



VACIE range
Vulca Voice and Serenity Voice
User's Manual

Ref: 596385
Date: 04/11/2015
Version: 1

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Serenity Voice range
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CHANGE HISTORY

| Edition | Date | Written by | Remarks |
|----------------|-------------|-------------------|----------------|
| 1 | 27/07/2015 | P. ROSSI | |
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1. OBJECT

This document is the user's manual for the Vulca Voice and Serenity Voice VACIE ranges compliant with EN54-16.

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|  | <p style="text-align: center;">VACIE range Vulca Voice and Serenity Voice User's Manual</p> | <p>Ref: 596385 Date: 04/11/2015 Version: 1</p> |
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2. INTRODUCTION


This system is a VACIE compliant with EN54-16 whose purpose is to broadcast under voice alarm conditions a pre-recorded evacuation message in order to alert the occupants of the emergency zone quickly and enable an orderly evacuation.

Once powered up, the system can be in one of three states :

- quiescent condition : the default situation.
- voice alarm condition: this is activated by a manual control or triggered by the CIE.
- fault warning condition: thus is when there is a fault in the system.

3. RELATED DOCUMENTS

- Vulca Voice Installation Instructions: No. 596384
- Serenity Voice Installation Instructions: No. 596386

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4. OPERATION

4.1. Introduction

The VACIE is operated via an HMI consisting of an LCD, 4 navigation keys as well as a number of buttons and indicator lights; all these items are situated on the front of the VACIE.

All the possible actions are governed by rules linked to the system's Status and the access level required by the standard; there are 3 access levels, defined as follows:

PA access: access to certain functions with no particular procedures involved.

Level 1: by member(s) of the general public or persons having a general responsibility for security supervision who might be expected to investigate and initially respond to a fire alarm or a fault warning.


Level 2: by persons having a specific responsibility for Security and who are trained and authorized to operate the VACIE in the quiescent condition, fault warning condition, voice alarm condition.

Level 2 not secured by the HMI: this level allows access to the level 2 functions without having to enter the access code on the HMI: for example, it can be used to make calls with the emergency microphone. This configuration implies that level 2 is guaranteed elsewhere

Level 3: by persons who are trained and authorized :

- to re-configure the site specific data held within the VACIE or controlled by it (e.g. labelling, zoning, alarm organization)
- to storage and change of emergency tones and messages
- to maintain the VACIE in accordance with the manufacturer's published instructions and data.

Level 4: by persons who are trained and authorized by the manufacturer to either repair the VACIE or alter its firmware, thereby changing its basic mode of operation.

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The table below summarises the different types of use:

| Description | Accessibility | |
|---|---------------|-------|
| | State | Level |
| Modification of the configuration level 4 | QUIESCENT | 4 |
| | FAULT WARNING | 4 |
| Modification of the configuration level 3 | QUIESCENT | 3 |
| | FAULT WARNING | 3 |
| Consultation of the configuration level 2 | QUIESCENT | 2 |
| | FAULT WARNING | 2 |
| Consultation of the fault log | QUIESCENT | 2/3 |
| | FAULT WARNING | 2/3 |
| Indication test | QUIESCENT | 1 |
| | FAULT WARNING | 1 |
| | VOICE ALARM | 1 |
| Silencing the internal sound signal | FAULT WARNING | 1 |
| | VOICE ALARM | 1 |
| Manual resetting of fault indicators | FAULT WARNING | 2 |
| Emergency microphone call | QUIESCENT | 2 |
| | FAULT WARNING | 2 |
| | VOICE ALARM | 2 |
| Voice alarm manual control | QUIESCENT | 2 |
| | FAULT WARNING | 2 |



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4.2. Public address system inputs

The VACIE has 6 public address system (non-security related) inputs: Wireless mic, Auxiliary, Phone input, Bus console, IP stream 1, IP stream 2.

4 of these inputs (Wireless mic, Auxiliary, Phone input, Bus console) can be configured to define their operating mode. This operating mode is directly linked to the "Broadcasting type" parameter, which can be selected as "Continuous", "Modulation sense" or "Other".

"Continuous" performs the switching of the input in question onto the output defined elsewhere (Lines/zones) subject to the priority being high enough.

"Modulation sense" performs the switching of the input in question as soon as a sufficient signal level (configurable) is detected on the input, subject to the priority being high enough.

"Other" allows the input to be managed by a patch (see §4.4).

remark : if the Bus console input is configured according to one of these modes (Status = Active), it can no longer be used to manage a Bus console bus.

In addition to these inputs there is also a USB port for the connection of "USB stick" type media to broadcast audio files in PA mode.

The IP stream 1 and IP stream 2 are intended to be used through patches or in combination with IP Devices (use outside the certified framework).

4.3. Lines/Zones

The VACIE has a maximum of 4 (Vulca Voice) or 6 (Serenity Voice) loudspeaker lines; these lines can be grouped together to form units called Zones. The VACIE allows the creation of 64 zones maximum.

4.4. Notion of patches

A patch is an entity that links an audio input with an output (Line or Zone); the audio inputs that can be used in patches are: Wireless mic, Auxiliary, Phone input, Bus console, IP stream 1, IP stream 2 and Messages.

Each patch must have a trigger enabling it to be activated or deactivated; the triggers available are: the GP Inputs, the Scheduler.

Some examples of patch utilisation are given in Annex I.

4.5. Physical interfaces

GPI: this interface corresponds to 4 logic inputs.

GPO: this interface corresponds to 4 logic outputs.

UGA : this is the interface that links the VACIE to the CIE.



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Bus console: this interface allows Bus consoles to be connected that can be used to make announcements with line selection for PA (non-security related) uses.

Security console: this interface allows the connection of the GX2500 remote Security console (outside the framework of EN54-16).

LS lines: this interface corresponds to the loudspeaker lines

Ethernet: interface enabling the product to be connected to a network for maintenance operations, in particular the updating of the internal firmware.

4.6. Broadcasting principles

4.6.1. Notions of priority

The principle behind the broadcasting of the audio inputs on the loudspeaker outputs is based on the management of priorities. The VACIE's priority system uses a management mode based on 2 notions: the type of source and the priority value. Rules are established and govern the operation of the VACIE.

The VACIE has 3 types of source: Security, Speech, Music. Security sources have priority over Speech sources, which have priority over Music sources. The sources are defined by default as follows:

Security: Evacuation message, Emergency microphone

Speech: Wireless mic, Bus console, IP stream 1, IP stream 2

Music: Auxiliary, Phone input, Playlist on USB, Messages on USB or SD card

Priority values are between 0 and 15, where 0 corresponds to a prohibition on broadcasting a source. The priority value of a source is valid for all the outputs. Value 1 corresponds to the highest level of priority, and 15 corresponds to the lowest level of priority.

4.6.2. Principle for the zones

The rules that govern the operation of the VACIE are as follows:

- a Security type source has strict priority over a Speech type source
- a Speech type source has strict priority over a Music type source
- for the same type of source, when 2 sources have the same priority value and it is not 0, the "first come, first served" rule applies.
- a Speech type source is switched onto an output if it has a high enough priority for that output, regardless of the zones to which its configuration authorises broadcasting.
- a Music type source is switched onto an output if it has a high enough priority for that output.

4.7. Messages

The VACIE includes a message system; for each message, the associated medium is either a USB stick or the internal SD card. In order to use the internal SD card as the medium the messages must first be transferred from the USB medium onto the SD card (factory operation).



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The messages are operated through patches; each message is considered as a source and has the same parameters as the other sources: source type (Speech or Music) and priority value.

4.8. Scheduler

The VACIE has a Scheduler function intended to be used for time-stamped PA type functions; a maximum of 32 programs can be created, and each program can be identified by a label.

The programming parameters are: start and end dates, day(s) of the week, start and end Hours, periodicity; the actions associated with a program: execution of a patch, volume adjustment.

4.9. Default configuration

4.9.1. Level 1 parameters

Audio settings

Inputs (Wireless mic, Auxiliary, Phone input, Bus console, Security console*, IP stream 1*, IP stream 2*):

Volume: 0, Bass: 0, Treble: 0, Mute: Inactive

Outputs (Line No. 1 to line No. 6): Volume: 0

*: outside EN54-16 framework

4.9.2. Level 2 parameters

4.9.2.1. VACIE config

VACIE ID: CS2700

Region ID: BOUYER

Date and time: unchanged

Zone definition

Label ZONE + zone No.

Status Inactive

Lines included No lines included

Security console: No

Source priority:

Wireless mic: 06

Auxiliary: 07

Phone input: 08

Bus console: 05

Security console: 03

Microphone: 02

USB player: 06

IP stream 1*: 06 (outside EN54-16 framework)

IP stream 2*: 06 (outside EN54-16 framework)

Active lines:



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Lines 1 to 4: Active
Lines 5 to 6: Inactive for Vulca Voice versions
Lines 5 to 6: Active for Serenity Voice versions

Ampli settings:

Amplifiers 1 to 4: Active
Amplifiers 5 to 6: Inactive for Vulca Voice versions
Amplifiers 5 to 6: Active for Serenity Voice versions

CIE link

Monitoring: No
Type: Voltage
Polarity: Direct
Redundancy: No

Modbus Clients (outside EN54-16 framework)

Modbus client No. 1: Status = Inactive, Address = 001, TCP port = 00502, Protocol = Modbus TCP, TCP RX Timeout = 005
Modbus client No. 2: Status = Inactive, Address = 002, TCP port = 00503, Protocol = Modbus TCP, TCP RX Timeout = 005
Modbus client No. 3: Status = Inactive, Address = 003, TCP port = 00504, Protocol = Modbus TCP, TCP RX Timeout = 005
Modbus client No. 4: Status = Inactive, Address = 004, TCP port = 00505, Protocol = Modbus TCP, TCP RX Timeout = 005
Modbus client no.: Status = Inactive, Address = 005, TCP port = 00506, Protocol = Modbus TCP, TCP RX Timeout = 005

IP Device (outside EN54-16 framework)

For all the IP Devices from 1 to 32, the default parameters are:

Status: Inactive
TCP/IP port: 06969
Type: Console
Associated audio bus: IP stream 1
Monitoring: No
Fault notif.: No
Alarm Notif.: No
Voice alarm: Inactive

The label corresponds to the Device No.: for Device No. 1, label = Device IP 01,

The IP address is calculated by adding the IP Device number (from 1 to 32) to the last field in the IP address = 192.168.000.019, which gives 192.168.000.020 for IP Device No. 1.

