic Emergency initiated by an external peripheral unit activating the input contacts programmed to enable a "Voice Alarm Condition".

8.8.1   Activation of an Automatic Emergency:
In the event of activation of a programmed local input contact, the PA8506-V system will suspend its normal activity typical of the "Quiescent condition", stop the music being broadcast, inhibit the functions of the PA sources for broadcasting announcement and show the "CONTROL INPUT STATUS" panel.
If the contact has been programmed to send at least one emergency message to at least one output zone, the system will initiate the Automatic Emergency by enabling a "Voice Alarm Condition" and causing the ALARM LED to light up. The display will therefore show a list of all the active inputs (whether programmed or otherwise) and will indicate the type of pre-recorded message on the outputs for each zone.
If the contact has been programmed for a GENERAL RESET, the system will start the Automatic Emergency and show the "CONTROL INPUT STATUS" panel, leaving the ALARM LED extinguished.
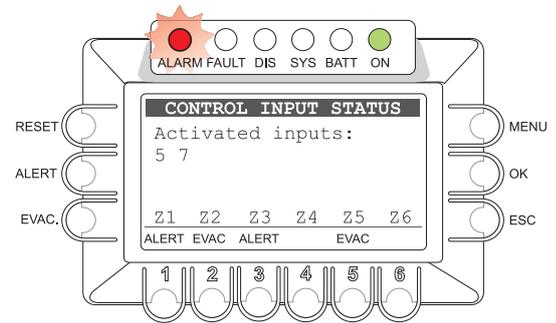
Viewing the operational status:
ALARM LED: This LED lights up to indicate that a VOICE ALARM is active when a live microphone announcement or a pre-recorded message are being sent out to at least one zone. In a 12-zone system, the ALARM LED will light up on both PA8506-V units, regardless of the active output zone.

Display:
In proper operating conditions with a dual channel, the display will show t he number of contacts activated, as illustrated in the figure. In the event of a failure of an amplifier, on the other hand, the display will show the following message:
"Only one channel available - FAULT CONDITION" to indicate operation on a single channel.

Zone status bar:
-   **Empty label**: zone without any current message
-   **RESET:** zone mute due to general reset contact
-   **EVAC**: zone with EVACUATION message being broadcast
-   **ALERT**: zone with ALERT message being broadcast
-   **DIS**: zone in which alarms are disabled (see point 8.6.4)
-   **FAIL**: zone with failure condition on the speaker line. Label shown even if the type or failure does not prejudice the outgoing signal. When operating on a single channel due to an amplifier failure, this indicates that the zone is unable to broadcast the planned signal. For details see points 9.2 and 9.3.

For details about the messages displayed, consult point 8.5.3 INSPECTION/CONTROL INPUT STATUS and for details about programming consult point 8.6.1 OPERATOR/Set> CONTROL INPUTS.

8.8.2   Operation of the system during Automatic Emergency

-   As long as the input contacts are active, the MUSIC panel will remain inactive. It will, however, be possible to navigate among the various menus to access the advanced functions of the system and to investigate or change the settings.
            • Press the ESC key.

To access the MAIN page and inspect the other management menus.

-   A current "Voice Alarm Condition" due to an Automatic Emergency may be altered by an authorised operator entering the system to activate the manual controls for managing the emergency, in order to RESET the messages, change the current messages or send live announcements using the microphone provided for this purpose.
For details about management of a Manual Emergency, consult the MANUAL EMERGENCY Section, point 8.9.

• Exiting from an Automatic Emergency:

            • De-activate all the contacts of the external peripheral unit.

In order to signal the operator that an activation has occurred by external contacts, the system maintains the INPUT STATUS CONTROL status display panel (input with no contact and no zone alarm activated).
            • Press the ESC key.

The system will return to a Quiescent condition, showing the MUSIC panel.

8.9   MANUAL EMERGENCY - < EMERGENCY > MENU
Following is a description of the procedure for managing emergencies manually by an authorised operator.

