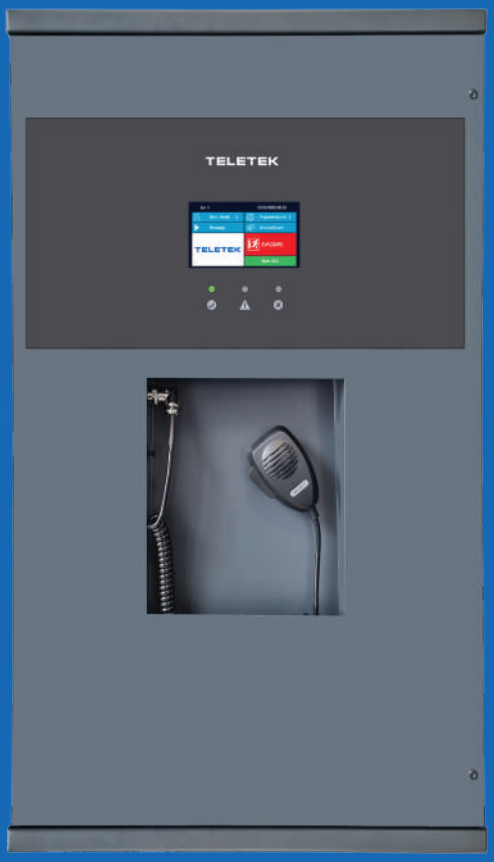
EN

Installation, Programming
and Operation Manual

SPIKA



MODELS
SPIKA-2, SPIKA-4, SPIKA-6

TELETEK

Register of versions

DATE	VERSION	Number	NOTES
13/10/2023	Rev A	18021311	Document content approved

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1. Key to Symbols

Several icons used in the manual to focus attention on some aspects of particular importance are described in this section.



USEFUL INFORMATION
This symbol identifies useful information for using, managing or configuring the control panel.



SUGGESTION FOR APPLICATION
This symbol identifies an example or suggestion which may be useful for understanding a specific aspect of the control panel.



DANGER/CAUTION
This symbol identifies an aspect, a function or an action which requires particular care and attention as negligence could lead to a hazardous situation, malfunctioning or a change in control panel performance.



RISK OF ELECTRIC SHOCK
This symbol identifies a situation in which the user/maintenance technician/installer could be exposed to the risk of an electric shock.

Accessibility to the control panel, its operation, its configuration and its connections is required for specific individuals. In this manual, the three individuals authorised to access the control panel are identified by the following symbols to which the corresponding roles are assigned.

Access to the functions to which the three individuals listed refer is password-protected.

A fourth access level is reserved for the control panel manufacturer.



ACCESS LEVEL 3 - INSTALLER OR MAINTENANCE TECHNICIAN
is the person who sets, configures, installs and wires the system and provides the required technical support.

ACCESS LEVEL 2 - SAFETY PERSONNEL
is the person able to send alarm messages.



ACCESS LEVEL 1 - USER
is the person responsible for using the control panel at access level 1. They can only view the status, adjust the auxiliary input volume and broadcast non-alarm messages.



Access to the control panel by the three individuals identified above is not exclusive, but is intended as a cascade feature, i.e. where user access is indicated, the safety personnel and installer can also gain access; where the safety personnel has access, those areas will also be available to the installer but not the user; where access is indicated for the installer, neither the safety personnel nor the user will be able to access that area.

2. Warning

In order to use the equipment properly and effectively, it is important to be familiar with all its features by reading these instructions and warnings carefully.

1. MANUAL
Keep this manual for future reference.
Every SPIKA control panel will have an adhesive label with a number of instruction manual this and other information relating to the product. Refer to this number and download the manual from the included USB flash drive or from the official web site - www.teletek-electronics.com

2. POWER SUPPLY AND GROUNDING
These appliances are designed for operation with mains voltage at 230 VAC +10% / -15% 50/60 Hz and direct current power supply at 24 VDC sourced from internal batteries.

a. They must be connected, according to low voltage standards, to a bipolar differential thermomagnetic switch dedicated exclusively to the equipment which must remain accessible for disconnection purposes.

b. They must always be connected to a grounding system in compliance with legal requirements.

c. Reverse polarity connection of the power supply in direct current may damage the equipment or the mains power supply.

3. SAFETY NOTES
The appliances are constructed in full compliance with the most stringent international safety standards and in accordance with European Community requirements.

a. The equipment must not be exposed to water or splashes. Do not use liquid detergents or sprays for cleaning. Do not expose this equipment to damp or humid areas.

b. The grilles are used for ventilation and must not be covered. Leave 10 cm on each side for proper ventilation.

4. INSTALLATION
Please refer to the installation section for information regarding the relevant procedures reserved exclusively for specialised and trained personnel.

5. FAULTS OR MALFUNCTIONS

a. The equipment should only be opened by qualified or trained personnel.

b. If one of these situations arises, only let qualified personnel check the equipment:

i. The power supply cable is damaged.

ii. There is liquid inside the equipment and/or the equipment has been exposed to humidity.

iii. If the equipment shows obvious signs of damage.

iv. The equipment does not work, or does not work properly.



6. DISPOSAL OF THE PRODUCT
In accordance with European Directive 2012/19/EU, the WEEE symbol (a crossed-out wheelie bin) on the device indicates that at the end of its useful life, the product must under no circumstances be disposed of using general waste channels, but should be taken to specific containers at local environmental collection centres or to equipment dealers offering this service.
WEEE products are not biodegradable and contain substances that are extremely toxic to the environment and therefore proper disposal is required so that the materials used in their construction can be retrieved.

3. Standards and Conformities

The SPIKA integrated voice evacuation control panel is designed in compliance with standards EN 54-16 and EN 54-4 and is certified in accordance with CPR (Construction Products Regulation) requirements.

This product conforms to the applicable European Community Directives.

CE 23
0068

Teletek Electronics JSC

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DOP: 247

0068-CPR-179/2023

EN 54-16:2008
EN 54-4:1997+A1:2002+A2:2006

SPIKA

Power Supply: 230 VAC, 50/60 Hz

Functions with requirements

7.3	Audible Alert
7.6.2	Manual silencing of the voice alarm condition
7.7.2	Manual reset of the voice alarm condition
7.9	Voice alarm condition output
8.3	Indication of faults relating to the transmission route to the CIE
8.4	Indication of faults relating to voice alarm system zones
10	Manual control of the voice alarm system
12	Emergency microphone
13.14	Redundant power amplifiers

4. General Description of the SPIKA panel

4.1. Introduction

The SPIKA series of compact control panels includes three integrated voice evacuation panels for emergency systems, specifically designed for wall mounting and equipped with a control unit certified as compliant with the requirements of standards EN 54-16:2008 and EN 54-4, plus the EMC and LVD Directives.

Depending on the model, these control panels can manage 1 to 6 alarm zones, which can be controlled via 1 or 2 amplifiers, microphone stations, supervised inputs for connection to a fire protection panel and PTT microphones.

The available SPIKA models are shown below:

MODEL	POWER (1)	A/B ZONES (2)	SPARE AMP (3)
SPIKA-2	250W + 250W	1/2	YES/NO
SPIKA-4	500W	4	YES
SPIKA-6	500W	6	YES

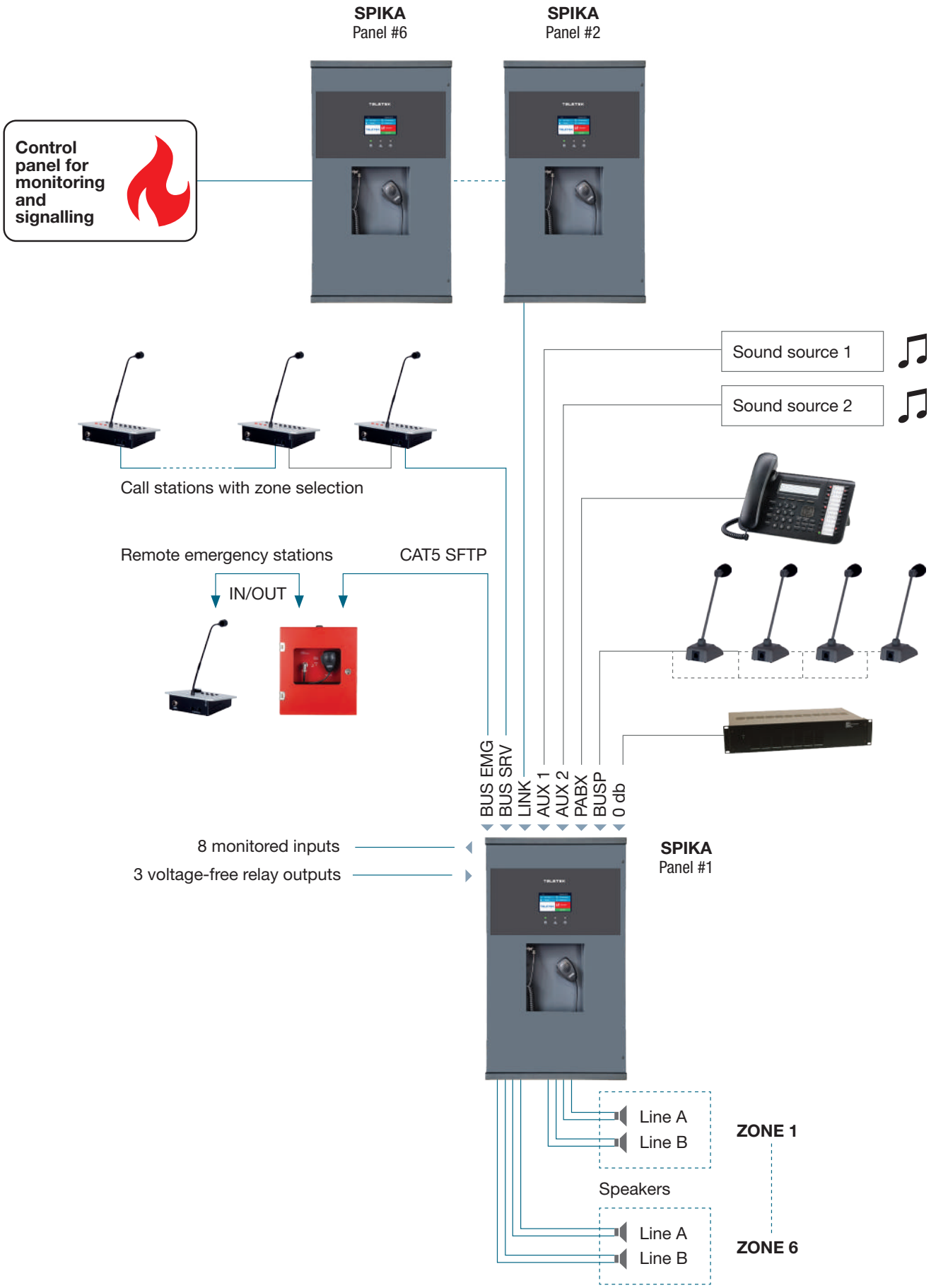
1. POWER: total power delivered by the control panel. May be distributed over one or more zones.

2. A/B ZONES: maximum number of zones available on the control panel, depending on the model.

3. SPARE AMP: amplifier which takes over from the main device in the event of a fault, to guarantee the sending of emergency messages.

Up to 6 control panels can be connected to one another to make a total of up to 36 A/B zones.