Backup amplifier: Yes

4.9.2.2. PA system configuration

Audio inputs

Wireless mic: Status = Active, Broadcast type = Modulation sense, Patch = General call, Input type = -30db

Auxiliary: Status = Active, Broadcast type = Continuous, Patch = General call

Phone input: Status = Active, Broadcast type = Modulation sense, Level = 20dBm, Detection time = xx, Patch = General call

Bus console: Status = Active, Broadcast type = Other, Patch = General call



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Console keys

For keys 1 to 6: Lines 1 to 6

For keys 7 to 64: Zones from 1 to 58

Patch define

For all the patches: Label = Patch + patch number, Source = Auxiliary

For patches 1 to 6: Lines 1 to 6

For patches 7 to 32: Zones from 1 to 26

Fault profiles:

For each fault from 1 to 32: System faults:

GP Inputs

For each GPI from 1 to 4:

Status: Inactive

Polarity: Positive

Pulse mode: No

Linked action: Console report

GP Outputs

For each GPO from 1 to 4:

Status: Active

Inactive state: Active

Linked action: Voice alarm report

Audio messaging

For all the messages from 1 to 32, the default parameters are:

Device: SD card

Source type: Music

Priority: 06

The label corresponds to Message + message No., for example Message 01 for Message 1.

The .wav file name corresponds to Message followed by message No., for example Message 01.wav for Message 1.

Scheduler

For each program from 1 to 32:

Status: Inactive

Start dates: 01/01/2010

End dates: 01/01/2073

Week days: None

Start hour: 00:00:00

End hour: 23:59:59

Period time 24H: 00:00:00

Linked action: Patch apply:

For each program, the label corresponds to Program + message No.

USB player

Mode: Sequential

Lines/Zone: General Call

IP stream



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IP stream1:

Status:..... Inactive,
RTP port:..... 05004

IP stream2:

Status:..... Inactive
RTP port:..... 05005

4.9.2.3. System

Network:

DHCP Config: Active

Network config.:

IP address: 192.168.000.010

Netmask: 255.255.255.000

Network gateway: 192.168.000.254

4.9.2.4. Preferences

Languages French

LCD display:

Backlight off delay: 0

LCD power off delay: 0

4.10. Impedance measurement

Impedance measurement is a diagnosis aid function that allows variations in impedance to be detected on loudspeaker lines.

This function is based on the principle of taking 2 measurements for each LS line:

- one so-called calibration measurement which determines at a given instant a reference impedance on the LS line
- a control measurement that determines the current impedance of the loudspeaker line

Once the control measurement has been taken, the system compares the 2 values and diagnoses the Status of the line and reports any underload or overload type fault.

Remark : a measurement at 1kHz generates the appearance of a signal audible in the loudspeakers for a short time (a few seconds at the most).

The calibration measurement is a manual measurement triggered by an operator (level 2 or 3 access); it is carried out at 1kHz and 19kHz.

remark : the calibration operation generates the appearance of a signal audible in the loudspeakers for a short time (a few seconds at the most).

The control measurement can be carried out in 2 modes: manual mode and automatic mode

In manual mode: it is the operator who, by accessing the VACIE's HMI, commands a control measurement (level 2 or 3 access).

In automatic mode, the measurement is done at periodic intervals at a rate defined by the user (every hour for example).



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The "Impedance measurement" function includes a certain number of configuration menus accessible at level 3. These menus concern automatic measurement parameter setting (Scheduler) and the measurement parameters (Setting LS lines) :

Scheduler:

- Status: Active/Inactive = corresponds to the activation/deactivation of the impedance measurement for an LS line.
- Start hour: specifies the time of the first measurement.
- Period time 24h : Cycle duration: corresponds to the interval at which the control measurements are repeated (1hr min/24 hrs max)

Settings LS lines:

- Status: determines for each line whether impedance measurement is activated or not.
- Measure frequency: value of the frequency of the signal used for impedance measurement (High 19kHz or Medium 1kHz)
- Measure delta: value of the difference as a % that determines the criterion for indicating a fault (corresponds to the maximum difference accepted between the acquisition measurement and the control measurement).
- Modulation type: impedance measurement in the presence (Attenuation) or absence (Mute) of modulation
- 1kHz check : specifies, if the impedance measurement is configured to be made at 18kHz, whether a further measurement should be made at 1kHz.

The operational menu for impedance measurement proposes measurements either line by line or for all the lines.

The faults generated by the comparisons between the values acquired and the value measured are indicated in the fault log in the same way as all the other faults.



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4.11.Other

4.11.1. USB medium

The USB medium must be formatted with the FAT16 or FAT32 file system.

The maximum size of this medium is 8 GB.

The location of the audio files must follow this rule:

- Music files must be in the root directory of the USB medium
- The message files must be in a folder named "messagerie" and situated in the root directory of the USB medium.

4.11.2. Audio file formats

The audio files used must meet the following constraints:

For evacuation messages : .wav format, sampling at 44.1 kHz, 16 bit encoding, mono.

For PA messages : .wav format, sampling at 44.1 kHz, 16 bit encoding, mono.

For broadcasting music from the USB medium : .wav format, sampling at 44.1kHz maximum, 16 bit encoding, mono or stereo.

4.11.3. Message and audio file performance

The reading performance of audio files from the internal SD card and the USB medium depends on the activity of the VACIE and the file format; in particular, simultaneous reading of a message from the SD card and a file from the USB stick can cause imperfections in the broadcasting of the file from the USB medium; this is all the more likely when the audio files use a lot of resources (stereo files for example).

4.12.Keypad/display

The keypad/display unit constitutes a HMI providing access to the different functions required.

The main keypad consists of 4 keys: ▲, ▼, C and OK

The ▲ key is used to move upwards (by one line, by one value).

The ▼ key is used to move downwards (by one line, by one value).

The C key is used to cancel the current action.

The OK key is used to validate the choice indicated by the cursor.

There are 4 other providing direct access to the system functions.