8.9.1   General information
The manual emergency mode can be accessed at any time. It has priority over any pre-recorded messages being broadcast at the time activated by an external peripheral unit connected to a "Control Input" and over any emergency units able to cover the six output zones of the unit concerned. During a Manual Emergency (once access has occurred), the display will show the operating status of the system as follows:

• Led ALARM:
LED illuminated to indicate that the VOICE ALARM condition is active when a live announcement or the current pre-recorded message are being broadcast to at least one zone even if, in a 12-zone system, the zone is covered by the other PA8506-V unit connected via the REMOTE LINK.

• Title bar:
- **EMERGENCY**: access achieved for a manual emergency.
- **EMERGENCY UNIT #**: on-going manual emergency activated by an emergency unit, with the relevant address, connected to the EMERGENCY UNIT socket.
- **REMOTE UNIT #**: on-going manual emergency activated by an emergency unit, with the relevant address, connected to the remote PA8506-V unit, in a 12-zone system.

• Labels associated with zones Z1-Z6:
- **Zones with white background**: zone non selected. The current message, if any, has been activated automatically.
- **Zones with black background**: zone with current message activated manually.
  - **Flashing zones**: zone selected, ready for a message to be sent manually or to be Reset (see Note 1).

• Zone status bar:
- **Empty label**: no message being broadcast to this zone.
- **EVAC**: EVACUATION message being broadcast to this zone.
- **ALERT**: ALERT: ALERT message being broadcast to this zone.
- **MIC**: life announcement being broadcast to this zone with the hand-held microphone.
- **DIS**: zone disabled for alarms, cannot be selected (see point 8.6.4).
- **FAIL**: zone with the speaker line in a failed condition, shown even if the type of failure does not prejudice the output signal being broadcast, or operating on a single channel due to failure of the amplifier so that the envisaged signal cannot be broadcast to that zone. For details see points 9.2 and 9.3.
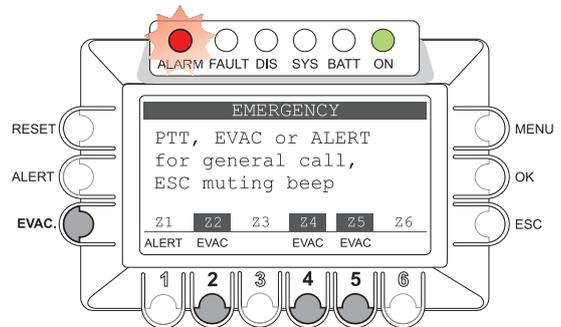
8.9.2   Recommended procedure for managing emergencies manually
Thanks to its double-channel operation, the PA8506-V system enables structured management of the alarm messages, of silencing of the messages and of selection of the zones, as illustrated in detail below. Following is a list of activities enabling a Manual Emergency to be handled rapidly.

Action required	How to proceed	Result
1) Access the Manual Emergency		
Access the system	Press the *Emergency* key twice	The zones will all be selected. The *Emergency* key will light up.
Carry out an overall alarm reset	Press the RESET key	The alarms will be reset, all the zones will continue to be selected. The alarm LED will extinguish.
Reset the *beep*, if any, for the current failure	Press the ESC key	The signalling tone of the monitoring loudspeaker will be silenced.
2) Despatch of alarm to all zones		
Send the message to all zones	Press ALERT or EVAC or use the Emergency Microphone	The message is played out to all the zones. The alarm LED will light up.

or

3) Send the alarm to one zone or group of zones		
Select the zones	Press the numerical keys to select the zones.	The selected zone will display a flashing label.
Send the message	Press ALERT or EVAC or use the *Emergency* Microphone	The message will be played out to all the zones selected. The alarm LED lights up.

If necessary, repeat point **3**) to diversify the messages to the various different zones.
The EVAC message has priority over the ALERT message.
The Emergency Microphone has priority over both pre-recorded messages.

4) End of the Automatic Emergency function, if any, from the input contacts

Access the external peripheral unit connected to the CONTROL INPUT contacts.	De-activate all the contacts applied to the CONTROL INPUTS.	The system will continue to broadcast any manually activated messages.