4.2. Configuration Type



4.3. Main Functional Specifications

- Nominal audio power from 250W to 500W in total, which can be distributed freely across the zones
- Option of controlling up to 6 zones with a dual line (backbone) A/B, broadcasting background music and making announcements through 7 different types of microphone stations
- 4.3” backlit TFT-display with touchscreen for configuring the control panel with 4 access levels, fault display, volume adjustment for the various zones, selection and sending of alarm messages and pre-recorded commercials, for triggering the system emergency mode, for playing MP3 files, for silencing the audible fault alert and the alarm message playback in individual zones
- Hand-held front VVF microphone, PTT (push-to-talk) type
- Speaker (~1 W) for local verification of the audio played in the various zones
- 8 monitored input contacts for activating playback of evacuation and/or alert messages in the zones programmed as desired
- 2 analogue audio inputs AUX1 and AUX2, RCA type, for connecting external audio sources such as CD players, radio, internet radio, etc.
- 1 analogue audio input associated with priority contact for connection of one of the following:
  - PABX input (4-pole terminal for balanced audio input + non-monitored input)
  - Input from pre-amplified Microphone Base with RJ-25 connector
- 3 configurable relay outputs
- 1 audio signal output, 0 dB, for connection to high-fidelity system
- Option of connecting up to 7 microphone stations powered locally
- Option of connecting up to 2 emergency microphone stations powered by the control panel
- Option of connecting up to 8 microphone stations SPIKA-SRM powered by the control panel
- Option of connecting up to 6 control panels for a maximum of 36 A/B zones via BUS RS-485 channel
- Independent volume control for each zone
- 2 front USB ports for playback of two different MP3 files (this can be simultaneous) in separate zones as desired
- Signal equalising for each audio source
- Practically unlimited number of addressable messages for the zones up to the capacity limit of the micro-SD card
- Continuous monitoring of the microphone capsules at the microphone stations
- Log in the internal memory for events relating to the control panel: power-on, faults, voice alarms, etc.
- USB port to make it easier for qualified personnel to update the firmware and save/restore the configuration
- Ethernet port for future implementations
- Automatic switching in the event of a power amplifier fault (function not available in model SPIKA-2 configured with 2 zones)

4.4. Front Panel

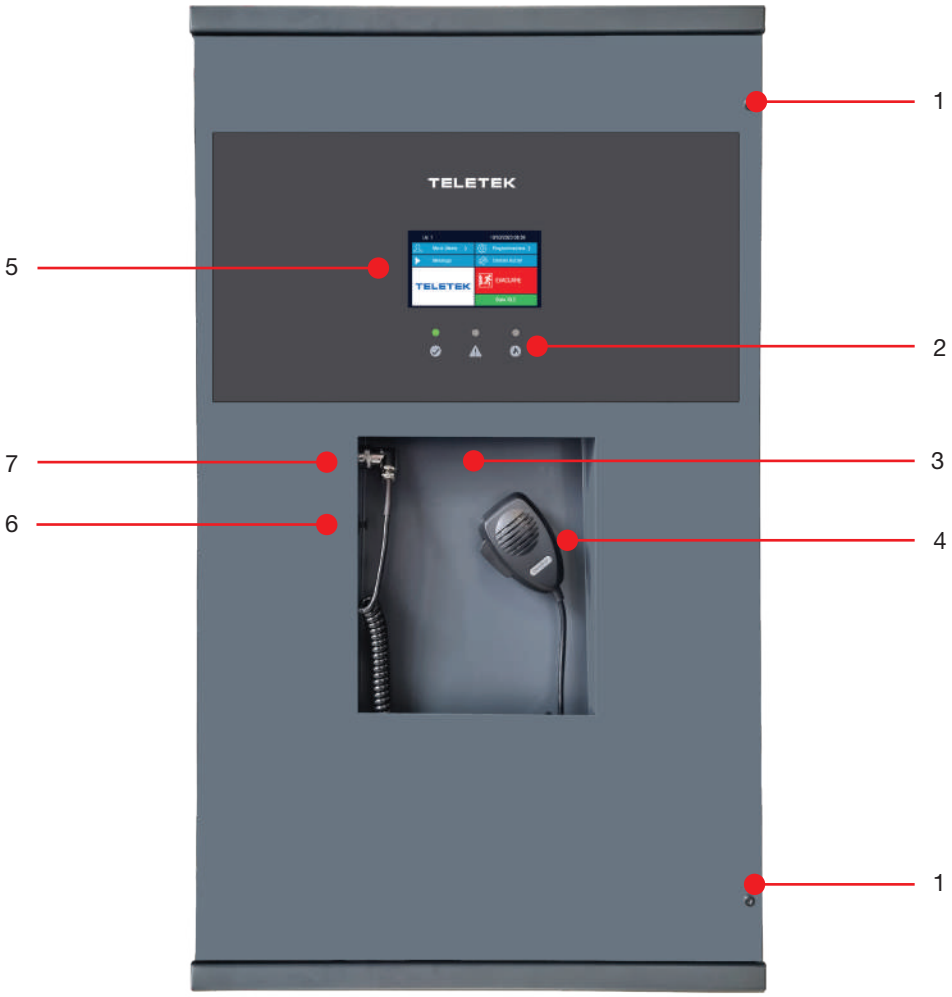


FIGURE	ELEMENT	ACTION
1	FASTENING SCREWS	2 screws used to shut the control panel door
2	STATUS LEDS	3 LEDs indicating the control panel status: Power, Fault, Alarm
3	MONITOR BOX	Built-in speaker for local verification of the audio played in the various zones
4	VVF	PTT hand-held microphone (push-to-talk)
5	DISPLAY	4.3” TFT touchscreen for configuration and use of the control panel
6	USB2	USB port for playback of MP3 files; to access it, just pull out the protected cap (this can be at the same time as USB1)
7	USB1	USB port for playback of MP3 files; to access it, just pull out the protected cap (this can be at the same time as USB2)

4.5. View of the Inside

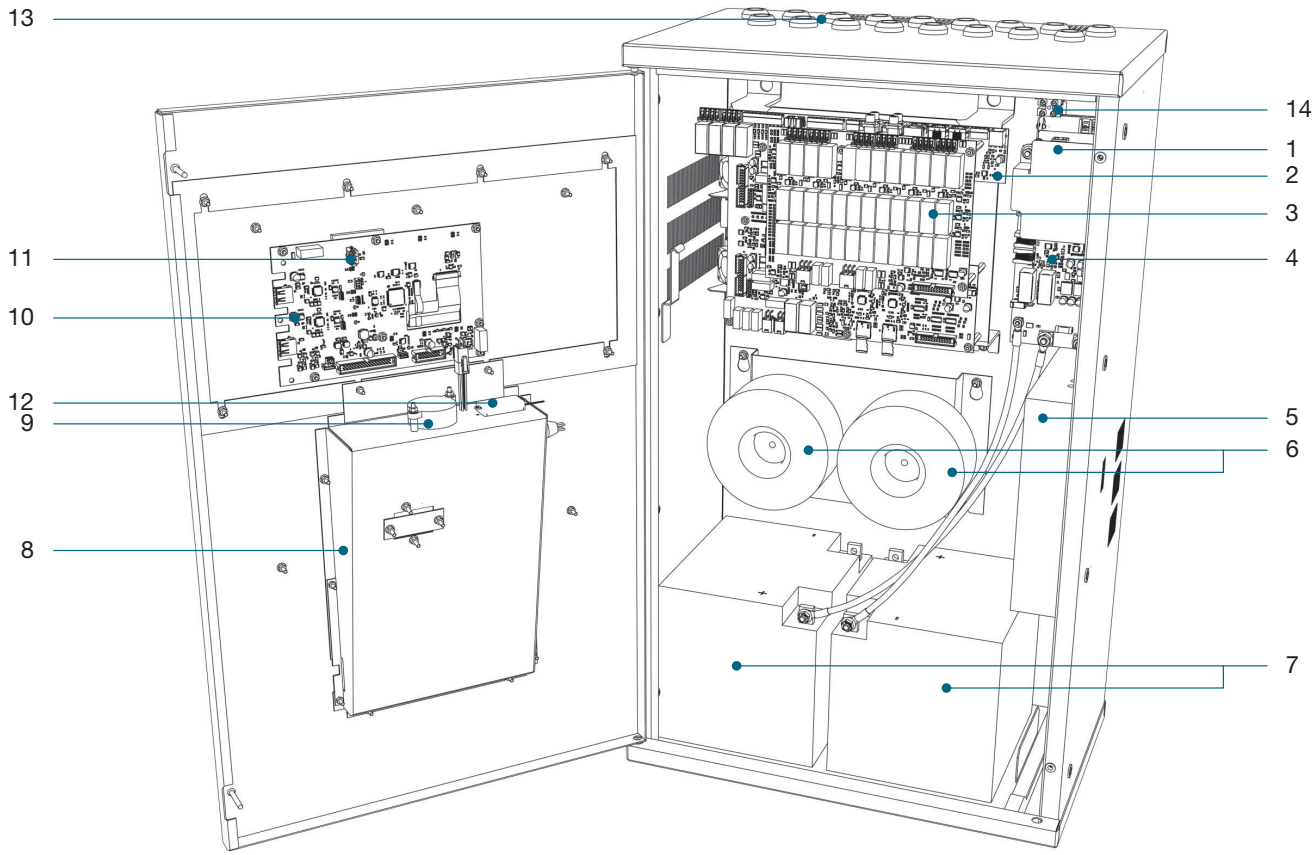


FIGURE	ELEMENT	DESCRIPTION
1	POWER SUPPLY UNIT	230 (protected with back cover) - 24 Vdc power supply unit
2	MAIN BOARD	Motherboard (see item 4.6.)
3	ZONE BOARD	Board with 2 to 6 zones according the model (see item 4.7.)
4	PM544	UPS card, according EN 54-4 standards
5	INVERTER	600 W inverter
6	TRANSFORMERS	8R audio transformers 100 V-70 V-50 V-35 V
7	BATTERIES	Place for 2 x12 V 42 Ah batteries
8	RECESS*	PTT housing space and 2 USBs
9	BUZZER*	Buzzer for indicating faults
10	HMI**	Graphics card interface and display
11	USB**	USB port for firmware updates and control panel configuration backup
12	MONITOR BOX*	Built-in speaker for verification of the audio played in the various zones
13	ROUTING HOLES	Cable routing holes, protected with rubber caps.
14	TERMINAL BLOCK	Terminal block for connection of 230 VAC main power supply

* Protected with back cover

** Protected with metal cover. To access the USB port for firmware updates, remove the protected metal cover.

4.6. Motherboard

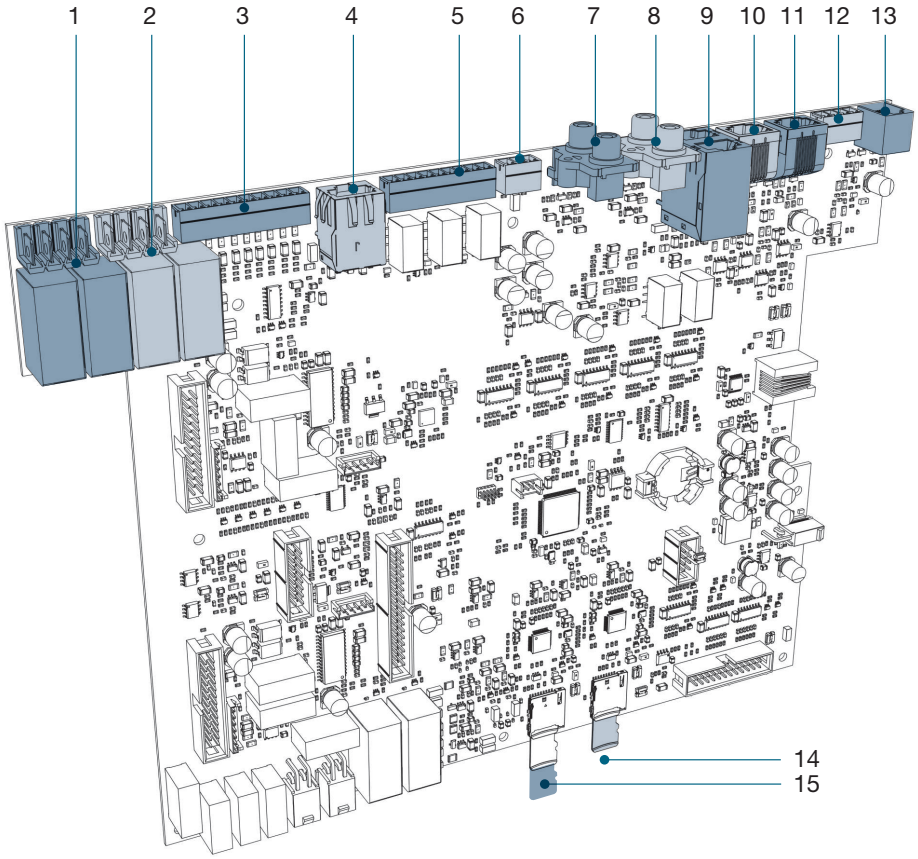
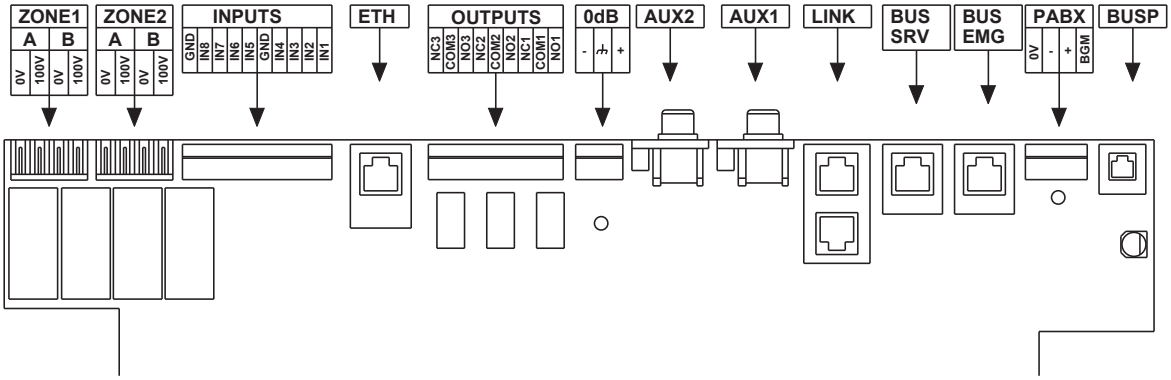