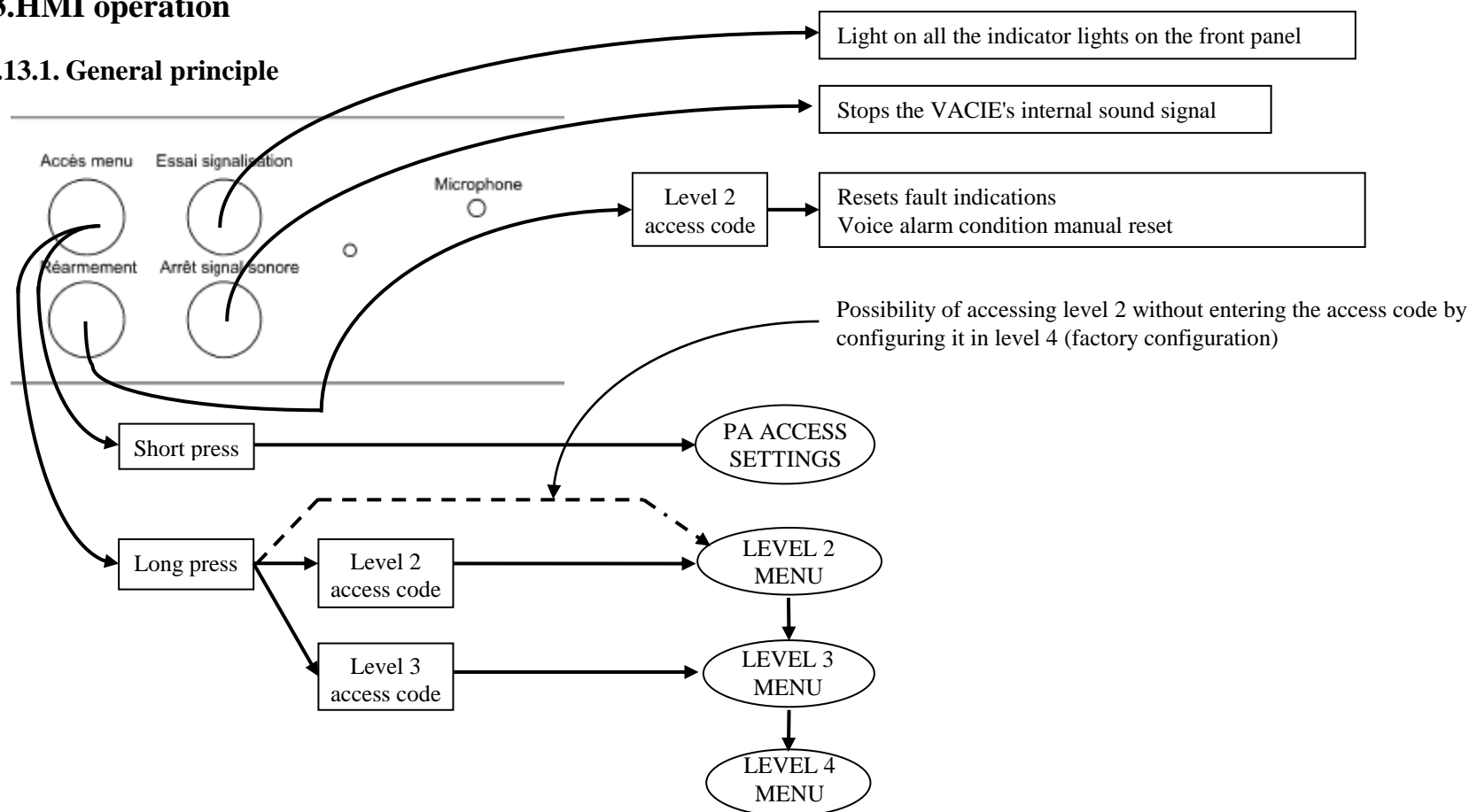


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4.13.HMI operation

4.13.1. General principle

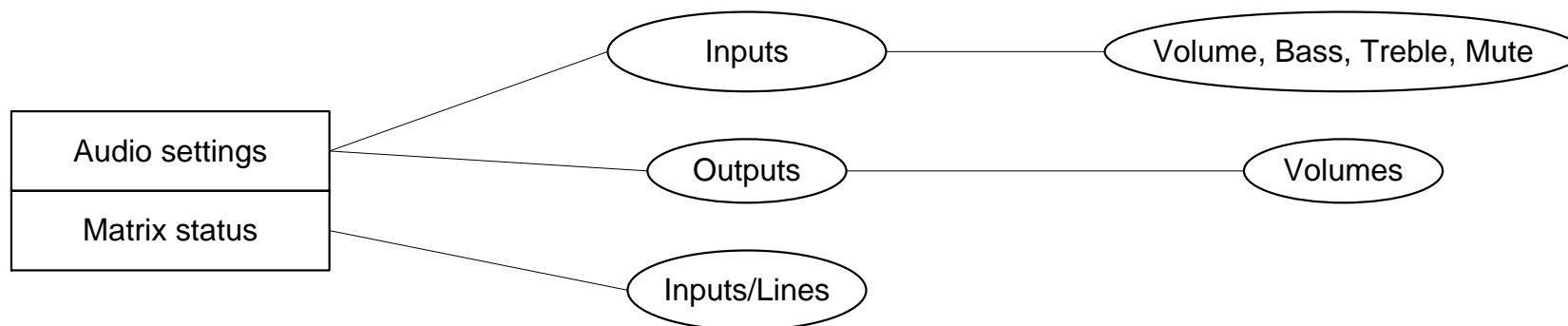




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4.13.2. PA settings

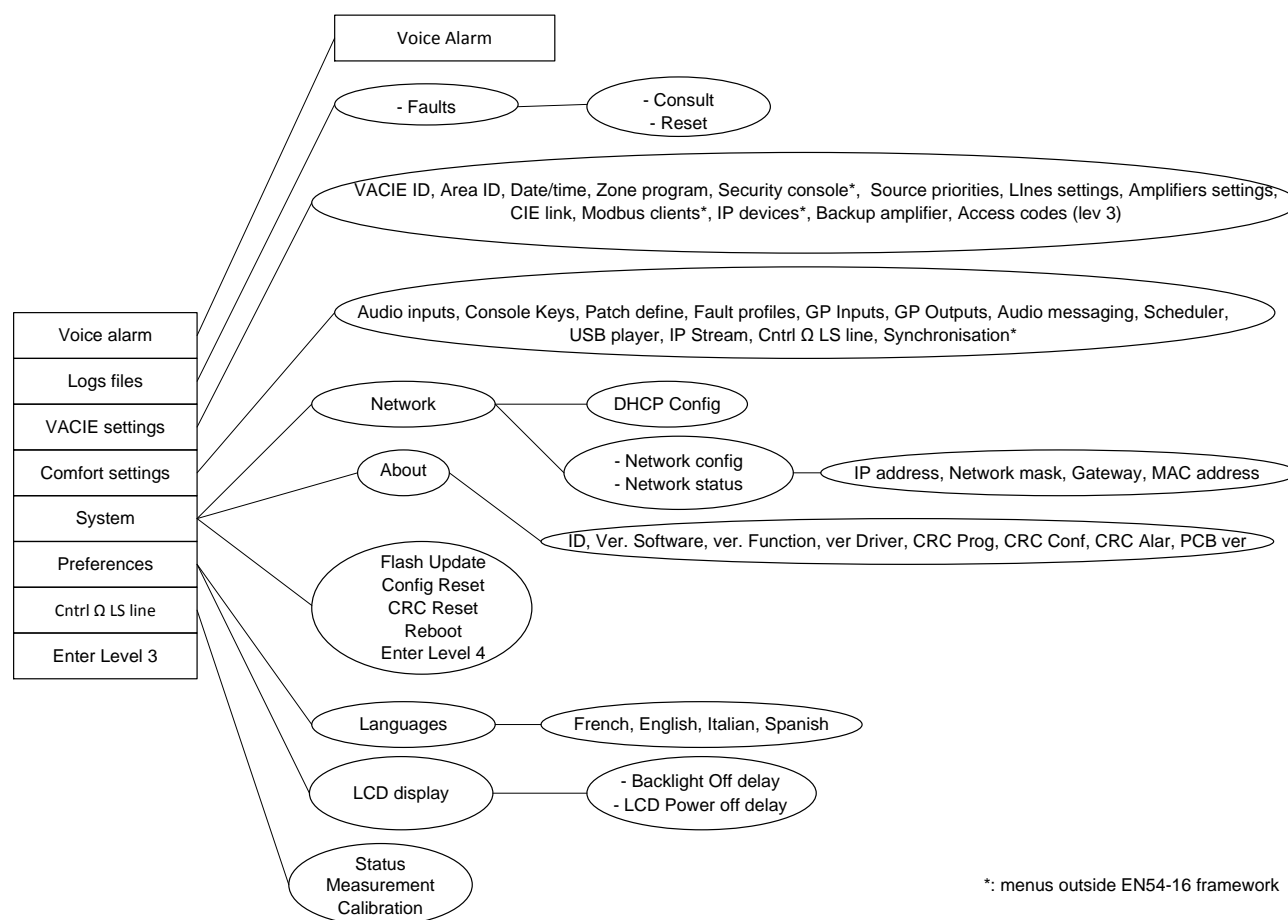




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4.13.3. Level 2 menus (consultation) and 3 (configuration)





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4.14. Procedure for accessing the different levels

The **"Enter Menu"** key situated on the front of the HMI provides access to the VACIE's different menus; its use is governed by a short press/long press rule depending on the level of access required.
A "short press" means pressing on this key for less than 2s.
A "long press" means pressing on this key for longer than 2s.

4.14.1. Level 1 access

Does not require any particular operation.

4.14.2. PA Access

Does not require any particular operation other than a short press on the **"Enter Menu"** key.

4.14.3. Level 2 and 3 access

Pressing **"Enter Menu"** brings up on the LCD display an invite to enter a 6-element code using the letters A, B, C, D, E and F.

To enter each letter in the code, scroll through the letters A, B, C, D, E and F using the ▲ and ▼ keys and validate the letter chosen with **OK**; repeat for each of the 4 letters making up the code.

The distinction between levels 2 and 3 is made by using a code different.

Level 2 can be accessed without entering a code on the VACIE's HMI if the VACIE is at level 2 otherwise (accessibility of the room where the VACIE is situated for example); this level 2 access without a code is configured at level 4 on the VACIE.

4.14.4. Enter Level 4

This level is only accessible after first passing through level 3 access.



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4.15. Level 1 access commands

4.15.1. Indication test

Pressing the "**Indicator test**" button causes all the lights on the front panel of the VACIE to come on for 1s.

4.15.2. Silencing the internal sound signal

Pressing the "**Buzzer Stop**" button causes the sound signal to stop immediately.



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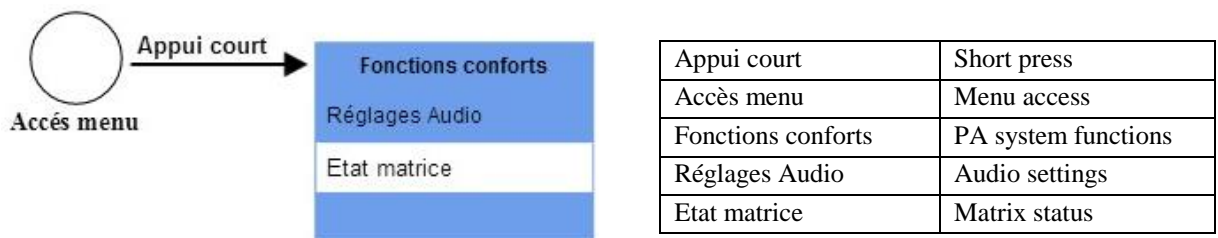
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4.16.PA access commands

The PA access commands are accessible via a short press (< 2s) on the **"Enter Menu"** key.

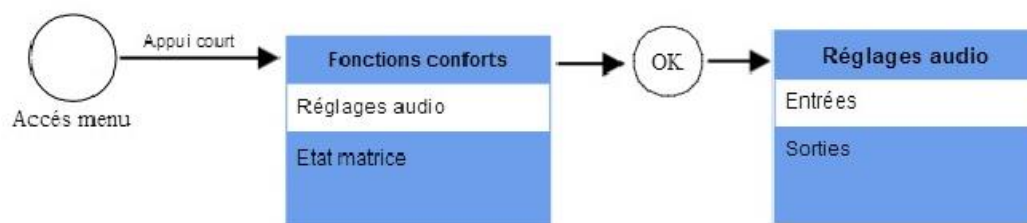
PA access gives rapid access to common settings concerning the non-security related uses of the VACIE.

In PA access, 2 items are available: Audio settings and Matrix status.



4.16.1. Audio settings

This item gives access to the Input and Output Level adjusts. Output setting is only effective for PA sources



| | |
|--------------------|---------------------|
| Appui court | Short press |
| Accès menu | Menu access |
| Fonctions comforts | PA system functions |
| Réglages Audio | Audio settings |
| Etat matrice | Matrix status |
| OK | OK |
| Entrées | Inputs |
| Sorties | Outputs |

4.16.1.1. Inputs

Only the settings for the PA sources are accessible: Wireless mic, Auxiliary, Phone input, Bus console, Security console*, IP stream 1*, IP stream 2*, USB player, SD card.

*: outside EN54-16 framework

For each of these PA sources, the Volume, Bass, Treble and Mute settings are available.



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4.16.1.1.1. Volume

Variable from 0dB to -60dB in steps of 1dB.

Vary the value using the ▲ and ▼ keys and validate with **OK**.

4.16.1.1.2. Bass

Variable from -15dB to +15dB in steps of 1dB.

Vary the value using the ▲ and ▼ keys and validate with **OK**.

4.16.1.1.3. Treble

Variable from -15dB to +15dB in steps of 1dB.

Vary the value using the ▲ and ▼ keys and validate with **OK**.

4.16.1.1.4. Mute

Parameter: **Active** or **Inactive**

Select the parameter with the ▲ and ▼ keys and validate with **OK**.

4.16.1.2. Outputs

The Outputs are named Line 1, Line 2, Line 3, Line 4, Line 5 and Line 6.

Select the line with the ▲ and ▼ keys and validate with **OK**.

4.16.1.2.1. Volume

Variable from 0dB to -60dB in steps of 1dB.

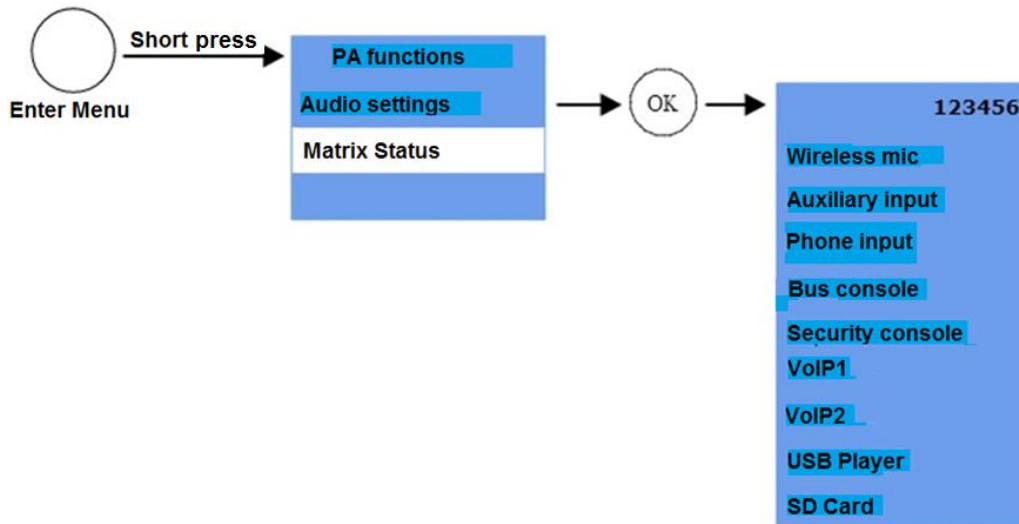
Vary the value using the ▲ and ▼ keys and validate with **OK**.