End of the Manual Emergency and return to a Quiescent Condition

| Exit from Manual Emergency	Press the *Emergency* key once	The system will return to the MUSIC panel.

8.9.3 Access to the system for handling a Manual Emergency

- Press the red EMERGENCY key. The display will show the current status of each zone and a message indicating the procedure for accessing the Emergency mode or the Operator mode.
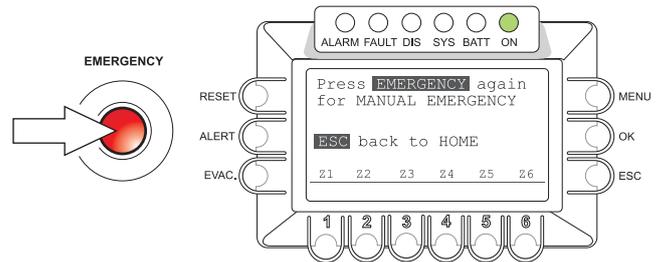
- Press the red EMERGENCY key again within about 15 seconds from the first time (or exit by pressing ESC to return to the Main page menu).

  The EMERGENCY will light up steadily to indicate that a condition of Manual Emergency has been activated.
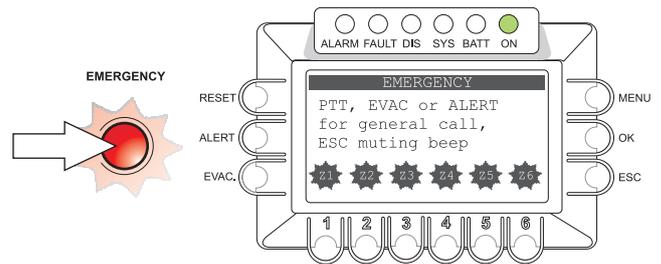
- **Operation during manual management of an emergency**

Following access, the display will show the status of the zones, indicating – if appropriate - the messages currently activated automatically via the "Control Inputs". By default, when first accessed, all the zones have already been selected for a general emergency. Any disabled zones will not be available (see the DISABLEMENT section).

When a current Manual Emergency is in progress, if no General Reset of the alarms is carried out, any new activations of input contacts will be carried out for the free zones on the basis of how the activated contact has been programmed (see section 8.6.1 Set> CONTROL INPUTS). Following a GENERAL RESET of the alarms, any re-activation of the input contacts will have no effect on the zone outputs.

When the system is working correctly with the double channels, the display will show:

"PTT, EVAC or ALERT for general call, ESC muting beep"

In the event of failure of an amplifier, on the other hand, the text on the display will read:

"Only one channel available FAULT CONDITION"

to show that only one channel is operational.

In any case, manual resetting of the beep signalling a failure is always available, by pressing directly the ESC key. For further information concerning resetting of the beep see point 8.5.1.1.

While an Emergency message is being broadcast, it is possible, if required, to change the selection of zones, as indicated under 2, to diversify broadcasting of the Emergency message, sending two separate messages to two different groups of zones (operation with double channel).

Any current messages that have already been activated automatically via an external peripheral unit have a lower priority than the message activated manually, and it is therefore possible to change the message being broadcast by activating the manual function.

For zones with a current ALERT message activated manually, it is possible to activate the Evacuation message by pressing the EVAC key directly.

For zones with a current EVAC message activated manually, it is only possible to send out an Alert message, which has a lower priority, after RESETTING the zone, as indicated under point 8.9.4.

• Exiting manual management of an emergency
Upon completion of the procedure for managing the Manual Emergency, press the red EMERGENCY key, which will extinguish, and:

- *if no activation from external peripheral units connected to the "Control Input" contacts are activated*, the system will return automatically to the idle condition, displaying the MUSIC menu. The ALARM LED will remain extinguished to indicate that the VOICE ALARM is not active.

- *If there are any current activations from external peripheral units connected to a "Control Input" contact*, the system will return to the Automatic Emergency condition, displaying the INPUT ALARM STATUS menu. Broadcasting of the emergency messages will resume, on the basis of the programming of the activated inputs and with – if appropriate – the ALARM LED illuminated to indicate an active VOICE ALARM.