FIGURE	TERMINAL	ELEMENT	ACTION
1	J10a	ZONE 1	Connector for first zone in model SPIKA-2
2	J10b	ZONE 2	Connector for second zone in model SPIKA-2
3	J5	SUPERVISED INPUTS	8 monitored inputs. 1…8 from left to right
4	T1	ETHERNET	RJ45 Ethernet port for future use
5	J6	OUT	3 voltage-free relay outputs 1...3 from right to left
6	J12	0 dB	0 dB output for connection to a high-fidelity audio playback system or sub-woofer
7	J4	AUX2	RCA connector for music input
8	J3	AUX1	RCA connector for music input
9	J1	LINK	2 RJ45 ports for loop connection (RS485+audio) to other SPIKA control panels and a fire panel with suitable protocol
10	P2	BUS SRV	Connection bus for SERVICE microphone stations, to be powered individually with power supply SPIKA-PS24V
11	P1	BUS EMG	Connection bus for EMERGENCY microphone stations powered by the control panel
12	J7	PABX	Balanced audio input alongside a non-monitored input on the same connector
13	P3	BUSP	Bus with priority activation contact for music, for connection of microphone stations SPIKA-SRM
14-15	-	MICRO-SD CARDS	2 micro-SD cards for storing evac and commercial messages. FAT / FAT32 formatting. MicroSD and microSDHC cards up to 32GB are supported. 14 = micro-SD1; 15 = micro-SD2.

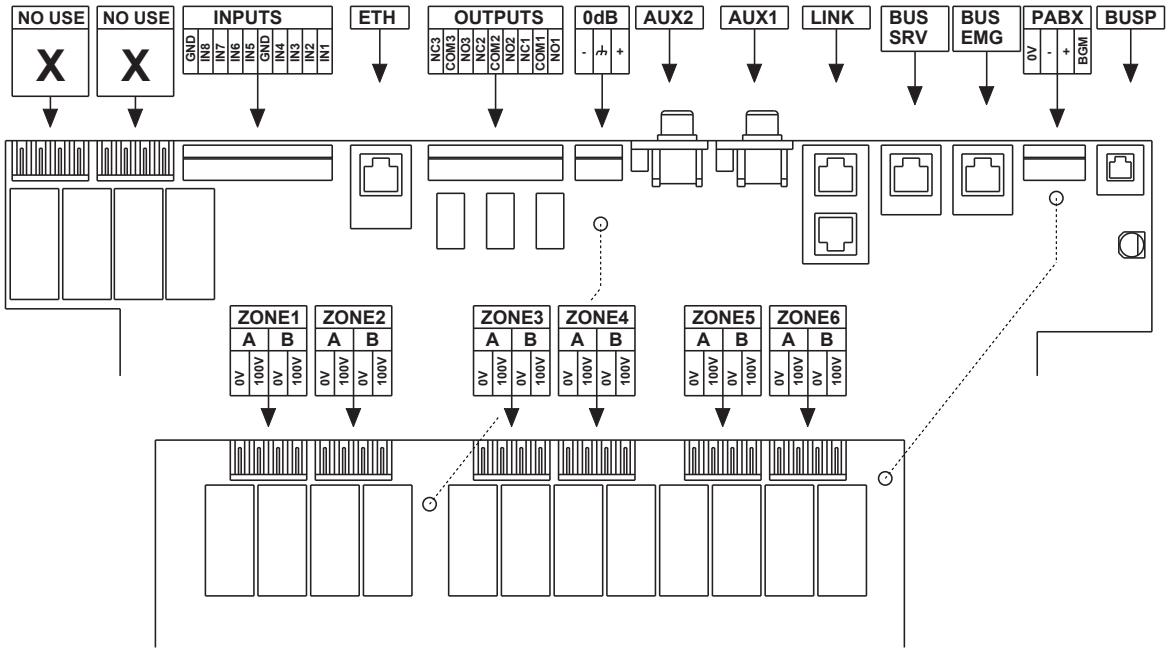
4.6. Motherboard

Inside every SPIKA control panel is a label for rapid identification of the connections

- in model SPIKA-2



- in models SPIKA-4 and SPIKA-6



4.7. Zone board

This board is only fitted in models offering:

- 4 zones - SPIKA-4
- 6 zones - SPIKA-6

In models fitted with this additional board,the connections to zones "1 AB" and "2 AB" zones on the motherboard (see 4.6. - terminals J10a and J10b) are not used.

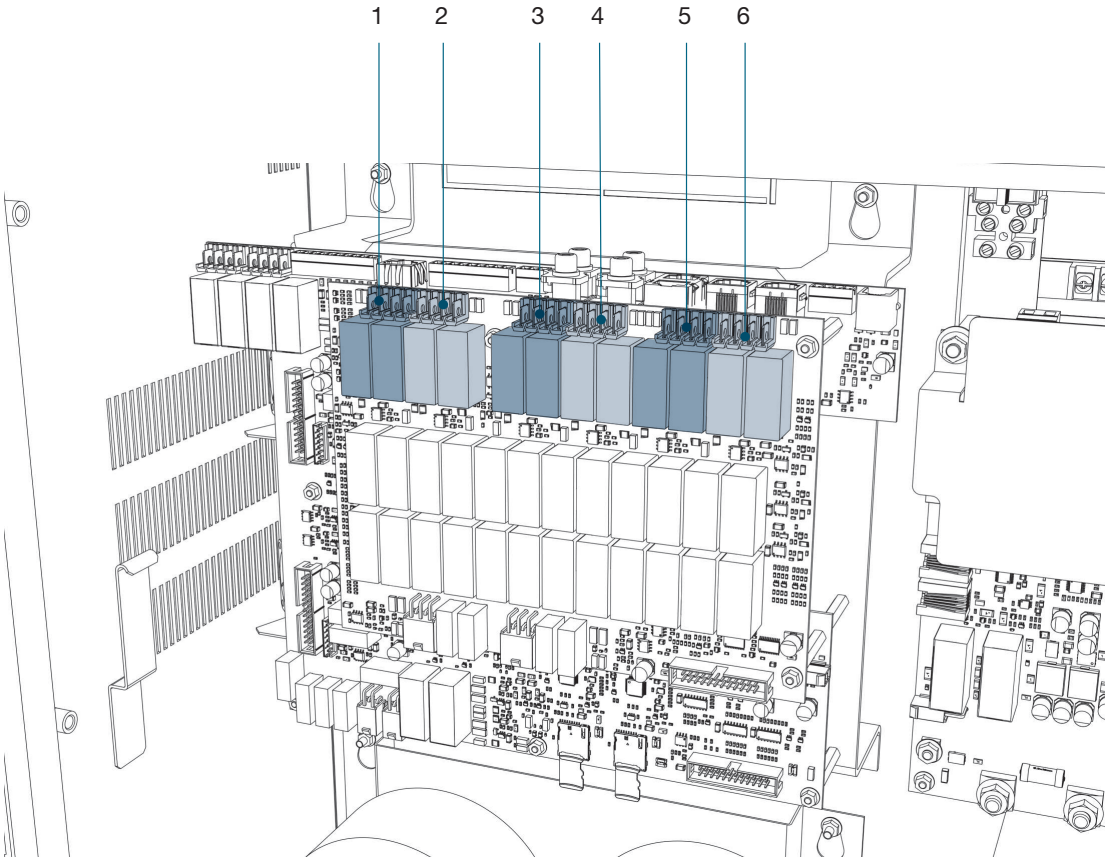
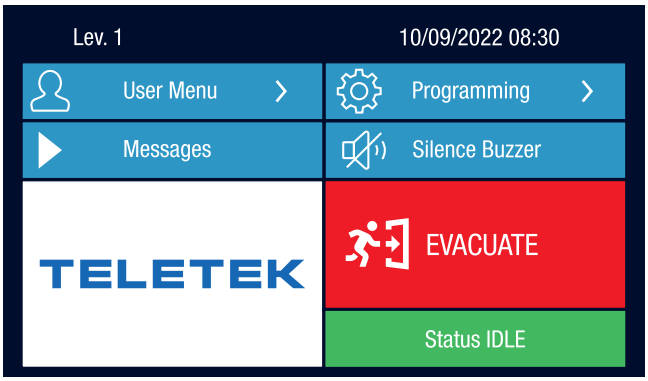


FIGURE	TERMINAL	ELEMENT	ACTION
1	J2_1	ZONE 1	Connector for first AB zone in models SPIKA-4 and SPIKA-6
2	J2_2	ZONE 2	Connector for second AB zone in models SPIKA-4 and SPIKA-6
3	J2_3	ZONE 3	Connector for third AB zone in models SPIKA-4 and SPIKA-6
4	J2_4	ZONE 4	Connector for fourth AB zone in models SPIKA-4 and SPIKA-6
5	J2_5	ZONE 5	Connector for fifth AB zone in model SPIKA-6 **NOTE:** not for used in SPIKA-4
6	J2_6	ZONE 6	Connector for sixth AB zone in model SPIKA-6 **NOTE:** not for used in SPIKA-4

4.8. Operating Conditions

The control panel continuously monitors the emergency sources and the intactness of the pathways critical to system operation in emergency conditions.

The control panel indicates the various operating conditions:



- through the display and the three LEDs located next to it (visual indication)
- through the buzzer (audible alert)
- by activating the output contacts in accordance with the programming (alerts to external peripherals)

In addition to providing indications relating to any faults, the control panel saves all events in the FAULT log and SYSTEM log registries (cyclical memory holding 4,096 events for each registry)

Normal Status **Status IDLE**	POWER FAULT WARNING VOICE ALARM	Normal operating condition, without faults or emergencies in progress. When the control panel is in Normal status, only the green LED on the front panel is lit to indicate the system is powered. The “Home” display shows the text “Status IDLE” and the buzzer is silent.
Fault Status **Status FAULT**	POWER FAULT WARNING VOICE ALARM	Operating condition indicating the presence of at least one fault detected by the internal diagnostics system. The status indication is accompanied by an audible fault indication (buzzer) and the yellow LED on the unit panel comes on. The green LED remains lit to indicate the system is powered. The “Home” display shows the text “Status FAULT” and the buzzer emits an audible alert. Click “Status FAULT” to view all active faults. For further details, please refer to the table of logs described further on in the manual. If programmed, the output contact indicates the fault condition of the control panel.
Alarm Status **Status ALARM**	POWER FAULT WARNING VOICE ALARM	Operating condition during which at least one pre-recorded alarm or hands-free live voice announcement from a microphone station is broadcast. It can be activated using an external device connected to one of the supervised contacts, or from an emergency microphone station connected to the BUS EMG. During a voice alarm broadcast, the control panel switches on the red LED to indicate the voice alarm status. The green LED remains lit to indicate the system is powered. The “Home” display shows the text “Status ALARM” and the buzzer emits an audible alert. If programmed, the output contact indicates the alarm condition of the control panel.

When a fault is reset automatically, the control panel reverts to Idle status and the buzzer is silenced. The warning indication remains, through a small triangle icon on the left-hand side of the status field, until the operator confirms that the event has been seen* by pressing the Status Idle key on the screen. The fault is always recorded in the Fault Log.

* The events must be reviewed in advance in Users menu -> Event Log ->Fault.

4.9. Communication Priority Levels

Each control unit can receive (locally or remotely) different - potentially competing - audio signals at the same time. In the event of multiple simultaneous requests, priority management is guided by the priority index (where priority 1 is the highest) shown in the table below.

NOTE: by LIVE we mean communication via the microphone base, while by MESSAGE we mean pre-recorded messages.