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4.16.2. Matrix status



The "**Matrix status**" item shows, in real time, the status of the VACIE's audio switchings ; it shows all the system's audio sources and each of the outputs 1, 2, 3, 4, 5 and 6.

The presence of a current switching is shown by the appearance of the "♪" symbol if the source is configured in Continuous mode or the "■" symbol for any other mode.

Use the ▲ and ▼ keys to scroll through the audio sources.



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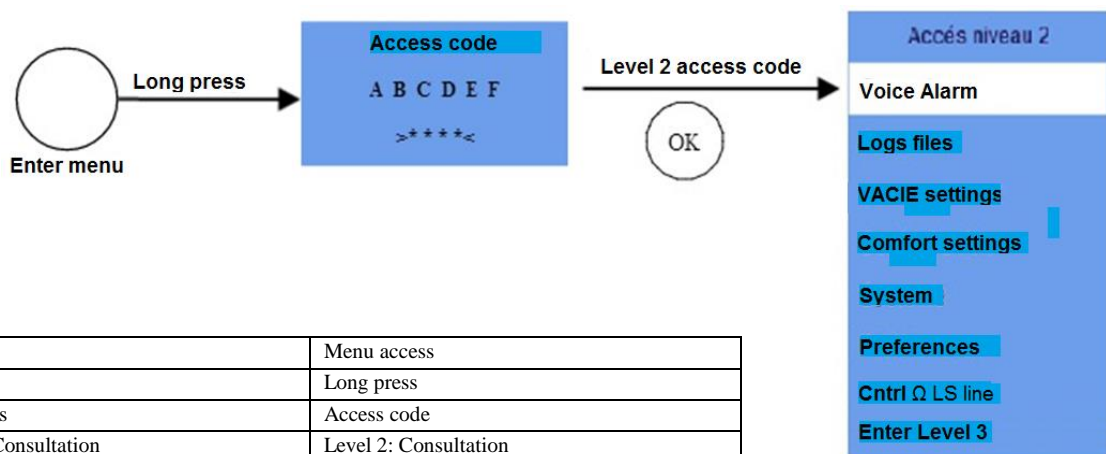
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4.17. Level 2 access commands

Depending on the command to be implemented, 2 operating modes are possible for access to level 2; the level 2 access code is requested:

- after pressing the **"Enter Menu"** button
- after pressing the **"Emergency microphone"** button (Emergency microphone call) or the **"Fault Reset"** key (Manual resetting of fault indicators)

In the **"Enter Menu"** case, the VACIE proposes a menu containing several items:



| | |
|-------------------------|-----------------------|
| Accès menu | Menu access |
| Appui long | Long press |
| Code d'accès | Access code |
| Niveau 2 : Consultation | Level 2: Consultation |
| Code d'accès niveau 2 | Level 2 access code |
| OK | OK |
| Accès niveau 2 | Level 2 access |
| Cmde évacuation | Voice alarm |
| Journaux | Logs |
| Config ECSAV | VACIE config |
| Config Confort | PA configuration |
| Système | System |
| Préférences | Preferences |
| Cntrl Ω Ligne HP | Cntrl Ω LS line |

4.17.1. Level 2: Enter Menu -> Voice alarm (= manual voice alarm command = option with requirements)

Position the selection cursor on the **"Voice alarm"** item and validate with **OK**.

The display shows "General Voice alarm Press OK"; the user is then invited to confirm by pressing **OK**. The evacuation message is then broadcast.

To stop the broadcast, press the **"Fault Reset"** button and enter the level 2 access code.

4.17.2. Level 2: Enter Menu -> Logs files

This menu allows you to consult the **"Fault"** log. Position the selection cursor on **"Fault"** and validate with **OK**.



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The "**Consult**" menu is available and allows the related log to be brought up on the LCD screen. Position the selection cursor on "**Consult**" and validate with **OK**.

A list of Faults or Events appears, listed in reverse order to their order of occurrence (the first one in the list is the last to occur).

Each Fault or Event present in the log is time-stamped in this form:
Title DD/MM/YYYY hh:mm

The list of Faults is described in the table below:

| Fault description | Wording | Parameters |
|---|--------------------|---------------------------|
| Fault on amplifier | FAULT AMPLI x | x: amplifier No. (1 to 6) |
| Loudspeaker line short circuit | LINE 100V x SC | x: line No. (1 to 6) |
| Loudspeaker line open | LINE 100V x CO | x: line No. (1 to 6) |
| Loudspeaker line earth short circuit | LINE 100V x EF | x: line No. (1 to 6) |
| Emergency microphone cell short circuit | CELL MICRO SC | |
| Emergency microphone cell open | CELL MICRO CO | |
| Emergency microphone cell earth short circuit | CELL MICRO EF | |
| Emergency microphone button short circuit | BUTTON MICRO SC | |
| Emergency microphone button open | BUTTON MICRO CO | |
| Emergency microphone button earth short circuit | BUTTON MICRO EF | |
| Security console: audio link fault | FLT AUDIO CONS | |
| Security console: fault cell micro | FLT MIC CONS | |
| Security console: communication fault | FLT COM CONS | |
| AES: mains fault | MAINS FAULT | |
| AES: output fault | PSE OUTPUT FAULT | |
| AES: battery fault | BATTERY FAULT | |
| UGA1: CIE link short circuit fault | LINK CIE1 SC | |
| UGA1: CIE link open fault | LINK CIE1 CO | |
| UGA1: CIE link earth short circuit fault | LINK CIE1 EF | |
| UGA2: CIE link short circuit fault | LINK CIE2SC | |
| UGA2: CIE link open fault | LINK CIE2 SC | |
| UGA2: CIE link earth short circuit fault | LINK CIE2 EF | |
| SD card disconnected | SD CARD DISCONNECT | |
| SD card fault | SD CARD FAULT | |
| Reset µP | RESET CPU | |
| Memory configuration error | CONFIG MEMORY FLT | |
| Evacuation message integrity error | MESSAGE MEMORY FLT | |
| Program memory CRC error | PROGRAM MEMORY FLT | |
| Display memory error | LCD SCREEN FAULT | |
| Internal hardware error | HARDWARE FAULT | |
| IP Device: communication fault | FLT COM IP id | id: Device identifier |
| IP Device: cell fault | FLT MIC IP id | id: Device identifier |
| IP Device: audio link fault | FLT AUD IP id | id: Device identifier |
| | | |



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4.17.3. Level 2: Enter Menu -> VACIE settings

Position the selection cursor on the **VACIE settings** item and validate with **OK**.

At access level 2, the configuration items are accessible for consultation only; the display then presents all the configuration items that can be viewed at level 2:

- VACIE ID
- Region ID
- Date and Time
- Zone definition
- Security console
- Source priority
- Active lines
- Ampli settings
- CIE link
- Modbus client
- IP devices
- Backup amplifier

4.17.3.1. Level 2: Enter Menu -> VACIE settings -> VACIE ID

Displays the name of the VACIE

4.17.3.2. Level 2: Enter Menu -> VACIE settings -> Area ID

Displays the name of the region

4.17.3.3. Level 2: Enter Menu -> VACIE settings -> Date and Time

Displays the current date and time in this form:

DD/MM/YYYY hh:mm

4.17.3.4. Level 2: Enter Menu -> VACIE settings -> Zone program

Displays the zones created Each zone has 3 parameters: Label, Status, Lines included. The maximum number of zones that can be created is 64.

- **Label:** corresponds to the name of the zone
- **Status:** corresponds to the zone's Active/Inactive Status
- **Lines included:** displays all the loudspeaker lines included in the zone.

4.17.3.5. Level 2: Enter Menu -> VACIE settings -> Security console

Displays the presence of a Security console (Yes/No).

4.17.3.6. Level 2: Enter Menu -> VACIE settings -> Source priority

Displays for each of the audio sources (Wireless mic, Auxiliary, Phone input, Bus console, Security console, Microphone, USB player, IP stream 1, IP stream 2) the current level of priority; the value varies from 0 to 15.



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4.17.3.7. Level 2: Enter Menu -> VACIE settings -> Lines setting

Displays for each loudspeaker line whether the line is active or not.

4.17.3.8. Level 2: Enter Menu -> VACIE settings -> Ampli settings

Displays for each amplifier whether it is active or not

4.17.3.9. Level 2: Enter Menu -> VACIE settings -> CIE link

Displays the Status of each parameter associated with the CIE link:

- **Monitoring:** Yes/No
- **Type:** Voltage/Pulse
- **Polarity:** Direct/Reverse
- **Redundancy:** Yes/No

4.17.3.10. Level 2: Enter Menu -> VACIE settings -> Modbus clients

The VACIE can receive connections from at most 5 Modbus clients; each of these clients has the following parameters:

- **Status:** Active/Inactive
- **Address:** value that can vary from 1 to 247
- **TCP port:** value that can vary from 1 to 65535
- **Protocol:** Modbus TCP or Modbus RTU/TCP
- **TCP RX TimeOut:** value in ms of the timeout on receiving the Modbus frame

4.17.3.11. Level 2: Enter Menu -> VACIE settings -> IP devices

Displays the information relating to the IP devices; 32 Devices can be created. The parameters associated with a Device are:

- **Label:** corresponds to the name of the Device
- **Status:** corresponds to the Status of the Device: Active/Inactive
- **IP address:** corresponds to the Device's IP address
- **TCP port:** corresponds to the Device's port number (between 1 and 65535)
- **Type:** corresponds to the type of Device
 - **Console**
 - **Amplifier**
 - **Audio messaging**
- **Associated audio bus:** in the case of a Console type audio bus, corresponds to the audio bus used by the Device: Bus console, Security console, IP stream 1, IP stream 2.
- **Monitoring:** defines whether the IP devices is monitored by the VACIE (Yes/No)



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- **Fault notif.:** defines whether the IP devices is notified of the faults (Yes/No)
- **Alarm Notif.:** defines whether the IP devices is notified of the voice alarm condition (Yes/No).
- **Voice alarm:** defines whether the IP devices has the right to trigger an evacuation (Active/Inactive)

4.17.3.12. Level 2: Enter Menu -> VACIE settings -> Backup amplifier

Indicates whether there is a backup amplifier on the VACIE (Yes/No).



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4.17.4. Level 2: Enter Menu > PA configuration

Position the selection cursor on the **PA configuration** item and validate with **OK**.