8.9.4 Manual resetting of the alarms
It is possible to carry out general or partial RESETTING of the alarm messages, based on whether the zones are selected or whether they have alarms in progress.

• GENERAL Resetting of current messages
On accessing the Emergency panel for the first time, the zones will already all be selected. As an alternative, it is possible to place the zones in a condition of general selection, as indicated under point 8.9.5.
> • Press the RESET key.

The message being played out to the zones will be reset, the status labels of the zones will become empty and the zones will all be in a selected condition. The ALARM LED will extinguish to indicate that the "Alarm Condition" is de-activated.

• PARTIAL resetting of the current messages
Partial resetting is permitted only for zones with messages playing out that have been activated manually.
> • Select the zones to be reset
> • Press the RESET key

In the zones that have been reset, the message that was activated manually will be de-activated and, if appropriate, the message that was playing out due to an earlier automatic activation will be resumed. The other zones, that have not been reset, will continue to broadcast the current message. The system will switch the zones to general selection.

> *Note: If the RESET is carried out without selecting the zones first, the messages to all the zones will be reset and, for about 10 seconds, only the zones for which messages had been activated manually will continue to be selected. Then the general selection of all the zones will be restored*

8.9.5 Selecting/unselecting the emergency areas
Press the numerical keys of the zones in question in order to select/unselect a zone or group of zones as required, according to the following indications:

• Zone label flashing = zone selected
• Zone label not flashing = zone not selected
• Zone labels all flashing = all zones selected
• NO zone labels flashing = all zones selected (see note).
• The zones with status labels indicating DIS cannot be selected.
The condition of general selection of all the zones is also indicated by the text on the display, reading:
> "PTT, EVAC or ALERT **for general call**,..."

while during the stage of selection of a group of zones the display will read:
> "PTT, EVAC or ALERT **for zone(s) call**..."

> *Note: Following broadcasting to all zones of an alarm message or partial RESETTING of some zones, the labels may all "STOP FLASHING". The condition of the zones corresponds, however, to a state of general selection, equivalent to indicating the zones as "ALL FLASHING". Management of a Manual Emergency does not include, therefore, a condition of "All zones not selected".*

8.9.6 Sending a pre-recorded emergency message manually

After selecting the required zone in accordance with point 2,
- Press the ALERT key to send the Alert message,

or

- Press the EVAC key to send the Evacuation message.

The ALERT and EVAC keys can only activate the messages. To reset the current messages, reset the alarms (see point 8.9.4).
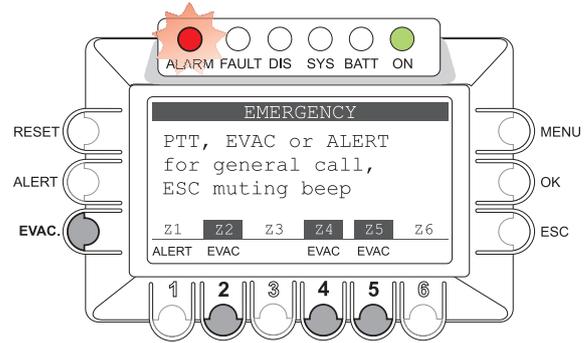
8.9.7 Sending a live announcement with the emergency microphone

After selecting the required zones according to point 8.9.5, hold the emergency microphone, press the P.T.T. side key and speak with a clear voice.

While the emergency microphone is being used, any pre-recorded messages will be reset and broadcasting will be resumed as soon as the microphone is no longer being used.
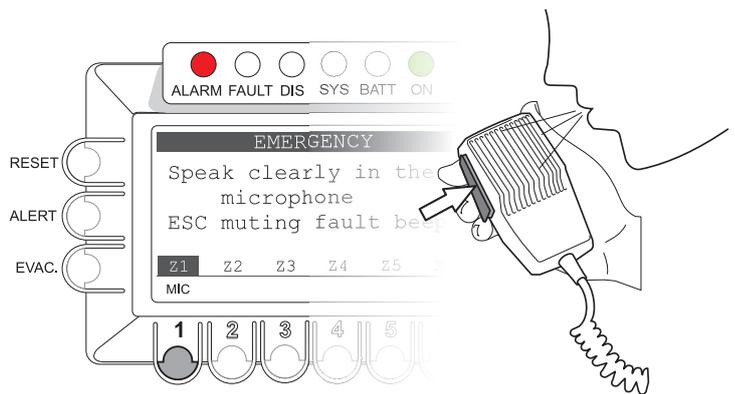
9. FAULT WARNING CONDITION