SOURCE	EVENT TYPE	PRIORITY	LOCAL	REMOTE
PTT (push-to-talk) microphone	LIVE EVAC	1	X	X
Microphone station on BUS EMG (EVAC live voice)		2	X	X
Microphone station on BUS EMG (EVAC message)	EVAC MESSAGE	3	X	X
Supervised input (EVAC message)		3	X	X
Message from FIRE panel in link (EVAC message)		3	X	X
Supervised input (ALERT message)	ALERT MESSAGE	4	X	X
Microphone station on BUS EMG (ALERT message)		4	X	X
Message from FIRE panel in link (ALERT)		4	X	X
Microphone station on BUS SRV (live service voice)	LIVE ANNOUNCEMENT	5	X	X
Microphone station on BUS EMG (service message)	ANNOUNCEMENT MESSAGE	6	X	X
Microphone station on BUS SRV (service message)		6	X	X
Supervised input (service message)		6	X	X
PABX / BUSP input	PRIORITY AUDIO	7	X	NA
Music (AUX1, AUX2, USB1, USB2)		8	X	NA

If competing audio sources have the same priority. Priority will be given to the first source that made the request. Playback is only interrupted if a source or message type with higher priority intervenes.

5. Microphone Stations

The SPIKA series can use 7 remote microphone station models:

- 3 models for emergency communications SPIKA-EM1, SPIKA-EM7, SPIKA-RCM
- 4 models for service-only communications SPIKA-RM1, SPIKA-RM7, SPIKA-DRM, SPIKA-SRM

5.1. Emergency Microphone Stations

SPIKA-EM1: base with 1 key for emergency communications. It can work over the entire control panel or over specific zones selected through control panel programming on the display (HMI). It has a stem microphone and allows cascade connection with other stations. It should be connected to the BUS EMG (emergency) and is powered from the control panel. The EVAC key has a plastic cover which needs to be lifted before it can be activated.

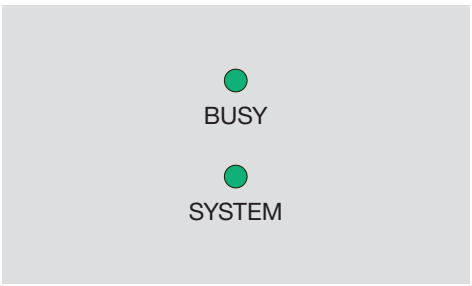
SPIKA-EM7: base with 7 keys for emergency communications. It can work over the entire control panel or over specific zones selected through control panel programming on the display (HMI). It has a stem microphone and allows cascade connection with other stations. It should be connected to the BUS EMG (emergency) and is powered from the control panel. The EVAC key has a plastic cover which needs to be lifted before it can be activated.

SPIKA-RCM: remote wall-mounted emergency microphone base. It should be connected to the BUS EMG (emergency) and is powered from the control panel. It has a PTT (push-to-talk) microphone and is housed in a red metal container, with a closure mechanism, for wall installation.

Up to two microphone stations can be connected to the BUS EMG (emergency).

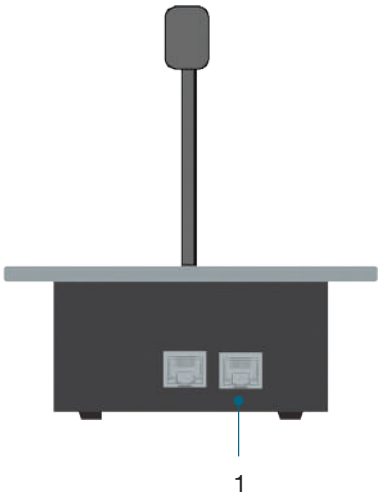
The "**BUSY**" and "**SYSTEM**" status LEDs on the microphone stations panel indicate the status of the station and the control panel.

"BUSY" LED	GREEN	Bus free
	ORANGE	Bus busy
"SYSTEM" LED	GREEN	System in Normal mode
	FLASHING RED	EVAC mode enabled
	RED	Alarm in progress
	ORANGE	Fault



1. RJ45 IN/OUT for data bus, audio and power supply originating from BUS EMG on the control panel

For connecting and programming all microphone stations via the control panel display (HMI), please refer to sections 6.7 and 7.3 of this manual.



View of rear panel for microphone stations common to models **SPIKA-EM1**, **SPIKA-EM7**

1. Trimmer for adjusting the microphone gain.

2. Dip-switch for selecting the address (for more information, see the explanatory note at the end of the chapter).

Note: The trimmer and the Dip-switch are protected with small metal cover. To open it, you must undo the two metal screws at the base bottom.



Inside view, left-hand side, for microphone stations common to models **SPIKA-EM1**, **SPIKA-EM7**

5.1. Emergency Microphone Stations

Steps for forwarding an emergency communication from station SPIKA-EM1

1. Lift the EVAC key cover.

2. Press and hold the red EVAC button for at least 2 seconds => The “System” LED begins to flash in red at a frequency of 1Hz. If you press and hold the key for more than 8 seconds (error situation) the system returns to Normal status.

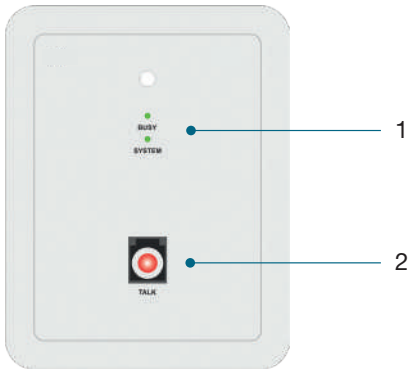
3. Press the EVAC button again within the following 8 seconds (otherwise the system will return to Normal status) and proceed with the communication.

a. The base is enabled for the evacuation procedure.

b. While you are speaking (with the key pressed), the SYSTEM LED is lit steadily in red and the BUSY LED turns orange.

1. Status LEDs for the microphone station and the control panel.

2. “EVAC” key, with a plastic key cover, engages the bus and the programmed speaker lines and broadcasts the voice message. Lift the key cover to activate it.



View of the top panel of mic. station **SPIKA-EM1**

Steps for forwarding a message or an emergency communication from station SPIKA-EM1

1. Lift the EVAC key cover.

2. Press and hold the red EVAC button for at least 2 seconds => The “System” LED begins to flash in red at a frequency of 1Hz. If you press and hold the key for more than 8 seconds (error situation) the system returns to Normal status.

3. Select the function to be carried out (keys 1-6 or ALL) within 8 seconds (otherwise the system returns to Normal status).

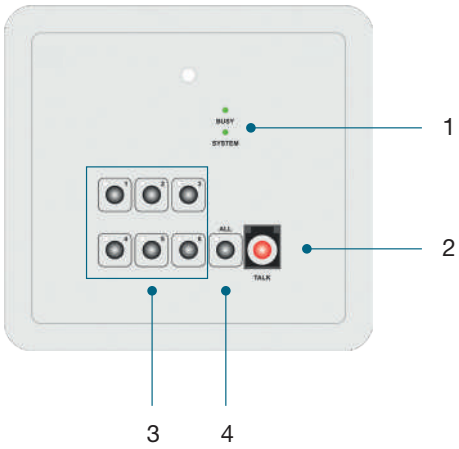
4. Press the EVAC key again.

a. The base is enabled for the evacuation procedure.

b. Depending on the configuration, the system plays an alert/evac message; alternatively you can speak into the microphone while the button is pressed.

c. The SYSTEM LED is lit steadily in red and the BUSY LED turns orange if communication is taking place via microphone.

1. Status LEDs for the microphone station and the control panel.
2. “EVAC” key, with a plastic key cover, engages the bus and the lines or groups of lines and broadcasts the voice message or the message selected previously using the keys as described in step 3. Lift the key cover to activate it.
3. Keys for selecting the lines on which to open the microphone channel or activate the pre-recorded message associated via control panel display (HMI) programming. The LED by the key indicates when that key has been selected.
4. The "ALL" key is pre-configured to speak to all system zones.



View of the top panel of mic. station **SPIKA-EM7**

Once you have finished using microphone stations **SPIKA-EM1** and **SPIKA-EM7**, the key cover protecting the “EVAC” key should be closed again.

Steps for forwarding an emergency message from station SPIKA-RCM

1. Open the microphone station door with the relevant key
2. Hold the PTT (push-to-talk) microphone close to your mouth
3. Press the button and talk, keeping it pressed down

1. PTT (push-to-talk) microphone
2. Status LEDs for the station and the control panel
3. Dip-switch located inside for address selection
4. Closure mechanism

The cable route for connection to the control panel is in both the top and bottom parts of the box.



View of mic. station **SPIKA-RCM**

5.2. Service Stations

SPIKA-RM1: base with 1 key for service communications (commercial and/or general). It can work over the entire control panel or over specific zones selected through control panel programming on the display (HMI). It has a stem microphone and allows cascade connection with other stations. It should be connected to the BUS SRV (service) and is powered locally.

SPIKA-RM7: base with 7 keys for service communications (commercial and/or general). It can work over the entire control panel or over specific zones selected through control panel programming on the display (HMI). It has a stem microphone and allows cascade connection with other stations. It should be connected to the BUS SRV (service) and is powered locally.

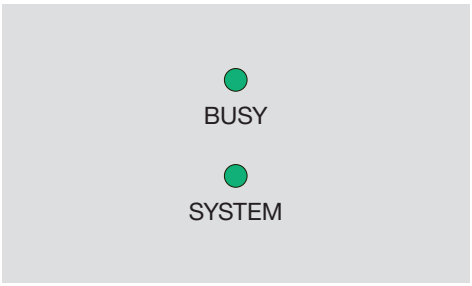
SPIKA-DRM: allows the configuration of 47+3 keys for service communications (commercial and/or general). It can work over the entire control panel or over specific zones selected through control panel programming on the display (HMI). It has a stem microphone and allows cascade connection with other stations. It should be connected to the BUS SRV (service) and is powered locally.

SPIKA-SRM: microphone base with 1 key for service communications (commercial and/or general) which take priority over music, connection over dedicated bus. It works over the entire control panel or over specific zones selected through control panel programming on the HMI display. It is powered by the control panel.

- Connected to BUS SRV terminal service microphone stations (max. 7) must be powered locally with a 2-pole screw connector (1A - 24 VDC) supplied with the microphone station (also available as power supply unit SPIKA-PS24V).
- Up to 8 stations for model SPIKA-SRM can be connected over the BUSP, with power from the control panel.

The "**BUSY**" and "**SYSTEM**" status LEDs on the microphone stations panel indicate the status of the station and the control panel.

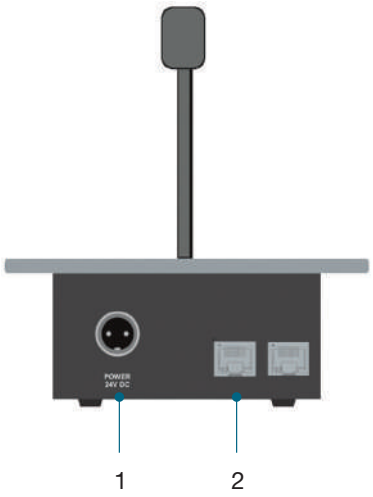
"BUSY" LED	GREEN	Bus free
	ORANGE	Bus busy
"SYSTEM" LED	GREEN	System in Normal mode
	RED	Alarm in progress
	ORANGE	Fault



1. 24 V power supply input, use the supplied adapter

2. RJ45 IN/OUT for data bus, audio originating from BUS SRV

For connecting and programming all microphone stations via the control panel display (HMI), please refer to sections 6.7 and 7.3 of this manual.



View of rear panel for microphone stations common to models **SPIKA-RM1, SPIKA-RM7, SPIKA-DRM**

1. Trimmer for adjusting the microphone gain.

2. Dip-switch for selecting the address (for more information, see the explanatory note at the end of the chapter).

Note: The trimmer and the Dip-switch are protected with small metal cover. To open it, you must undo the two metal screws at the base bottom.



Inside view, left-hand side, for microphone stations common to models **SPIKA-RM1, SPIKA-RM7 SPIKA-DRM**

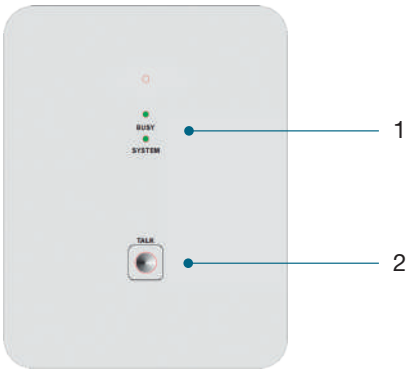
Steps for forwarding a service communication from station SPIKA-RM1

1. Press and hold the TALK key.

2. Start the communication by speaking into the microphone.

1. Status LEDs: "BUSY" and "SYSTEM" indicate the control panel status.

2. “TALK" key engages the bus and the programmed speaker lines and broadcasts the voice message.