At access level 2, the configuration items are accessible for consultation only; the display then presents all the configuration items that can be viewed at level 2:

- Audio inputs
- Console keys
- Patch define
- Fault profiles
- GP Inputs
- GP Outputs
- Audio messaging
- Scheduler
- USB player
- IP stream
- Cntrl Ω LS line
- Synchronization*

*: menus outside EN54-16 framework

4.17.4.1. Level 2: Enter Menu -> PA configuration -> Audio inputs

This menu displays for the PA audio inputs (Wireless mic, Auxiliary, Phone input, Bus console) these associated parameters:

- **Status:** Active/Inactive
- **Broadcast type:**
 - *Continuous*
 - *Modulation sense* (Detection level: from -40dBm to -10dBm)
 - *Other*
- **Patches:** output entity used for input: Line (1..6), Zone (1..64) or General Call)
- **Input type:** this parameter is only accessible for the Wireless mic input; it allows the volume of the source connected to be selected between **Input -30db** and **Input 0db**.

4.17.4.2. Level 2: Enter Menu -> PA configuration -> Console keys

This menu displays the configuration of the keys for the GX type keys; 64 keys can be configured.

Each key can have the following assignments:

- **Active/Inactive**
- **Line (1..6)**
- **Zone (1..64)**
- **General call**



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4.17.4.3. Level 2: Enter Menu -> PA configuration -> Patch define

This menu displays for each patch (from 1 to 32) these associated parameters:

- **Label:** name of the patch
- **Source:** audio source used for the patch = name of the source or name of the message if the source is Message.
- **Lines/Zones:** output entity used for the patch: Line (1..6), Zone (1..64) or General Call.

4.17.4.4. Level 2: Enter Menu -> PA configuration -> Fault profiles

Displays the configurations of each of the 32 fault profiles that can be processed: the associated information is linked to the System Faults, Amplifier faults, LS line faults and Zone faults categories; displays the faults associated with the profile for each category.

- **System Faults:** list of the non-amplifier, line or zone faults
- **Amplifier faults:** amplifier Nos. (1..6)
- **LS line faults:** line Nos. (1..6)
- **Zone faults:** zone Nos. (1..64)

4.17.4.5. Level 2: Enter Menu -> PA configuration -> GP Inputs

This menu displays, for each GPI (Input 1, Input 2, Input 3, Input 4), these associated parameters:

- **Status:** Active/Inactive
- **Polarity:** Positive/Negative
- **Pulse mode:** Yes/No
- **Linked action:**
 - **Patch apply:** Identifier of the patch
 - **GPO drive:** GPO No.
 - **Console display:** Bus console, Security console*
 - Key number
 - **Level adjust:**
 - Level: from -60db to 0dB in steps of 1dB.
 - Lines (1..6), Zones (1..64), General Call

*: outside EN54-16 framework

4.17.4.6. Level 2: Enter Menu -> PA configuration -> GP Outputs

This menu displays, for each GPO (GPO 1, GPO 2, GPO 3, GPO 4) these associated parameters:

- **Status:** Active/Inactive



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- **Inactive state:** Active/Inactive
- **Linked action:**
 - **Occupants**
 - *Patches*
 - *Source:* Wireless mic, Auxiliary, Microphone, Phone input, Bus console, Security console*, IP stream1*, IP stream2*, Messages
 - *Lines (1..6), Zones (1..64), General Call*
 - **Fault transfer:** identification of the associated fault transfer (1..32)
 - **Console PB transfer:** Bus console bus, Security console bus
 - Key number
 - **Voice Alarm Transfer:** associated with voice alarm Status

*: outside EN54-16 framework

4.17.4.7. Level 2: Enter Menu -> PA configuration -> Audio messaging

This menu displays the parameters associated with the messages (from 1 to 32):

- **Label:** name of the message
- **Device:** place of storage of a message
 - *SD card*
 - *USB port*
- **.wav file:** name of audio file associated with the message = Message xx.wav with xx going from 01 to 32.
- **Source type:**
 - *Music*
 - *Speech*
- **Priority:** value from 0 to 15

4.17.4.8. Level 2: Enter Menu > PA configuration -> Scheduler

Displays the information relating to Scheduler operation.

Each program (from 1 to 32) is identified by a name and has a set of parameters defining its operation:

- **Label:** name of the program
- **Status:** Active/Inactive
- **Dates:**
 - **Start date:** beginning of program validity in the form DD/MM/YYYY
 - **End date:** end of program validity in the form DD/MM/YYYY



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- **Week days:** indicates for each day of the week whether the program applies or not.
- **Hours:**
 - **Start hour:** time when the program starts, in the form HH:MM:SS
 - **End hour:** time when the program ends, in the form HH:MM:SS
 - **Period time 24H:** indicates the repeat interval associated with the program in the form HH:MM:SS
- **Linked action**
 - **Patch apply:** name of the patch associated with the program
 - **Level adjust:**
 - **Level:** value of the level to be applied from -90dB to 0dB in steps of 1dB
 - **Lines/Zones**
 - Line: 1..6
 - Zones: 1..64
 - General Call
 - **GPO drive:** displays the GP Output associated with the action

4.17.4.9. Level 2: Enter Menu -> PA configuration -> USB player

The menu displays the parameters associated with the use of the USB player:

- **Mode**
 - *Active/Inactive*
 - *Sequential*
 - *Random*
- **Lines/Zones**
 - *Lines: 1..6*
 - *Zones: 1..64*
 - *General call*

4.17.4.10. Level 2: Enter Menu -> PA Config -> IP stream (outside EN54-16 framework)

This menu displays, for each of the 2 audio streams IP stream1 and IP stream2, their associated parameters:

- **Status:** Active/Inactive
- **RTP port:** port No.



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4.17.4.11. Level 2: Enter Menu -> PA Config -> Cntrl Ω LS line

This menu gives access to the consultation of the parameters linked to the operating mode of the Impedance measurement function. These parameters concern the operation in automatic mode of impedance measurement (Scheduler menu) and the measurement parameters specific to each line (Config LS lines menu).

- **Scheduler**

- **Status:** defines whether the measurement mode programmed is active or not (Active/Inactive)
- **Start hour:** value in the form hh :mm
- **Period time 24H:** measurement periodicity value, to be chosen from 1h, 2h, 4h, 6h, 8h, 12h, 24h.

- **Config LS lines**

- **Status:** defines whether impedance measurement is active or not for the LS line in question (Active/Inactive).
- **Measurement frequency:** defines the frequency at which the impedance measurement is done: Medium (1kHz)/High (19kHz)
- **Measurement delta:** defines the maximum difference (as a %) permissible between the value measured and the value calibrated before detecting a fault (10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%)
- **Modulation type:** defines whether the measurements are done attenuating or cutting off the modulation (Attenuation/Mute)
- **Verif. 1kHz:** defines whether a further measurement at 1kHz must be done (Active/Inactive)

4.17.4.12. Level 2: Enter Menu -> PA Config -> Synchronization (outside EN54-16 framework)

The Synchronization function allows a synchronization of the broadcasting of the evacuation message to be guaranteed when sites have several VACIEs (this function is outside of the EN54-16 certification framework)

Displays the Status of the function (Active/Inactive)



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4.17.5. Level 2: Enter Menu -> System

This menu includes the following items:

- **Network:** parameters associated with the Ethernet connection
 - **DHCP Config:** Active/Inactive
 - **Network config.:** displays the configuration parameters
 - *IP address:* value of the IP address configured
 - *Netmask:* value of the network mask configured
 - *Network gateway:* value of the network gateway configured
 - **Network status:** displays the real network parameters
 - *IP address:* value of the current real IP address
 - *Netmask:* value of the current real network mask
 - *Network gateway:* value of the current real network gateway
 - *MAC address:* value of the MAC address
- **About:** displays the information associated with the VACIE's hardware and software version:
 - **ID:** VACIE identifier in hexadecimal form (4 bytes)
 - **Version:** software version in the form xx.yy
 - **Ver. Funct.:** functional version in the form xx.yy
 - **Driver Ver:** driver version in the form xx.yy
 - **CRC Prog:** CRC of software in hexadecimal form (4 bytes)
 - **CRC Conf:** CRC of the Configuration in hexadecimal form (4 bytes)
 - **CRC Alar:** CRC of the evacuation message in hexadecimal form (4 bytes)
 - **PCB ver :** version of internal board

4.17.6. Level 2: Enter Menu -> Preferences

This menu includes the items:

- **Languages:** displays the language currently used on the HMI (French/English/Italian/Spanish)
- **LCD display**
 - *Backlight off delay:* displays the time until backlighting goes out (in s)
 - *LCD power off delay:* displays the time until the display goes out (in s)



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4.17.7. Level 2: Enter Menu -> Cntrl Ω LS line

This menu allows you to view the Status of the impedance values for the loudspeaker lines (**Status**) and also enables the actions linked to the measurements (**Measurement** menu) and calibration (**Calibration** menu) of the lines.

The menu includes the following items:

- **Status:** for each loudspeaker line (from L01 to L06), this displays the information Ω CAL (acquired impedance), Ω MES (last impedance value measures) and P(W) (last value measured of the load in W represented by all the loudspeakers in the line), Ω M (value of the impedance measured at Medium frequency, 1kHz), Ω H (value of the impedance measured at High frequency 19kHz)
- **Measurement:** select the loudspeaker line (**LS line**) or all the lines (**All LS lines**) and validate with OK.
- **Calibration:** select the loudspeaker line (**LS line**) or all the lines (**All LS lines**) and validate with OK.

4.17.8. Level 2: Enter Menu -> Level 3 access

This menu gives access to the level 3 operations; it is the only way of accessing level 3 when the mode of access to level 2 is non-secure on the HMI.



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4.18. Level 3 access commands

After pressing the **"Enter Menu"** key and entering the level 3 access code, the VACIE proposes a menu containing the following items:

- Voice alarm
- Logs
- VACIE settings
- PA Config
- System
- Preferences
- Cntrl Ω LS line

4.18.1. Level 3: Enter Menu -> Voice alarm (option with requirements)

Position the selection cursor on the **"Voice alarm"** item and validate with **OK**.

The display shows "General Voice alarm Press OK"; the user is then invited to confirm by pressing **OK**. The evacuation message is then broadcast.

To stop the broadcast, press the **"Reset"** button and enter the level 2 access code.

4.18.2. Level 3: Enter Menu -> Logs

This menu allows you to consult the **"Fault"** log. Position the selection cursor on **"Fault"** and validate with **OK**.

The **"Consult"** and **"Reset"** menus are available.

The **"Consult"** item allows the related log to be brought up on the LCD screen.

The **"Reset"** items resets the **"Fault"** log to 0.

Position the selection cursor on the item and validate with **OK**.



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4.18.3. Level 3: Enter Menu > VACIE settings

Position the selection cursor on the **VACIE settings** item and validate with **OK**.

In level 3 access, the following configuration items are accessible for modification:

- VACIE ID
- Area ID
- Date and Time
- Zone program
- Security console
- Source priority
- Lines settings
- Ampli settings
- CIE link
- Modbus client
- IP devices
- Backup amplifier
- Access code

*: menus outside EN54-16 framework

4.18.3.1. Level 3: Enter Menu -> VACIE settings -> VACIE ID

Allows a name to be defined for the VACIE. . The name may contain 18 alphanumerical characters; select each alphanumerical character using the ▲ and ▼ keys and then validate with **OK**.