The PA8506-V system has a diagnostic routine that monitors constantly availability of the VES sources and the soundness of the critical path of the signals providing the functions in emergency conditions.

9.1 SYSTEM OPERATION AND SIGNALLING IN GENERIC CONDITIONS

9.1.1 System signalling due to an existing "Fault Warning Condition"

If, with the system in its normal "Quiescent Condition", the monitoring system detects a cause of a failure, it promptly activates signalling of a "Fault Warning Condition", as follows:

• the FAULT LED (visual signal) will light up.
• a BEEP (acoustic signal) will be heard via the monitoring loudspeaker.
• the local CONTROL OUTPUT contacts (remote signalling), if programmed, will be activated.
• the failure condition (FAULT) will be indicated in the status label on the Report FAULT panel.

N.B.: In a 12-zone system, if the fault concerns items of equipment pertaining to the other PA8506-V unit, the FAULT LED will flash.

9.1.2 System signalling following cleaning of "Fault Warning Condition" (RES)

If the cause of the failure is cleared automatically, without any action on the part of the operator, the system will return automatically to its "Quiescent Condition", resetting all the signals described above and storing the last failure that occurred as follows:

• The word RES will be shown on the status label of the Report FAULT panel indicating that the failure has been cleared (see point 8.5.1).

9.1.3 Resetting the signal following clearing of a failure (FAULT RESET)

To reset a signal referred to a failure that has been cleared and stored:
• From the OPERATOR menu, go to the FAULT panel (see point 8.6.5)
• Carry out a MANUAL RESET of the failure signal as indicated under point 8.6.5.1.

Note: *In the event of failure of a loudspeaker line due to a short circuit, once the line is repaired it is necessary to carry out a MANUAL RESET of the failure from the OPERATOR menu, in order to re-activate the audio signal on the output of the line concerned.*

9.1.4 Recommended procedure during a Fault Warning condition

The procedure to be followed during a Fault Warning condition is the following:
• From the INSPECTION menu, go to the FAULT panel (see point 8.5.1)
• Reset the acoustic signal manually (RESET BEEP - see point 8.5.1.1).
• Check the category of the FAULT diagnosed and go to the appropriate sub-panel.
• Check the cause of the failure and, if possible, restore correct operation following the instructions contained in the table referred to the sub-panel (see points from 8.5.1.3 to 8.5.1.8).

If upset is successfully cleared, termination of the Fault Warning condition will be signalled as follows:
• The FAULT LED will extinguish.
• The output contact involved, if any, will be de-activated.
• The word RES will appear in the status label of the Report FAULT panel to show that the failure has been cleared.

Upon completion of the procedure, it is advisable to reset the signal for the failure that has been cleared, as indicated under point 9.1.3.

9.2 SYSTEM OPERATION AND SIGNALLING IN CASE OF FAILURE OF AN AMPLIFIER

In the event of failure of one of the two internal amplifiers of the PA8506-V or of the external amplifier, if any, in addition to signalling the failure as indicated under point 9.1.1, the system will switch operation of the system to the single-channel mode, stopping broadcasting via the Music channel. Operation in the single-channel mode is signalled as follows:

• **With the system in the "Quiescent condition"**

The wording "NOT AVAILABLE" will appear on the MUSIC panel in the field of the display dedicated to the music vu-meter and to the BGM Source.

• **With the system in the "Voice Alarm Condition" due to an Automatic Emergency:**

The wording "Only one channel available – FAULT CONDITION" will appear on the display for the CONTROL INPUT STATUS panel. In the event of a contact programmed for simultaneous broadcasting of two messages, the status label of the zones intended to receive the Alert message that can no longer be broadcast will indicate FAIL (Failure).