View of the top panel of mic. station **SPIKA-RM1**

5.2. Service Stations

Steps for forwarding a message or a service communication from station **SPIKA-RM7** and **SPIKA-DRM**

I. Press the line selection key or enter the desired number.

II. Press TALK.

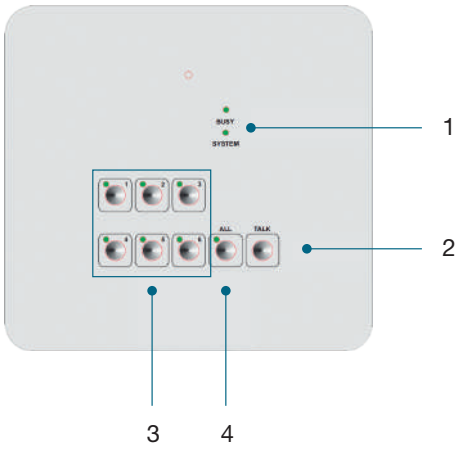
III. At this point the pre-recorded message begins or the microphone is activated for communication as per control panel programming on the display (HMI).

1. Status LEDs for the microphone station and the control panel.

2. “TALK” key engages the bus and the lines or groups of lines and broadcasts the voice message or the message selected previously using the keys as described in step 3.

3. Keys for selecting the lines on which to open the microphone channel or activate the pre-recorded message associated via control panel display (HMI) programming. The LED by the key indicates when that key has been selected.

4. The "ALL" key is programmed to speak to all control panel/system zones.



View of the top panel of mic. station **SPIKA-RM7**

1. LCD display.

2. Status LEDs for the microphone station and the control panel.

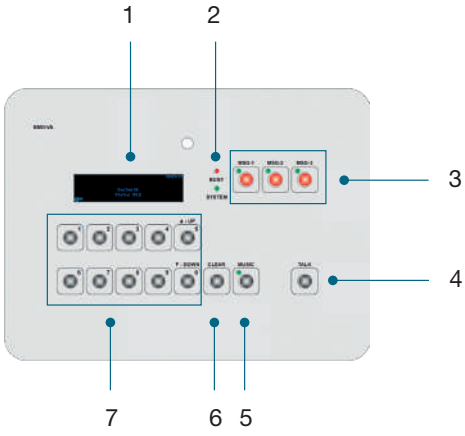
3. Keys for quick selection of pre-recorded messages. The LED by the key indicates message selection.

4. “TALK” key: engages the bus and the lines or groups of lines and broadcasts the content of the “7” keys, or plays the message selected using the keys as described in step 3.

5. "MUSIC" key: reserved for future use.

6. Cancel selection key.

7. Selection keys.



View of the top panel of mic. station **SPIKA-DRM**

1. RJ25 IN for audio bus and remote power supply originating from the control panel



View of the rear panel of mic. station **SPIKA-SRM**

1. Status LED: indicates the status of the bus

2. “ON/OFF” key activates / switches off the microphone



View of the top panel of mic. station **SPIKA-SRM**

1. VOL OUT: output volume adjustment

2. GAIN MIC: microphone sensitivity gain adjustment

3. Bistable button with dip-switch set to the bottom position

4. Push-to-talk (PTT) button with dip-switch set to the top position



View of the rear panel of mic. station **SPIKA-SRM**

5.3. Addressing Microphone Stations

Microphone stations **SPIKA-EM1**, **SPIKA-EM7**, **SPIKA-RCM**, **SPIKA-RM1**, **SPIKA-RM7**, **SPIKA-DRM** have a dip-switch, an address selector, which can be used to identify the various microphone stations on the same bus. **Note:** The Dip-switch is protected with small metal cover. To open it, you must undo the two metal screws at the base bottom.

The table below shows the address configuration (ID) for the microphone station.
The DIP-switches must be set from 1 to 7 as shown in order to configure the corresponding address (ID).

CAUTION! Two IDs which are the same are not permitted on the same Bus!

BUS		ID	SW1	SW2	SW3	SW4	SW5	SW6	SW7
BUS EMG	BUS SRV	1	ON	off	off	off	off	off	off
BUS EMG	BUS SRV	2	off	ON	off	off	off	off	off
NA	BUS SRV	3	ON	ON	off	off	off	off	off
NA	BUS SRV	4	off	off	ON	off	off	off	off
NA	BUS SRV	5	ON	off	ON	off	off	off	off
NA	BUS SRV	6	off	ON	ON	off	off	off	off
NA	BUS SRV	7	ON	ON	ON	off	off	off	off

For connecting and programming all microphone stations via the control panel display (HMI), please refer to sections 6.7 and 7.3 of this manual.

6. Installation and Connections

The equipment installation and maintenance procedures indicated in this chapter must only be performed by qualified personnel.

RISK OF ELECTRIC SHOCK

- On opening the system, parts posing a risk of electric shocks are accessible.
- Always make sure the thermomagnetic switch upstream is OFF before carrying out any procedures inside the control panel.
- Anyone working inside the control panel must be equipped with safety gloves.

The control panel should be installed in a suitable environment where it does not come into contact with sources of potential damage (humidity, rain, high temperatures, heat sources, dust and sources of radio or electromagnetic interference…).

Cables must be routed through the caps at the top of the control panel.
We recommend keeping the separate from the other connection cables.

6.1. Surface-mounted installation

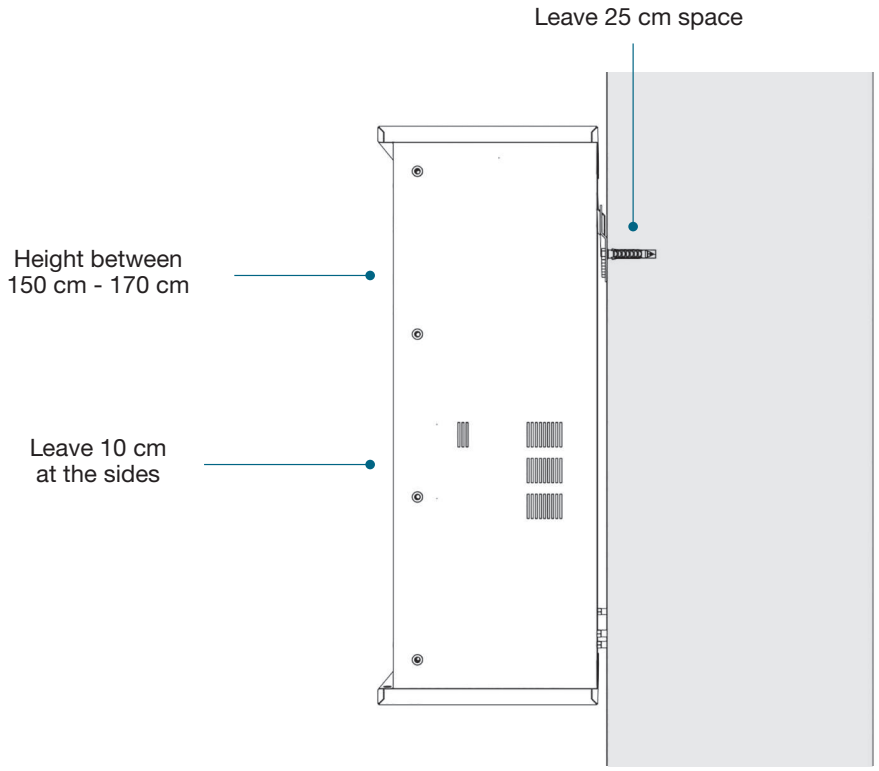
SPIKA series compact products can be surface-mounted (fixing backplate available in the package) or rack-mounted (side backplates available as an optional accessory named SPIKA Rack Brackets); for mounting instructions please refer to the backplate manual.

The following conditions must be observed in surface-mounted installation:

i. the display at the front of the control panel should ideally be at the height of the forward-facing view of the operator, i.e. between 150 cm and 170 cm

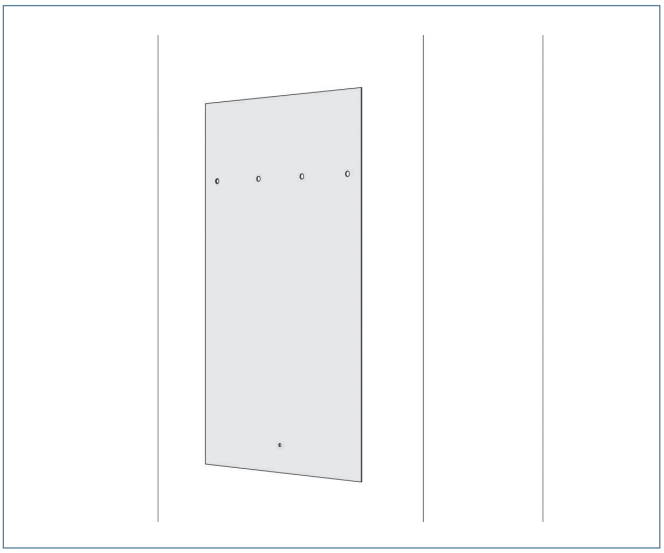
ii. leave 10 cm at the sides of the control panel to guarantee proper ventilation

iii. leave a free space of at least 25 cm from the centre of the backplate holes to the top edge of the control panel, to ensure it is correctly coupled and properly ventilated



Steps for correct surface-mounted wall installation

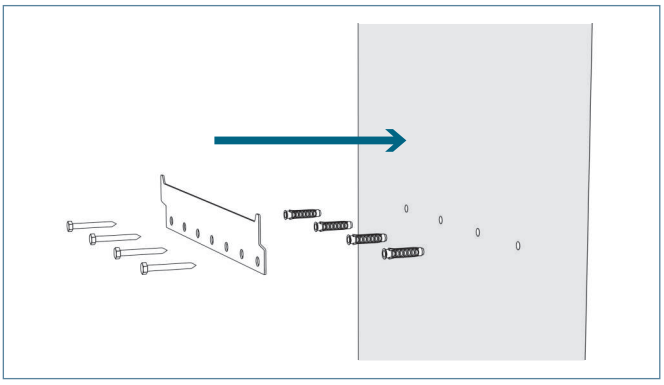
Open the template provided with every SPIKA control panel to mark hole positions on the wall



We highly recommend you observe the three above mentioned conditions

1. insert wall plugs that are suitable for the weight of the control panel and the type of wall

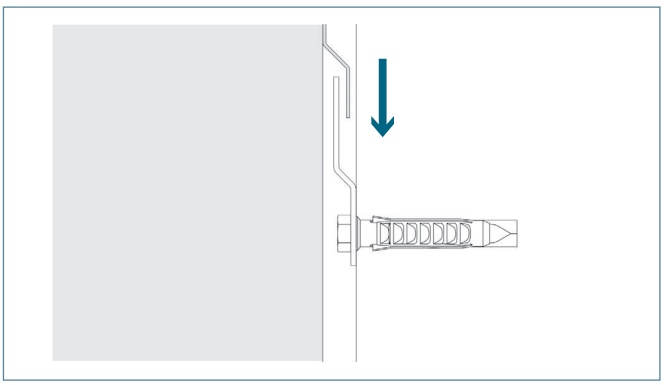
2. secure the fixing backplate



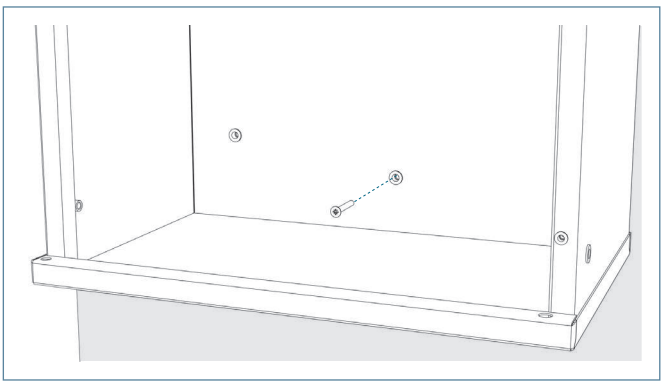
3. hook the control panel onto the fixing backplate

4. We recommend:

- making sure that the control panel does not include the weight of the batteries
- that this task is carried out by two people