4.18.3.2. Level 3: Enter Menu -> VACIE settings -> Area ID

Allows a region name to be defined for the VACIE. The name may contain 18 alphanumerical characters; select each alphanumerical character using the ▲ and ▼ keys and then validate with **OK**.

4.18.3.3. Level 3: Enter Menu -> VACIE settings -> Date and Time

Allows a date and time to be defined on the VACIE. The information is presented in this form:

Date Time

where

- **Date** is presented in the form DD/MM/YYYY where DD is the day of the month (from 01 to 31), MM is the month of the year (from 01 to 12) and AAAA is the year. Select each digit making up the date using the ▲ and ▼ keys and then validate with **OK**.
- **Time** is presented in the form hh:mm where hh is the hour (from 00 to 23), mm is the minutes (from 00 to 59). Select each digit making up the time using the ▲ and ▼ keys and then validate with **OK**.

Remark: the system takes account of leap years, but does not apply the changeovers from summer to winter time and vice versa.



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4.18.3.4. Level 3: Enter Menu -> VACIE settings -> Zone program

This menu allows you to create Zones; the maximum number of zones that can be created is 64.

Each Zone is a grouping of loudspeaker lines and is defined by the following parameters:

- **Label:** this is the Zone's name; using the ▲ and ▼ select each alphanumerical character making up the label then validate with **OK**. Each Label can have a maximum of 18 characters.
- **Status:** enables you to define whether the Zone is active or not; select **Active** or **Inactive** using the ▲ and ▼ keys and validate with **OK**.
- **Lines included:** enables you to choose which loudspeaker lines are included in the zone; select the line using the **OK** key, then use the ▲ and ▼ and **OK** keys to select/deselect the line and validate the choice.

4.18.3.5. Level 3: Enter Menu -> VACIE settings -> Security console (outside EN54-16 framework)

This menu allows the presence of a Security console to be declared; select **Yes** or **No** using the ▲ and ▼ keys and validate with **OK**.

4.18.3.6. Level 3: Enter Menu -> VACIE settings -> Source priority

Select the source to be modified (Wireless mic, Auxiliary, Phone input, Bus console, Security console, Microphone, USB player, IP stream 1, IP stream 2) then validate with **OK**; using the ▲ and ▼ keys, select the level of priority from 0 to 15 then validate with **OK**.

The value 0 corresponds to a prohibition on broadcasting a source, the value 1 is the highest level of priority, the value 15 is the lowest level of priority.

4.18.3.7. Level 3: Enter Menu -> VACIE settings -> Lines settings

This menu allows you to declare which loudspeaker lines are active on the VACIE. Use the **OK** key to select a line then use the ▲ and ▼ keys to activate/deactivate the line then validate with **OK**.

4.18.3.8. Level 3: Enter Menu -> VACIE settings -> Ampli settings

This menu allows you to declare which amplifiers are active on the VACIE. Use the **OK** key to select a line then use the ▲ and ▼ keys to activate/deactivate the line then validate with **OK**.

4.18.3.9. Level 3: Enter Menu -> VACIE settings -> CIE link

Allows you to configure the parameters of the VACIE's link with the CIE.

- **Monitoring:** this parameter allows you to define whether the link is monitored by the VACIE. Select **Yes** or **No** using the ▲ and ▼ keys then validate with **OK**.
- **Type:** this parameter allows the monitoring mode for the link between the CIE and the VACIE to be detected. Select **Voltage** or **Pulse** using the ▲ and ▼ keys then validate with **OK**.



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- **Polarity:** this parameter enables you to determine whether the polarity of the monitoring voltage is in the same direction as the trigger voltage; select **Direct** or **Reverse** using the ▲ and ▼ keys then validate with **OK**.
remark: the Direct direction means that the monitoring voltage generated by the CIE is in the same direction as the polarity of the trigger voltage?
- **Redundancy** (non-operational function): this parameter allows you to define whether the redundancy mode is activated between the CIE and the VACIE; this mode is defined by the use of the 2 AMU interfaces on the CS2700; in this case, their operating mode is shared and defined by the previous parameters (Type and Polarity). Select **Yes** or **No** using the ▲ and ▼ keys then validate with **OK**.
remark: this function is not available and the parameter modifications do not have any effect on system operation (planned for a future version).

4.18.3.10. Level 3: Enter Menu -> VACIE settings -> Modbus client (outside EN54-16 framework)

The VACIE can receive connections from at most 5 Modbus clients; each of these clients has the following parameters:

- **Status:** Active/Inactive
- **Address:** value that can vary from 1 to 247
- **TCP port:** value that can vary from 1 to 65535
- **Protocol:** Modbus TCP or Modbus RTU/TCP
- **TCP RX TimeOut:** value in ms of the timeout on receiving the Modbus frame

4.18.3.11. Level 3: Enter Menu -> VACIE settings -> IP devices (outside EN54-16 framework)

Allows you to configure the IP devices that can be connected to the VACIE; 32 Devices can be created. The parameters associated with a Device are:

- **Label:** this is the name of the IP devices; using the ▲ and ▼ select each alphanumerical character making up the label then validate with **OK**. Each Label can have a maximum of 18 characters.
- **Status:** enables you to define whether the Device is active or not; select **Active** or **Inactive** using the ▲ and ▼ keys and validate with **OK**.
- **IP address:** value of the IP address of the Device in the form xxx.xxx.xxx.xxx; for each field making up the IP address, use the ▲ and ▼ keys, then validate with **OK**.
- **TCP/IP port:** corresponds to the number of the Device's port, from 0 to 65535; use the ▲ and ▼ keys to increment/decrement the port No., then validate with **OK**.
- **Type:** corresponds to the type of Device; select the type **Console**, **Amplifier** or **Audio messaging** using the ▲ and ▼ keys, then validate with **OK**.
- **Associated audio bus:** in the case of a Console type audio bus, enables you to define the audio bus used by the Device; using the ▲ and ▼ keys, select the input from **Bus console**, **Security console**, **IP stream 1** and **IP stream 2** then validate with **OK**.



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- **Monitoring:** defines whether the IP devices is monitored by the VACIE (Yes/No)
- **Fault notif.:** defines whether the IP devices is notified of the faults (Yes/No)
- **Alarm Notif.:** defines whether the IP devices is notified of the voice alarm condition (Yes/No)
- **Voice alarm:** defines whether the IP devices has the right to trigger an evacuation (Yes/No)

4.18.3.12. Level 3: Enter Menu -> VACIE settings -> Backup amplifier

This menu allows you indicate the presence of a backup amplifier.
Select **Yes** or **No** with the ▲ and ▼ keys and validate with **OK**.

4.18.3.13. Level 3: Enter Menu -> VACIE settings -> Access codes

This menu allows the Level 2 and Level 3 access codes to be modified.
Select the **Level 2** or **Level 3** access code and validate with **OK**.
Modify each character making up the code with the ▲ and ▼ keys and validate with **OK**.



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4.18.4. Level 3: Enter Menu > PA configuration

Position the selection cursor on the **PA configuration** item and validate with **OK**.

At access level 2, the configuration items are accessible for consultation only; the display then presents all the configuration items that can be viewed at level 2:

- Audio inputs
- Console keys
- Patch defines
- Fault profiles
- GP Inputs
- GP Outputs
- Audio messaging
- Scheduler
- USB player
- IP stream
- Cntrl Ω LS line
- Synchronization*

*: menus outside EN54-16 framework

4.18.4.1. Level 3: Enter Menu -> PA configuration -> Audio inputs

This menu allows, for each PA audio input (Wireless mic, Auxiliary, Phone input, Bus console), the associated parameters to be chosen: Select the PA input required and validate with **OK**. For the input selected, modify the associated parameters:

- **Status:** enables you to define whether the input is active or not; select **Active** or **Inactive** using the **▲** and **▼** keys and validate with **OK**.
- **Broadcast type:** enables you to define the operating mode of the audio input
 - **Continuous:** the source is broadcast permanently subject to the priority being high enough.
 - **Modulation sense:** the source is broadcast subject to there being a sufficient signal level; select the trigger signal level using the **▲** and **▼** keys, then validate with **OK**; the level may vary from -40dBm to -10dBm.
 - **Other:** enables you to declare, for an audio input, a broadcasting mode other than Continuous or Modulation sense; this is defined elsewhere (used in a patch for example).
- **Patches:** this corresponds to the broadcasting zone of the audio input. Using the **▲** and **▼** key, select the entity chosen: Line (1..6) or Zone (1..64) or General call, then select the parameter (1 to 6 for Lines, 1 to 64 for Zone) and validate with **OK**.
- **Input type:** this parameter is only accessible for the Wireless mic input; it allows the volume of the source connected to be selected between **Input -30db** and **Input 0db**.



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4.18.4.2. Level 3: Enter Menu -> PA configuration -> Console keys

This menu enables you to configure the use that is made of the keys on GX type Bus consoles. The maximum number of keys is 64.

Select the key to be modified using the ▲ and ▼ keys, then validate with **OK**; the parameters available for the key are:

- **Inactive:** the key is not used
- **Line (1..6):** the key is used to select a line of loudspeakers; select the line (1 to 6) using the ▲ and ▼ keys, then validate with **OK**.
- **Zone (1..64):** the key is used to select a zone; select the zone (1 to 64) using the ▲ and ▼ keys, then validate with **OK**.
- **General call:** the key is used to make general calls.

4.18.4.3. Level 3: Enter Menu -> PA configuration -> Patch define

This menu displays the associated parameters for each patch declared:

- **Label:** name of the patch Using the ▲ and ▼ keys select each alphanumerical character making up the label then validate with **OK**. Each Label can have a maximum of 20 characters.
- **Source:** audio source used for the patch. Select Voltage or Pulse using the ▲ and ▼ keys then validate with **OK**.
- **Lines/Zones:** output entity used for the patch: Line (1..6), Zone (1..64) or General Call. Using the ▲ and ▼ keys, select the entity chosen, then for that entity select the parameter (1 to 6 for Lines, 1 to 64 for Zone) and validate with **OK**.