• **With the system in the "Voice Alarm Condition" due to a Manual Emergency:**

The wording "Only one channel available – FAULT CONDITION will appear on the display of the EMERGENCY panel. If the two messages were being broadcast simultaneously, the status label of the zones intended to receive the Alert message that can no longer be broadcast will indicate FAIL (Failure).

9.3 SYSTEM OPERATION AND SIGNALLING IN THE EVENT OF A SPEAKER LINE FAILURE

A failure of the speaker line may be due to various different causes. The associated signalling and the activities required are described under point 8.5.1.3 Panel *LOUDSPK. LINE FAULT*. If the problem is due to a variation in the impedance, the PA8506-V will continue to broadcast the audio signal output from the zone. If it is due to a short circuit on the line, the system will disconnect the failed line and broadcast the audio signal on the other line serving the same zone.

• **with system in "Voice Alarm Condition"**

Whatever the cause of the failure on the speaker line may be, and even if no message has been activated to be played out to the failed zone, the word FAIL will appear on the CONTROL INPUT STATUS panel and on the EMERGENCY panel, on the zone status label. The wording FAIL has priority over the indication of the current message sent to the output zone.

9.4 RESETTING THE "BEEP" IN SYSTEM FAULT CONDITIONS

To reset the "beep" signal, turn the +/- knob repeatedly in a clockwise direction until the beep is silenced.