5. secure the control panel using the bottom wall plug to prevent side-to-side movement

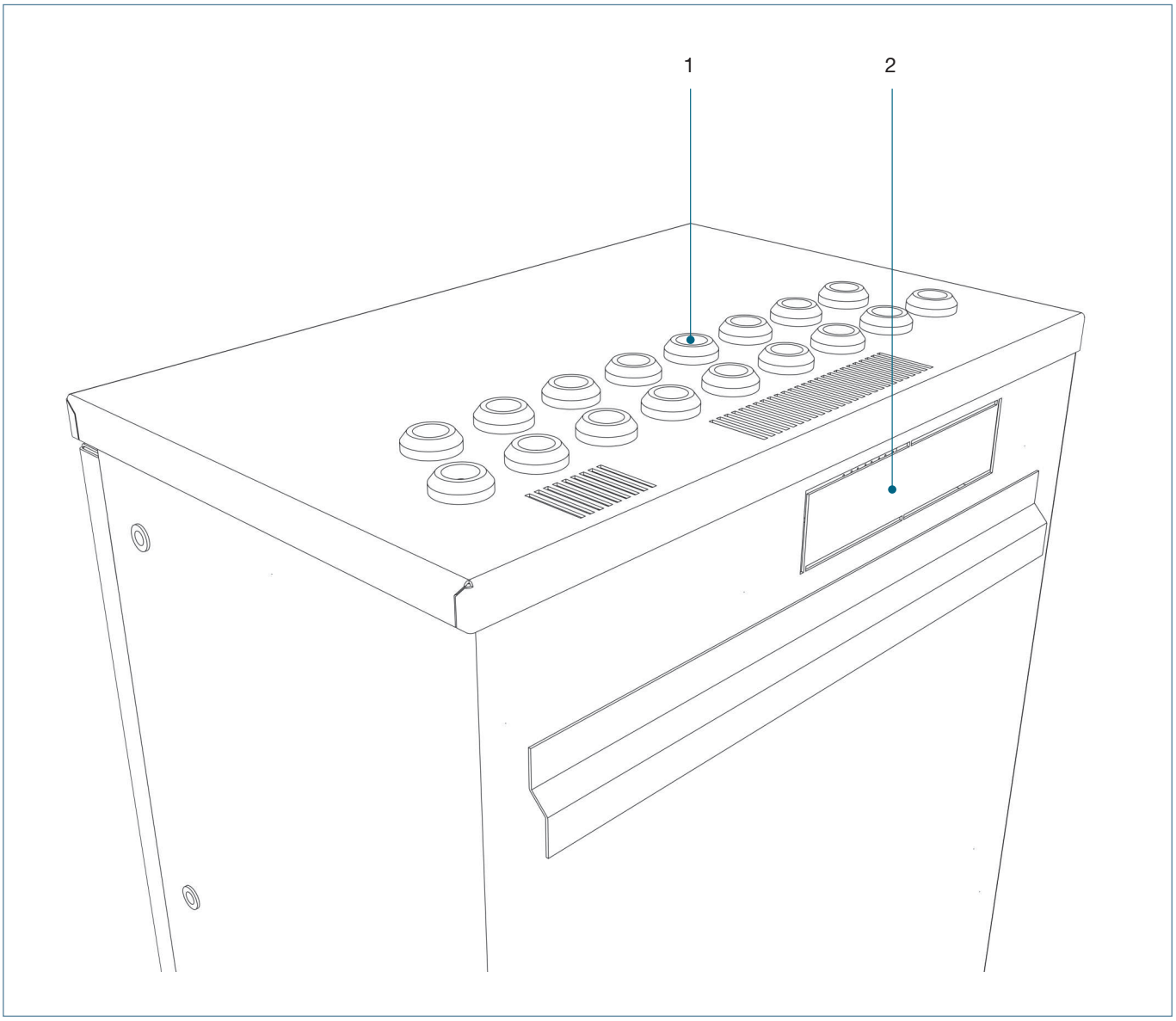


6.2. Cable routing

To allow safe and organised routing of all cables (power supply, contacts, audio, data bus, link), all models in the SPIKA series are equipped with the following:

1. at the top, a series of cable routing holes with corresponding plugs IP66, designed for the installation of M20 cable glands (not supplied)

2. a detachable compartment at the rear



6.3. Connecting Supervised Input Contacts

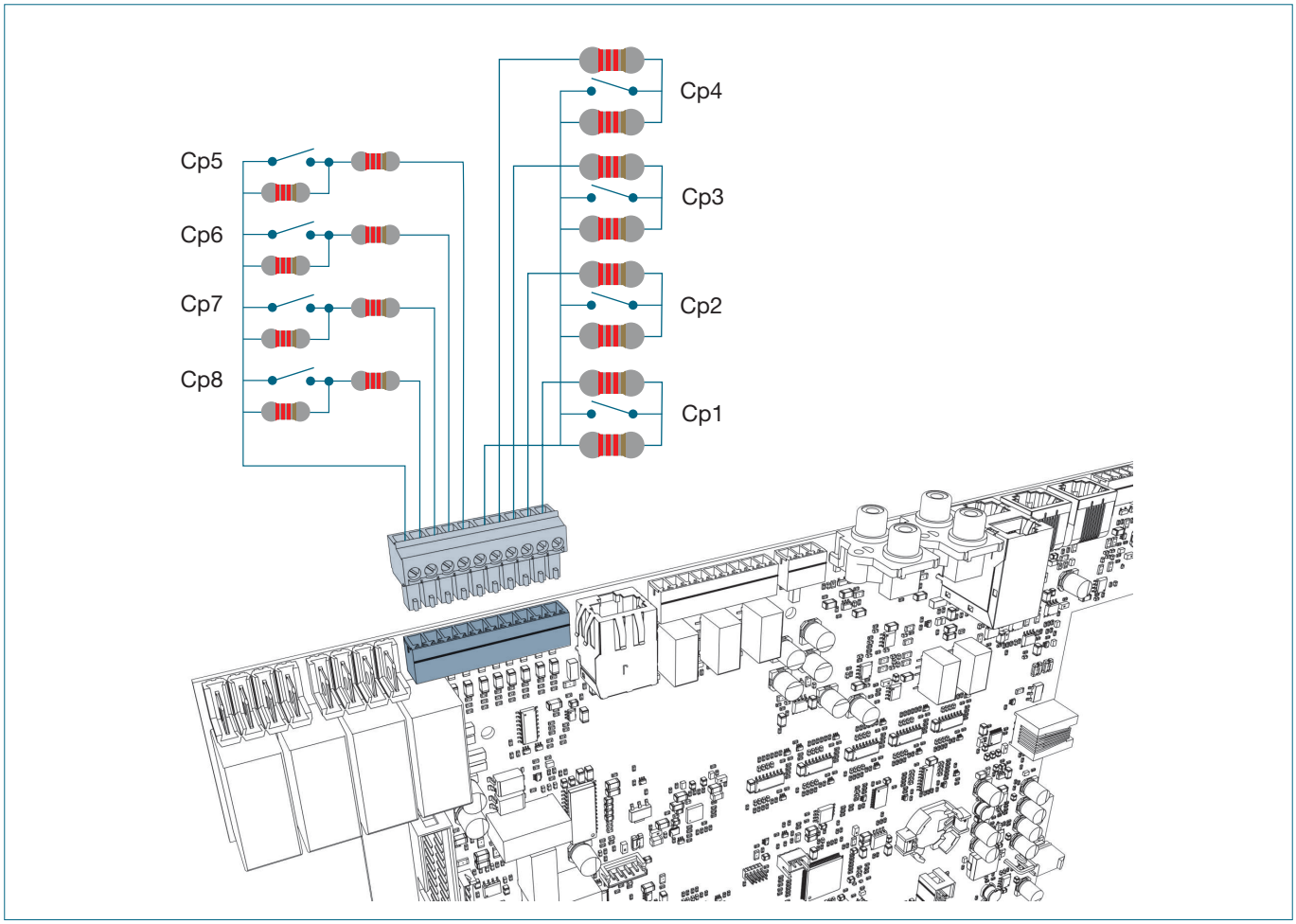
J5	SUPERVISED INPUTS	8 monitored inputs. 1…8 from left to right

The **J5** connector offers 8 supervised input contacts

POSITION (from left to right)	**CONTACT** (from left to right)
1	IN 1
2	IN 2
3	IN 3
4	IN 4
5	GROUND/COMMON
6	IN 5
7	IN 6
8	IN 7
9	IN 8
10	GROUND/COMMON

The figure shows a connection example with 2.2 K resistors (supplied) connected to the voltage-free alarm output contacts for the remote fire detection or control panel.

Terminal block J5 is shown in the figure below.



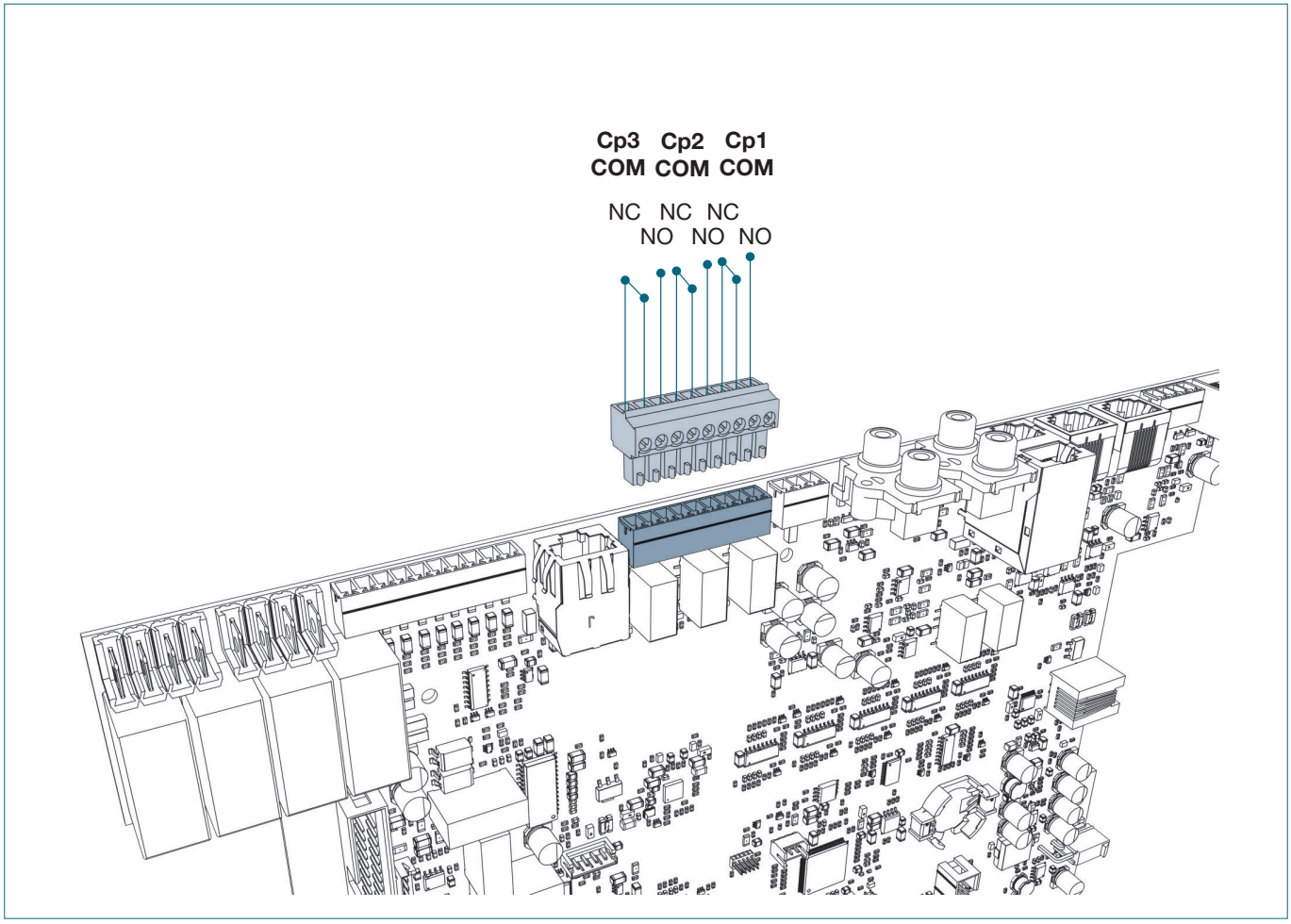
6.4. Connecting Relay Outputs

J6	OUT	3 voltage-free relay outputs 1...3 from right to left

The **J6 OUT** connector offers 3 relay outputs for signals to external peripherals.