4.18.4.4. Level 3: Enter Menu -> PA configuration -> Fault profiles

This allows you to create synthetic faults; a synthetic fault is an entity constituted from the list of faults, which are linked by the logical condition "OR". After choosing a synthetic fault (Fault 1 to Fault 32) using the ▲ and ▼ keys, and validating with **OK**, select from each family of faults (System Fault, Amplifier Fault, Line Fault, Zone Fault) the basic faults that will enter into the composition of the synthetic fault. In each family of faults, all the basic faults are displayed; use the ▲ and ▼ keys, then the **OK** key to validate/de-validate the fault or the amplifier number or the line No. or the zone number:

- **System Faults:** list of the non-amplifier, line or zone faults
- **Amplifier faults:** amplifier Nos. (1..6)
- **LS line faults:** line Nos. (1..6)
- **Zone faults:** zone Nos. (1..64)

4.18.4.5. Level 3: Enter Menu -> PA configuration -> GP Inputs

This menu enables you to configure the associated parameters for each GPI (GPI 1, GPI 2, GPI 3, GPI 4):



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- **Status:** enables you to activate/deactivate the GPI; select **Active** or **Inactive** using the ▲ and ▼ keys and validate with **OK**.
- **Polarity:** enables you to choose the activation polarity for the GPI; select **Positive** or **Negative** using the ▲ and ▼ keys then validate with **OK**.
- **Pulse mode:** enables you to choose the pulse mode of operation for the GPI; select **Yes** or **No** using the ▲ and ▼ keys then validate with **OK**.
- **Linked action:** enables you to choose the action that will be associated with the GPI:
 - **Patch apply:** Identifier of the patch that will be executed when the GPI is activated.
 - **GPO drive:** No. of the GPO that will be activated when the GPI is activated.
 - **Console display:** Bus console, Security console
 - *Key number:* key whose indicator light will be activated to indicate the activation of the GPI.
 - **Level adjust:**
 - *Level:* from 0db to -90dB in steps of 1dB
 - *Lines/Zones:* Lines (1..6), Zones (1..64), General Call

4.18.4.6. Level 3: Enter Menu -> PA configuration -> GP Outputs

This menu enables you to configure the associated parameters for each GPO (GPO 1, GPO 2, GPO 3, GPO 4):

- **Status:** enables you to activate/deactivate the GPO; select **Active** or **Inactive** using the ▲ and ▼ keys and validate with **OK**.
- **Inactive state:** enables you to configure the "Inactive" Status of the GPO; select Rest or Work using the ▲ and ▼ keys and validate with **OK**.
- **Linked action:** enables you to choose the action that will cause the activation of the GPO; the possible actions are linked to a Status of occupancy (Occupants), or to a fault indication (Fault transfer), or an activation linked to an action on a key on a console (Status console key), or to the activation of voice alarm conditions.
 - **Occupants:**
 - *Patches:* select the patch identifier using the ▲ and ▼ keys, then validate with **OK**.
 - *Source:* select the source using the ▲ and ▼ keys, then validate with **OK**; if the source is Messages, then select the message whose broadcasting will activate the GPO.
 - *Lines/Zones:* output entity whose occupancy by any source will activate the GPO. Using the ▲ and ▼ key, select the entity chosen: Line (1..6) or Zone (1..64) or General call, then select the parameter (1 to 6 for Lines, 1 to 64 for Zone) and validate with **OK**.



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- **Fault transfers:** this selection enables you to define which fault on the VACIE will activate the GPO: select the identifier of the fault using the ▲ and ▼ keys, then validate with **OK**.
- **Console PB transfer:** this selection enables you to define which console key can activate the GPO. Select the type, Bus console or Security console, using the ▲ and ▼ keys and validate with **OK**; then select the key using the ▲ and ▼ key, and validate with **OK**;
- **Voice Alarm Transfer:** enables a GPO to be activated when the voice alarm condition applies.

4.18.4.7. Level 3: Enter Menu -> PA configuration -> Audio messaging

This menu enables you to configure the parameters associated with the messages; for each message, the following parameters are accessible:

- **Label:** the label corresponds to the name of the message; first of all select a message from 1 to 32 using the ▲ and ▼ keys, then validate with **OK**; then using the ▲ and ▼ keys, select each alphanumerical character making up the label, then validate with **OK**. Each Label can have a maximum of 18 characters.
- **Device:** for each message, enables you to define where it is stored: select **SD card** or **USB port** using the ▲ and ▼ keys, then validate with **OK**.
- **.wav file:** defines the audio file that will be associated with the message. After selecting **.wav file** and validating with **OK**, the VACIE displays the files available on the Device selected; use the ▲ and ▼ keys to choose the file and validate with **OK**.
- **Source type:** enables you to configure the first level of priority of the message chosen. Use the ▲ and ▼ keys to choose the **Music** or **Speech** level of priority and validate with **OK**.
- **Priority:** enables you to define the priority value for the message chosen; use the ▲ and ▼ keys to choose the priority value between 0 and 15 and validate with **OK**.



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4.18.4.8. Level 3: Enter Menu > PA configuration -> Scheduler

This menu gives access to all the parameters enabling the programmed functions to be used.

Each program is identified by a name and has a set of parameters defining its operation; 32 programs are available and they each have the following parameters:

- **Label:** this is the name of the program ; using the ▲ and ▼ select each alphanumerical character making up the label then validate with **OK**. Each Label can have a maximum of 18 characters.
- **Status:** enables you to activate/deactivate the program ; after choosing a program, select **Active** or **Inactive** using the ▲ and ▼ keys and validate with **OK**.
- **Dates:** 2 dates define the start and end of program validity. In both cases, the date is presented in the form DD/MM/YYYY where DD is the day of the month (from 01 to 31), MM is the month of the year (from 01 to 12) and AAAA is the year. Select each digit making up the date using the ▲ and ▼ keys and then validate with **OK**.
 - **Start date:** beginning of program validity in the form DD/MM/YYYY
 - **End date:** end of program validity in the form DD/MM/YYYY
- **Week days:** this parameter enables you to indicate the Week days when the program applies. For each day of the week selected from Monday to Sunday, use the ▲ and ▼ keys to activate/deactivate the day, then validate with **OK**.
- **Hours:** 2 Hours are used to define the start and end of program validity over one day. In both cases, the time is presented in the form hh:mm:ss where hh is the hour (from 00 to 23), mm is the minutes (from 00 to 59) and ss is the seconds (from 00 to 59). Select each digit making up the time using the ▲ and ▼ keys and then validate with **OK**.

The Periodicity parameter enables you to repeat the execution of a program over a duration of 24 hours. Select each digit making up the periodicity using the ▲ and ▼ keys and then validate with **OK**.

 - **Start hour:** time when the program starts, in the form HH:MM:SS
 - **End hour:** time when the program ends, in the form HH:MM:SS
 - **Period time 24H:** indicates the repeat interval associated with the program in the form HH:MM:SS
- **Linked action:** this menu enables you to configure the type of action that will be associated with the program, either **Patch apply** or **Level adjust**.
 - **Patch apply:** name of the patch associated with the program: select the patch using the ▲ and ▼ keys, then validate with **OK**.
 - **Level adjust:** this action enables you to define a Level adjust for an output on the VACIE. 2 parameters must be configured: Level and Lines/Zones. Select the parameter using the ▲ and ▼ keys then validate with **OK**.
 - **Level:** this is the value of the level to be applied, from -90dB to 0dB in steps of 1dB; select the value using the ▲ and ▼ keys, then validate with **OK**.



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- **Lines/Zones:** this is the VACIE output to which the level modification will be applied. Using the ▲ and ▼ key, select the entity chosen: Line (1..6) or Zone (1..64) or General call, then select the parameter (1 to 6 for Lines, 1 to 64 for Zone) and validate with **OK**.

- **GPO drive:** enables you to choose the GPO or GP Outputs that will be activated when the program is executed.

4.18.4.9. Level 3: Enter Menu -> PA configuration -> USB player

This menu enables the operating parameters to be defined for the USB player:

- **Mode:** this parameter describes the USB player's broadcasting mode; using the ▲ and ▼ keys, choose the mode you want, then validate with **OK**.
 - **Inactive:** parameter used so as not to automatically broadcast the sound files when a USB medium is inserted.
 - **Sequential:** parameter used to broadcast the sound files contained on the USB medium in a sequential order (alphabetical order) .
 - **Random:** parameter used to broadcast the sound files contained on the USB medium in a random order.
- **Lines/Zones:** corresponds to the VACIE outputs on which the sound files will be broadcast. Using the ▲ and ▼ key, select the entity chosen: Line (1..6) or Zone (1..64) or General call, then select the parameter (1 to 6 for Lines, 1 to 64 for Zone) and validate with **OK**.

4.18.4.10. Level 3: Enter Menu -> PA Config -> IP stream (outside EN54-16 framework)

This menu configures the parameters allowing IP streaming to operate on the VACIE; for each of the 2 streams **IP stream*1** and **IP stream2***, the parameters are:

- **Status:** enables streaming to be activated, or not, on the port
- **RTP port:** corresponds to a port No. receiving an IP audio stream (value from 1 to 65535).

This function is outside the EN54-16 certification framework.



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4.18.4.11. Level 3: Enter Menu -> PA Configuration -> Cntrl Ω LS line

This menu gives access to the consultation of the parameters linked to the Impedance measurement function's operating mode. These parameters concern the operation in automatic mode of impedance measurement (Scheduler menu) and the measurement parameters specific to each line (Config LS lines menu).

▪ Scheduler

- **Status:** defines whether the measurement mode program is active or not (Active/Inactive)
- **Start hour:** value in the form hh :mm
- **Period time 24H:** measurement periodicity value, to be chosen from 1h, 2h, 4h, 6h, 8h, 12h, 24h.

▪ Config LS lines

- **Status:** defines whether impedance measurement is active or not for the LS line in question (Active/Inactive).
- **Measurement frequency:** defines the frequency at which the impedance measurement is done: Medium (1kHz)/High (19kHz)
- **Measurement delta:** defines the maximum difference (as a %) permissible between the value measured and the value calibrated before detecting a fault (10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%)
- **Modulation type:** defines whether the measurements are done attenuating or cutting off the modulation (Attenuation/Mute)
- **Verif. 1kHz:** defines whether a further measurement at 1kHz must be done (Active/Inactive)

4.18.4.12. Level 3: Enter Menu -> PA Config -> Synchronization (outside EN54-16 framework)

The Synchronization function allows synchronization of the broadcasting of the evacuation message to be guaranteed when sites have several VACIEs (this function is outside of the EN54-16 certification framework)

Displays the Status of the function (Active/Inactive)



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4.18.5. Level 3: Enter Menu -> System

This menu includes the following items:

- **Network:** enables you to configure the parameters associated with the Ethernet connection
 - **DHCP Config:** activates or deactivates the search for a DHCP server.