Rated output power with 230VAC power supply	250 W RMS – with two 250W amplifiers for a dual *voice* and *music* channel
Rated output power with 24VDC power supply	160 W RMS – with two 160W amplifiers (2x220W @ 28 VDC)
N° of output zones	6 zones with a redundant double line (A + B)
Display	3" backlit display, 128x64 pixels
Inputs	
USB-EXT.	**USB input powered via the front panel –Type A socket**
Emergency microphone • Sensitivity / Impedance • Frequency response / S/N ratio	Balanced XLR-F on front panel Signal level 20 mV / 10 kΩ 60 ÷ 20.000 Hz / 72 dB
IN.1 **Socket (MIC.)** • Sensitivity / Impedance • Frequency response / S/N ratio	**Programmable modes: ON / OFF / Precedence / Mix con IN.2** Balanced XLR-F (with activatable 21 V phantom power supply) Signal level Min. 3 mV - Max 100 mV / 1.8 kΩ 240 ÷ 20.000 Hz / 63 dB
IN.2 **Socket (MIC.)** • Sensitivity / Impedance • Frequency response / S/N ratio **Socket (LINE)** • Sensitivity / Impedance • Frequency response / S/N ratio	**Programmable modes: ON/ OFF / Precedence / VOX con A.P.T.** Balanced XLR-F (with activatable 21 V phantom power supply) Signal level Min. 3 mV - Max 100 mV / 1,8 kΩ 240 ÷ 20.000 Hz / 63 dB Balanced with terminals (HOT-COM-GND) Signal level Max 1800 mV / 31 kΩ 60 ÷ 20.000 Hz / 84 dB
IN.3 **Socket (LINE-VOX)** • Sensitivity / Impedance • Frequency response / S/N ratio	**Programmable modes: ON/ OFF / VOX con A.P.T.** Balanced with terminals (HOT-COM-GND) Signal level Max 3600 mV / 3 kΩ 90 ÷ 20.000 Hz / 86 dB
AUX • Sensitivity / Impedance • Frequency response / S/N ratio	**RCA stereo socket for source of sound (BGM) - Conversion to mono** Signal level Max 1800 mV / 31 kΩ 60 ÷ 20.000 Hz / 84 dB
Paging units • Sensitivity / Impedance • Frequency response / S/N ratio	**2 RJ45 sockets per unit (PA) - PMB106/PMB112 and ACIO8136 ranges** Signal level Max 1400 mV / 85 kΩ 60 ÷ 20.000 Hz / 83 dB
EMERGENCY UNITS	**RJ45 for connection and dedicated emergency microphone station.**
EXT. AMP.IN	**External amplifier input with terminals 0 - 70 - 100V (max. 250W RMS).**
Outputs	
Constant voltage outputs • Load impedance (PA8506-V only) • Load impedance (with 250 W external amplifier)	**6 zones for dual-line /A/B) 100 V lines - Tot. 12 pairs of terminals, 2.5 mm²** Min. 40Ω for total group of zones 1 to 6 Min. 40Ω for total group of zones 1 to 3 / Min. 40Ω for total group of zones 4 to 6
External amplifier • Sensitivity / Impedance • Frequency response / S/N ratio	**Output for external amplifier with balanced XLR-M socket and level 0 dBV** 1 V / 500 Ω 40 ÷ 20.000 Hz / 84 dB
Monitor BF OUT • Output / Impedance	**Loudspeaker built into front panel 1 W / 8 Ω** Rear output with terminals (HOT-GND) - 1 V / 400 Ω
Connections to external peripheral units	
Remote links • Sensitivity / Impedance of *voice – music* channels • Output / Impedance of *voice – music* channels	**RJ45 for connection to secondary PA8506-V unit (slave).** Signal level Max 3600 mV / 3 kΩ 1 V / 400 Ω
Emergency controls • CONTROL INPUTS • CONTROL OUTPUTS	**Programmable to *normally open* or *normally closed* states.** 8 inputs with diagnostics. Terminals and service power supply: 24 VDC. 6 open-drain outputs, max 200mA. Terminals and service power supply: 24 VDC., 2 relays for signalling emergencies and failures, N.O-N.C. terminals - Exchange
Precedence IN 1 - IN 2	**Precedence input and terminals with common +12 VDC power supply.**
LAN	**LAN RJ45 socket for TCP/IP connection to web server.**
General information	
230VAC power supply Max consumption @ rated output power RMS Typical consumption with voice signal Consumption with no signal (test tone only)	230 VAC 50/60 Hz ±10% (500W System) P = 650W/800VA - (250W System) P = 370W/480VA (500W System) P = 160W/200VA - (250W System) P = 90W/120VA P = 30W/45VA
24VDC secondary power supply Max consumption @24VDC (@28Vcc) Typical consumption with voice signal @24VDC (@28VDC) Consumption with no signal (test tone only)	24 VDC (min 22VDC ÷ max 28VDC) 500W System =17A (21A) - 250W System =9A (11A) 500W System =4,3A (5A) - 250W System = 2,2A (2,5A) 0,8A
Operating environmental conditions	Temperature: +5°C to +40°C Relative humidity: 25%-75% non-condensing
Mounting	Optional AC8506 brackets for mounting in 19" rack (height: 3U + 1U support brackets).
Size (W x H x D) / Size, packaged (W x H x D)	439 x 387 x 132 mm / 535 x 470 x 225 mm
Net weight / Gross weight	20,5 kg / 22 kg

WARRANTY

This product is warranted to be free from defects in raw materials and assembly. The warranty period is governed by the applicable provisions of law. **PASO** will repair the product covered by this warranty free of charge if it is faulty, provided the defect has occurred during normal use. The warranty does not cover products that are improperly used or installed, mechanically damaged or damaged by liquids or the weather. If the product is found to be faulty, it must be sent to Paso free of charges for shipment and return. This warranty does not include any others, either explicit or implicit, and does not cover consequential damage to property or personal injury. For further information concerning the warranty contact your local **PASO** distributor.

Important! Before using the apparatus, make yourself aware of all characteristics by reading carefully the instructions included in the printed manual or on the CD, paying particular attention to the safety notes.

MODEL:...

SERIAL NUMBER:...

PURCHASE DATE:..

$C\epsilon$ **This product is in keeping with the relevant European Community Directives.**

All **PASO** equipment is manufactured in accordance with the most stringent international safety standards and in compliance with European Community requisites. In order to use the equipment correctly and effectively, it is important to be aware of all its characteristics by reading these instructions and in particular the safety notes carefully.