POSITION (from left to right)	**CONTACT** (from left to right)
1	OUT1 - NO
2	OUT1 - COM
3	OUT1 - NC
4	OUT2 - NO
5	OUT2 - COM
6	OUT2 - NC
7	OUT3 - NO
8	OUT3 - COM
9	OUT3 - NC

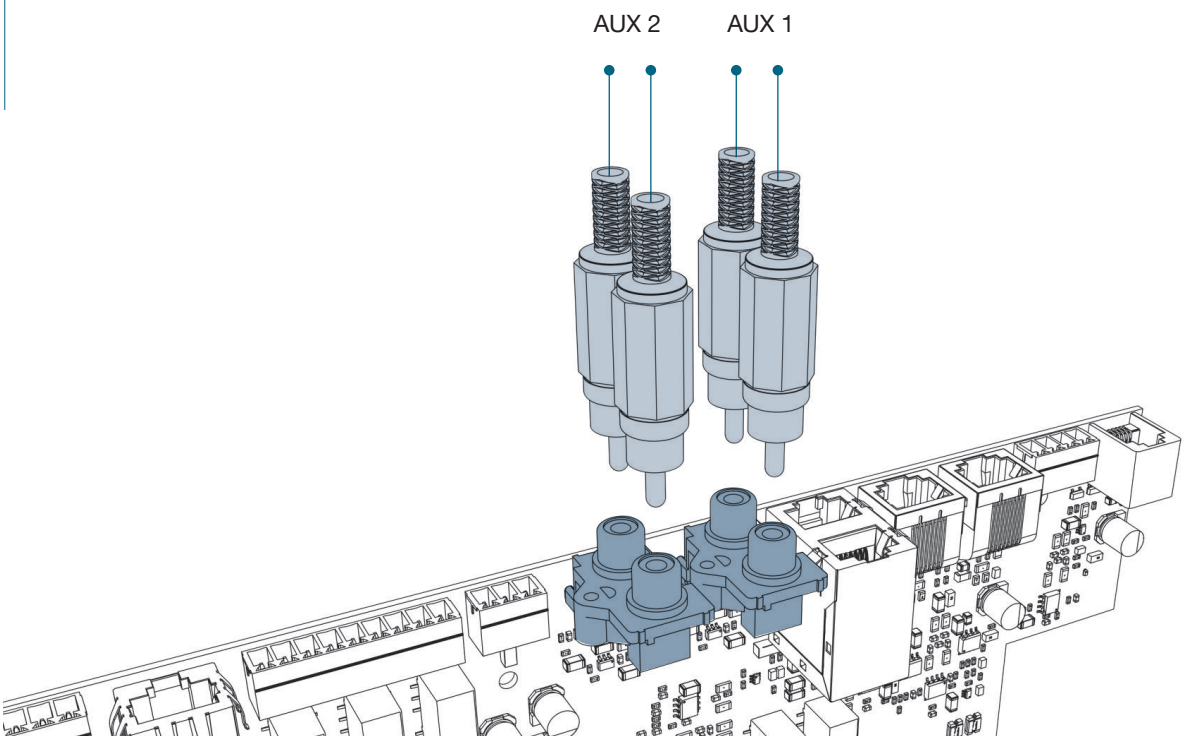
Terminal block J6 OUT is shown in the figure below.



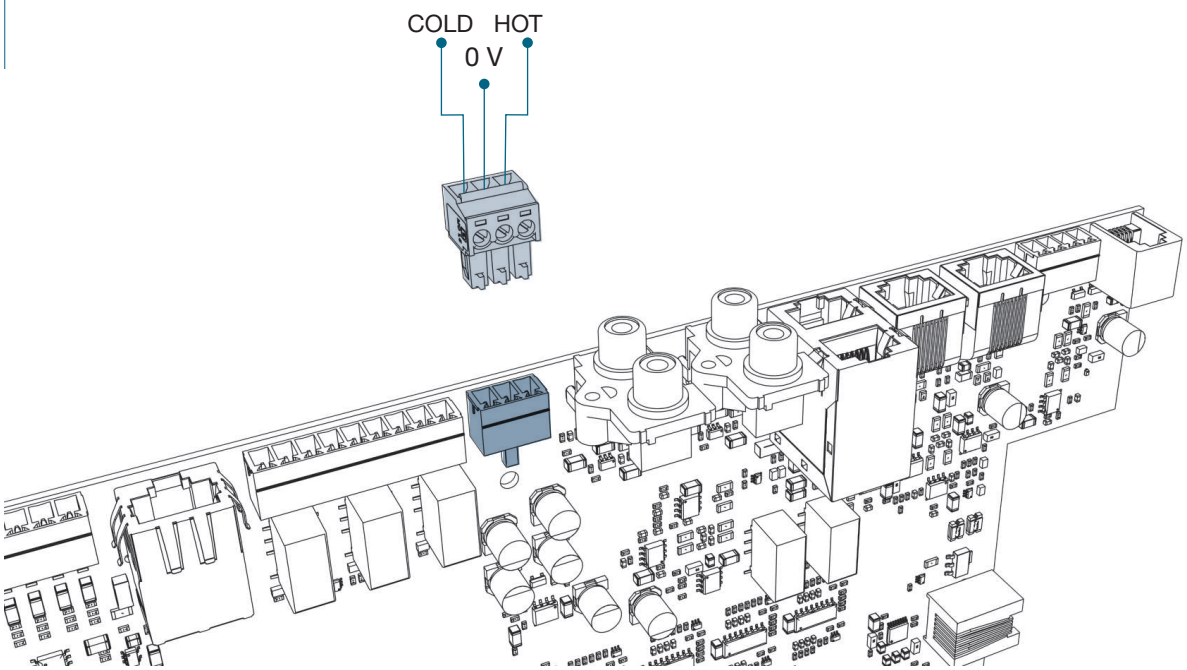
6.5. Connecting Music Players

Connectors J3 AUX1 and J4 AUX2 allow connection to external music players such as CD readers, radio and internet radio.

J4	**AUX2**	AUX 2 connector, RCA type, for music input
J3	**AUX1**	AUX 1 connector, RCA type, for music input

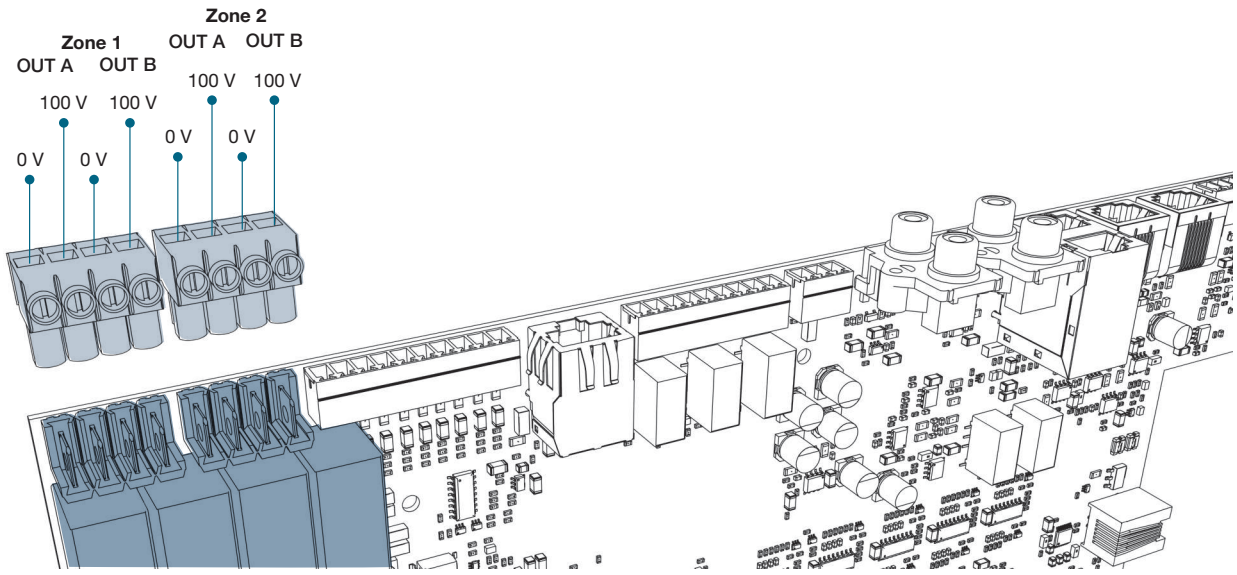


J12	**0 dB**	0 dB output for connection to a high-fidelity (Hi-Fi) audio playback system or sub-woofer. This is an output for connection a balanced audio cable. The balanced audio cable has three pins for wiring: • "Hot Signal" - positive "+" • "Cold Signal" - negative "-" • Ground - 0V You can also use 3-pin XLR standard connector for connection to the input of a Hi-Fi playback system or a sub-woofer.

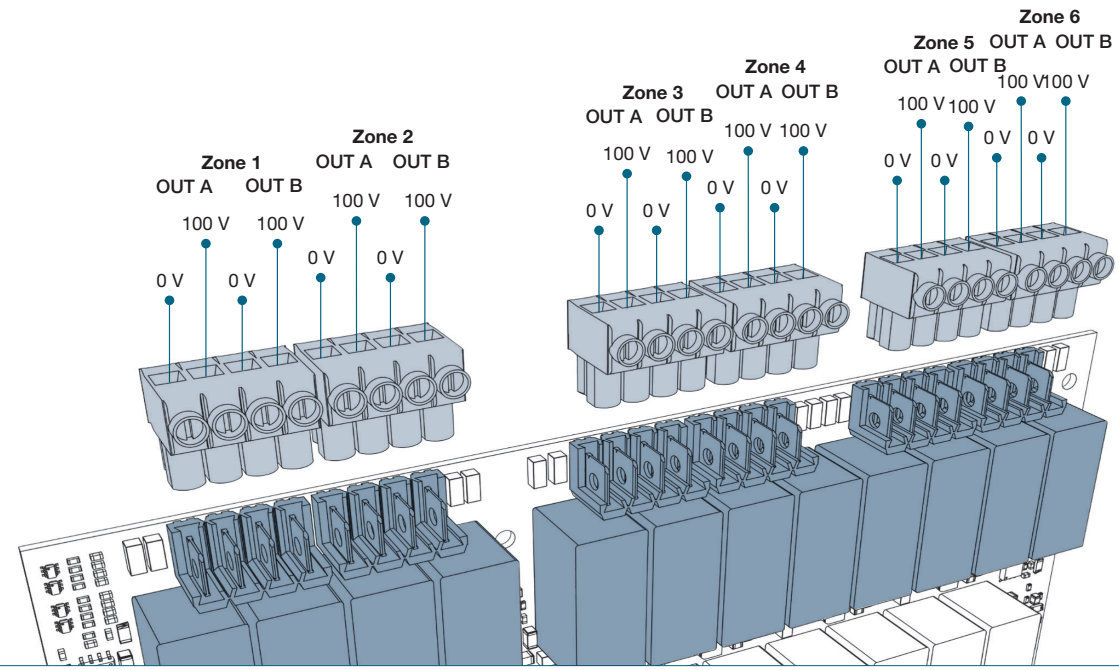


6.6. Connecting Speaker Lines

In SPIKA-2 control panel with up to 2 AB zones, the speaker lines are connected at connectors **J10a ZONE 1 AB** and **J10b ZONE 2 AB** on the MOTHERBOARD as shown in the example below.



In control panels SPIKA-4 with 4 AB zones and SPIKA-6 with 6 AB zones, the speaker lines are connected to the ZONE BOARD connectors **J2_1 ZONE 1 AB** and **J2_6 ZONE 6 AB** as shown in the example below.



- Use unshielded cable with a cross-section of 1 to 4mm^2
- In observance of evac audio system design standards and current regulations, the application of a fire-resistant EVAC cable with LSZH PURPLE sheath may be required

The minimum power load accepted by the control panel on each A/B line is 40W.

In case the power load of a line is lower than 40W, then an EOL device (22nF 300VAC capacitor) must be connected in parallel to the last speaker - see Example 2. The EOL devices are supplied with the SPIKA panel.