Important: if Network config. is used (see below), the DHCP must be deactivated or this could lead to a malfunction.
 - **Network config.:** enables you to define the static IP parameters:
 - IP address: value of the IP address in the form xxx.xxx.xxx.xxx; for each digit making up the IP address, use the ▲ and ▼ keys, then validate with **OK**.
 - Netmask: value of the netmask configured; for each digit making up the netmask, use the ▲ and ▼ keys, then validate with **OK**.
 - Network gateway: value of the network gateway configured; for each digit making up the network gateway, use the ▲ and ▼ keys, then validate with **OK**.
 - **Network status:** this item displays the real network parameters
 - IP address: value of the current real IP address
 - Netmask: value of the current real network mask
 - Network gateway: value of the current real network gateway
 - MAC address: value of the MAC address
- **About:** displays the information associated with the VACIE's hardware and software version:
 - ID: VACIE identifier in hexadecimal form (4 bytes)
 - Version: software version in the form xx.yy
 - Ver. Funct.: functional version in the form xx.yy
 - Driver Ver: driver version in the form xx.yy
 - CRC Prog: CRC of software in hexadecimal form (4 bytes)
 - CRC Conf: CRC of the Configuration in hexadecimal form (4 bytes)
 - CRC Alar: CRC of the evacuation message in hexadecimal form (4 bytes)
 - PCB ver : version of internal board
- **Flash update**

Press **OK** to update the VACIE software and follow the instructions that appear on the screen
- **Config. reset**

Press **OK** to carry out a configuration reset , which corresponds to the restoration of the default configuration.



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- **CRC reset**
Press **OK** to carry out a reset of all the CRCs on the VACIE.
- **Reboot**
Press **OK** to Reboot the VACIE.
- **Enter Level 4**
Manufacturer access.

4.18.6. Level 3: Enter Menu -> Preferences

This menu includes the items:

- **Languages:** enables you to select the language currently used on the HMI from French, English, Italian and Spanish.
Use the **▲** and **▼** keys to choose the language and validate with **OK**.
- **LCD display:** displays the times to go into standby
 - **Backlight off delay:** enables you to determine the time until the display backlighting goes out: the value may vary between 0 (will not go out) and 300s.
Select the value with the **▲** and **▼** keys and validate with **OK**.
 - **LCD power off delay:** enables you to determine the time until the display goes off: the value may vary between 0 (will not go off) and 300s.
Select the value with the **▲** and **▼** keys and validate with **OK**.

4.18.7. Level 3: Enter Menu -> Cntrl Ω LS line

This menu allows you to view the Status of the impedance values for the loudspeaker lines (**Status**) and also enables the actions linked to the measurements (**Measurement** menu) and calibration (**Calibration** menu) of the lines.

The menu includes the following items:

- **Status:** for each loudspeaker line (from L01 to L06), this displays the information Ω CAL (acquired impedance), Ω MES (last impedance value measures) and P(W) (last value measured of the load in W represented by all the loudspeakers in the line), Ω M (value of the impedance measured at Medium frequency, 1kHz), Ω H (value of the impedance measured at High frequency 19kHz)
- **Measurement:** select the loudspeaker line (**LS line**) or all the lines (**All LS lines**) and validate with OK.
- **Calibration:** select the loudspeaker line (**LS line**) or all the lines (**All LS lines**) and validate with OK.



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4.19. Preventive maintenance

4.19.1. System test

At least once a year, carry out a functional test of the installation.

4.19.2. Changing the batteries

The lifespan of the batteries in normal conditions of use is 4 years, so their charge status should be checked regularly.

4.19.3. Updating the VACIE firmware

The VACIE firmware can be updated in level 3 access via the Ethernet interface. The menu can be found in **Enter Menu -> System -> Flash update**. Follow the instructions that appear on the display.



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5. ANNEX I

5.1. Example of how to use the patches

5.1.1. Command to broadcast the AUX input on line No. 3 by GPI No. 1

GPI No. 1 will be controlled in positive polarity, in non-pulse mode. We will use patch No. 1.

5.1.1.1. Creation of the patch

Level 3: Enter Menu -> PA configuration -> Patch define -> Patch 1

Patch 1:

| | |
|--------------|-----------|
| Label = | Patch 01 |
| Source = | Auxiliary |
| Lines/Zone = | Line 3 |

5.1.1.2. Configuration of the Auxiliary input

Level 3: Enter Menu -> PA configuration -> Audio inputs -> Auxiliary

Auxiliary:

| | |
|------------------|--------------------------------|
| Status = | Active |
| Broadcast type = | Other |
| Patch = | Line 1 (parameter indifferent) |

5.1.1.3. Configuration of the GPI

Level 3: Enter Menu -> PA configuration -> GP Inputs -> GPI 1

GPI 1:

| | |
|-----------------|-------------|
| Status = | Active, |
| Polarity = | Positive, |
| Pulse mode = | No |
| Linked action = | Patch apply |
| Patch apply = | Patch 1 |

Check execution of the patch by activating GPI No. 1 and checking that in the Matrix Status menu (Level 1 -> Enter Menu -> Matrix Status) the "♪" symbols appears on the Aux line in column 3.



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5.1.2. Single daily broadcasting at a fixed time of a message stored on a USB medium

The message to be broadcast corresponds to a .wav file called "Ring 1.wav" and it is stored on a USB stick in the USB stick's "messages" directory. It will be broadcast as a General Call at 8.30 every morning from Monday to Friday inclusive over the period from 03/09/2015 to 23/06/2016.

Ensure that the level of priority chosen for the message guarantees that it will be broadcast at the planned time (choice of Speech or Music and priority value).

5.1.2.1. Creation of the message

We associate the "Ring 1.wav" audio file with Message 1.

Level 3: Enter Menu -> PA configuration -> Audio messaging -> Message 1

Message 1:

| | |
|------------------|---|
| Label = | Message 01 |
| Device = | USB port |
| wav file = | Ring 1.wav (to be selected from the list displayed) |
| Type of source = | Speech |
| Priority = | 06 |

5.1.2.2. Creation of the patch

Patch No. 1 will associate Message 1 with the General call

Level 3: Enter Menu -> PA configuration -> Patch define -> Patch 1

Patch 1:

| | |
|--------------|----------------------|
| Label = | Patch 01 |
| Source = | Message -> Message 1 |
| Lines/Zone = | General call |

5.1.2.3. Scheduler configuration

Level 3: Enter Menu > PA configuration -> Scheduler -> Program 1

Program 1:

| | |
|-------------------|--|
| Label = | Program 01 |
| Status = | Active |
| Dates | |
| Start date = | 03/09/2015 |
| End date = | 23/06/2016 |
| Week days = | Monday, Tuesday, Wednesday, Thursday, Friday |
| Hours | |
| Start hour = | 08 :30 :00 |
| End hour = | 23 :59 :00 |
| Period time 24H = | 00 :00 :00 |
| Linked action = | Patch apply -> Patch 1 |



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Check the patch has been executed by checking at the scheduled time and ensuring that in the Matrix Status menu (Level 1 -> Enter Menu -> Matrix Status) the "♪" or "■" symbol appears on the USB player line in columns 1, 2, 3 and 4 (depending on the configuration of the number of amplifiers).



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5.1.3. Repeated and daily triggering of a message stored on a USB medium by the Scheduler

The message to be broadcast corresponds to a .wav file called "Vigipirate.wav" and it is stored on a USB stick in the USB stick's "messages" directory. It will be broadcast as a General Call from 8.30 to 19.00 every day from Monday to Saturday inclusive over the period from 01/01/2015 to 31/12/2015.

Ensure that the level of priority chosen for the message guarantees that it will be broadcast at the planned time (choice of Speech or Music and priority value).

5.1.3.1. Creation of the message

We associate the "Vigipirate.wav" audio file with Message 1.

Level 3: Enter Menu -> PA configuration -> Audio messaging -> Message 1

Message 1:

| | |
|------------------|---|
| Label = | Message 01 |
| Device = | USB port |
| wav file = | Vigipirate.wav (to be selected from the list displayed) |
| Type of source = | Speech |
| Priority = | 06 |

5.1.3.2. Creation of the patch

Patch No. 1 will associate Message 1 with the General call

Level 3: Enter Menu -> PA configuration -> Patch define -> Patch 1

Patch 1:

| | |
|--------------|----------------------|
| Label = | Patch 01 |
| Source = | Message -> Message 1 |
| Lines/Zone = | General call |


5.1.3.3. Scheduler configuration

Level 3: Enter Menu > PA configuration -> Scheduler -> Program 1

Program 1:

| | |
|-------------------|--|
| Label = | Program 01 |
| Status = | Active |
| Dates | |
| Start date = | 01/01/2015 |
| End date = | 31/12/2015 |
| Week days = | Monday, Tuesday, Wednesday, Thursday, Friday |
| Hours | |
| Start hour = | 08 :30 :00 |
| End hour = | 19 :00 :00 |
| Period time 24H = | 01 :00 :00 |
| Linked action = | Patch apply -> Patch 1 |

Check the patch has been executed by checking at the scheduled time and ensuring that in the Matrix Status menu (Level 1 -> Enter Menu -> Matrix Status) the "♪" or "■" symbol appears on

| | | |
|--|--|--|
|  | <p style="text-align: center;">VACIE range Vulca Voice and Serenity Voice User's Manual</p> | <p>Ref: 596385 Date: 04/11/2015 Version: 1</p> |
|--|--|--|

the USB player line in columns 1, 2, 3 and 4 (depending on the configuration of the number of amplifiers).



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5.1.4. Programming of a sound level attenuation command

It may be necessary in certain cases to reduce the sound level of PA broadcasts for a certain period (case of outdoor installations where there is a risk of noise nuisance).

The example described below attenuates the sound level over all the zones from 22.00 to 07.00 the next day every day of the week from 30/06/2015 to 01/09/2015. It uses program 2.

5.1.4.1. Scheduler configuration

Level 3: Enter Menu > PA configuration -> Scheduler -> Program 2

Program 2:

| | |
|---------------------------------|---|
| Label = | Program 02 |
| Status = | Active |
| Dates | |
| Start date = | 30/06/2015 |
| End date = | 01/09/2015 |
| Week days = | Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday |
| Hours | |
| Start hour = | 22 :00 :00 |
| End hour = | 07 :00 :00 |
| Period time 24H = | 00 :00 :00 |
| Linked action = Level adjust -> | |
| Level adjust | |
| Level: | -40 (enter value of the level required) |
| Lines/Zone: | General Call |

Check the patch has been executed by checking at the scheduled time that the PA broadcast has been attenuated by the intended value in all the zones.



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5.1.5. Programming the activation/deactivation of a GPO every day at a fixed time

The example described below activates GPO No.3 every day at 8.30 and deactivates it at 19.00. It uses program 3.

5.1.5.1. Scheduler configuration for the activation of GPO No. 3

Level 3: Enter Menu > PA configuration -> Scheduler -> Program 3

Program 3:

| | |
|-------------------|---|
| Label = | Program 03 |
| Status = | Active |
| Dates | |
| Start date = | 01/01/2015 |
| End date = | 31/12/2015 |
| Week days = | Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday |
| Hours | |
| Start hour = | 08 :30 :00 |
| End hour = | 19 :00 :00 |
| Period time 24H = | 00 :00 :00 |
| Linked action = | GPO drive -> GPO No. 3 |

Check the patch has been executed by checking at the scheduled time that GPO No. 3 is activated.