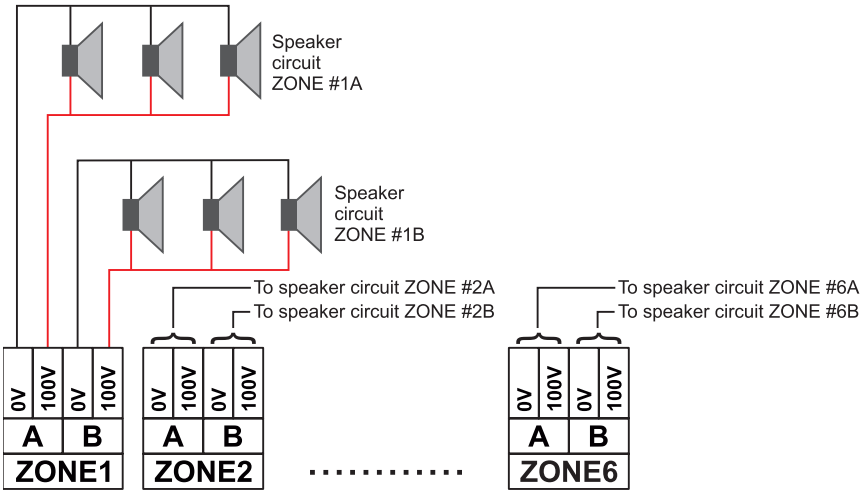
The maximum power accepted for a zone (A and B lines) depends on the SPIKA model:

- SPIKA-2: Max. 250W per zone, and max. 500W per the whole panel.
- SPIKA-4/SPIKA-6: Max. 400W per zone, and max. 500W per the whole panel.

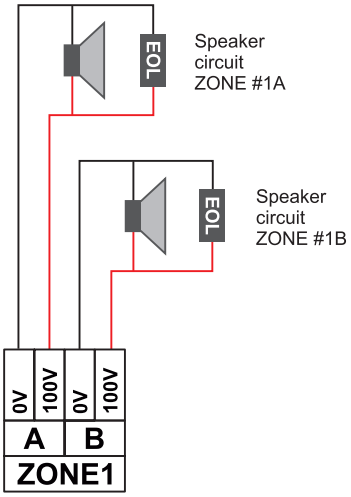
It is recommended to allow about 15-20% spare capacity on each zone circuit for future expanding or changing loudspeakers in the system configuration.

Note: Use only loudspeakers with suitable impedance and designed for operation with 100V line circuits. Loudspeakers with low impedance will not work properly after connection to the panel and even can be damaged.

- **Example 1:** Power load of the circuit line is min. 40W or more.
- **Example 2:** Power load of the circuit line is lower than 40W. For proper operation of the system it is obligatory to use the supplied EOL devices (22nF 300VAC capacitor) as shown on the diagram below.



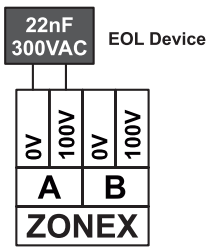
Example 1



Example 2

After connecting the speakers and turning on the main and backup power supply of the panel, you must calibrate the zone speaker circuits. Enter in Installer level 3 and choose in sequence:

Programming –> Lines –> Lines impedance –> Calibrate all (see also item 7.3.2.2)



Example 3

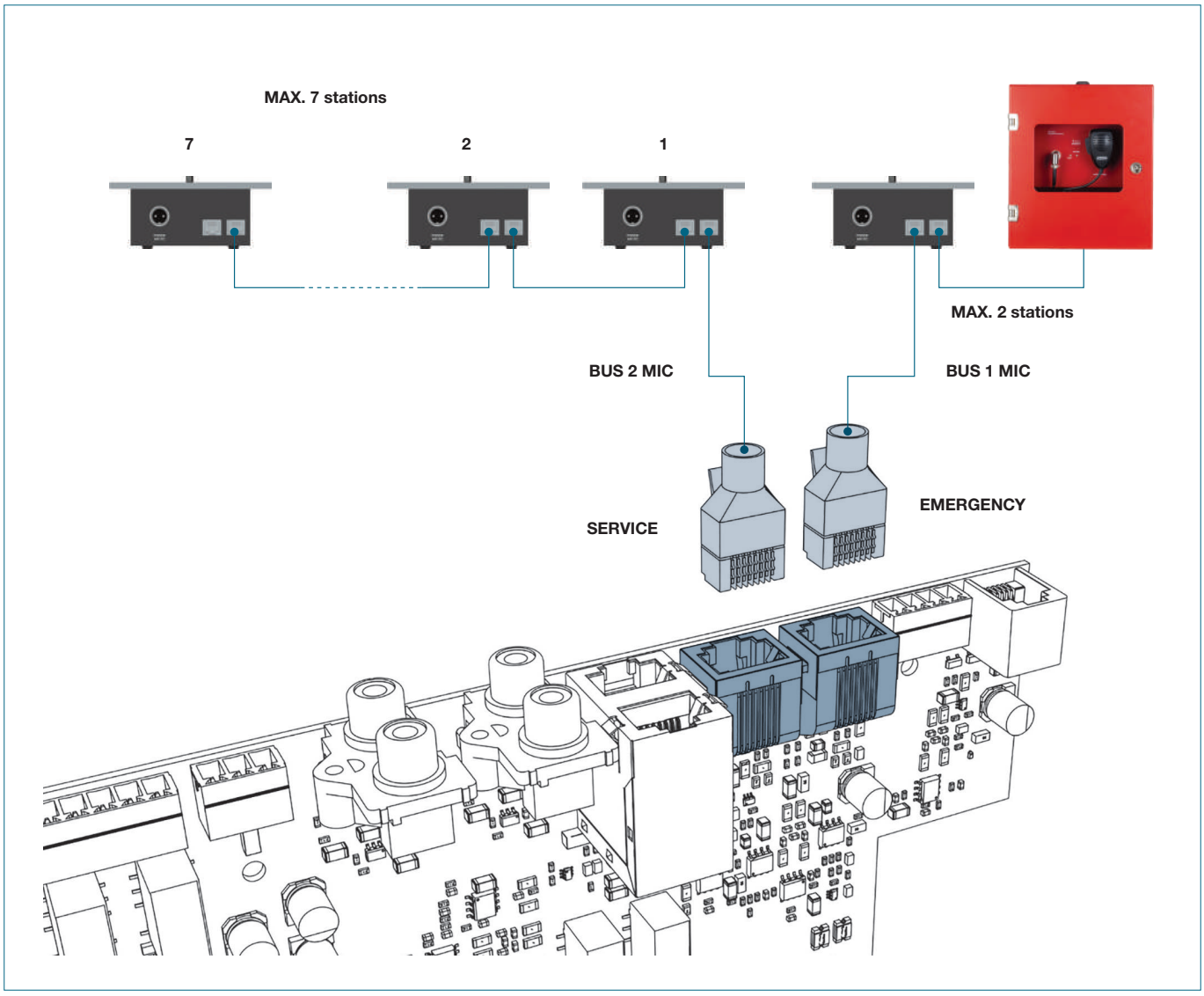
To avoid fault messages from unused zones you can add EOL device to the A line terminals - Example 3. You can also disable the operation of the used zones in Installer level 3 (see also item 7.3):

Programming –> Lines –> Lines settings

6.7. Connecting Microphone Stations

Connectors **P2**, **P1**, **J7**, **P3** are available for the connection of the various microphone stations and auxiliary sources.

P1	**BUS EMG**	Connection bus for EMERGENCY microphone stations powered by the control panel
P2	**BUS SRV**	Connection bus for SERVICE microphone stations, to be powered individually with power adapter unit SPIKA-PS24V.

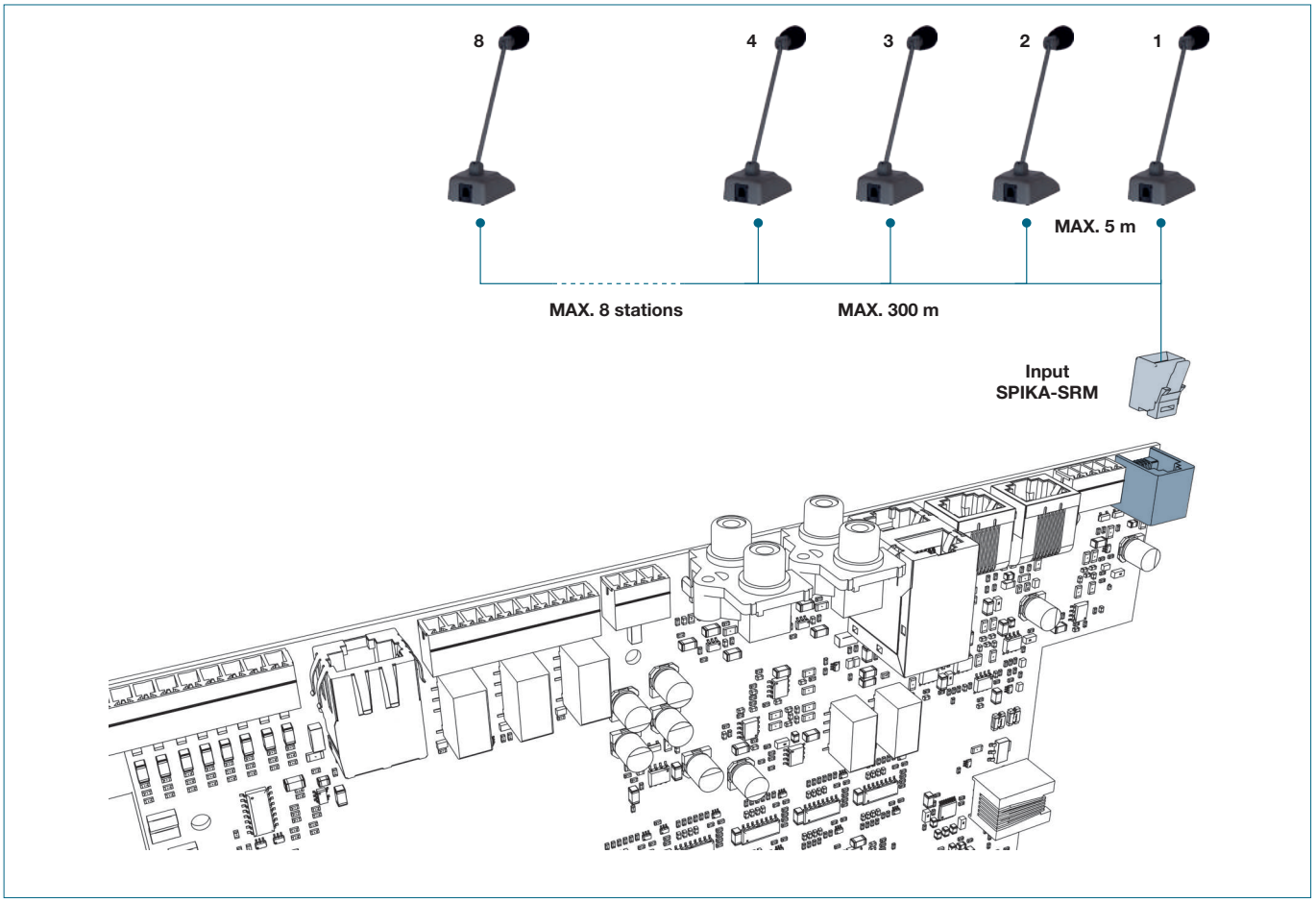


The BUS EMG accepts models SPIKA-EM1, SPIKA-EM7, SPIKA-RCM as emergency microphone stations.

The bus wiring for the microphone stations must be linear, i.e. starting at the control panel and ending at the last microphone station in the chain. Star or mixed linear/star connections are not permitted.

- RJ45 enter/exit connection with UTP cat 3 cable or higher
- Maximum length of the cable from the control panel to the last microphone station: 300m

P3	**BUSP**	Bus with priority given to music, for connection of microphone stations SPIKA-SRM



The bus wiring with RJ25 connector for SPIKA-SRM microphone stations must be linear “enter/exit”, i.e. starting at the control panel and ending at the last microphone station in the chain.
Star or mixed linear/star connections are not permitted. Short branches from the bus backbone to the individual microphone station are permitted, with care taken to observe the following maximum cable lengths:

- Maximum length of the cable from the first to the last microphone station: 300m
- Length of the individual branch from the backbone to the microphone station: 5m

The SPIKA-SRM stations are powered by the control panel. As it does not offer an emergency function, this specific power supply is suspended when the control panel resorts to the secondary power supply from batteries.

For “enter/exit” wiring, an RJ45 splitter can be positioned before the BMS21 (supplied with this station).



6.7. Connecting Microphone Stations

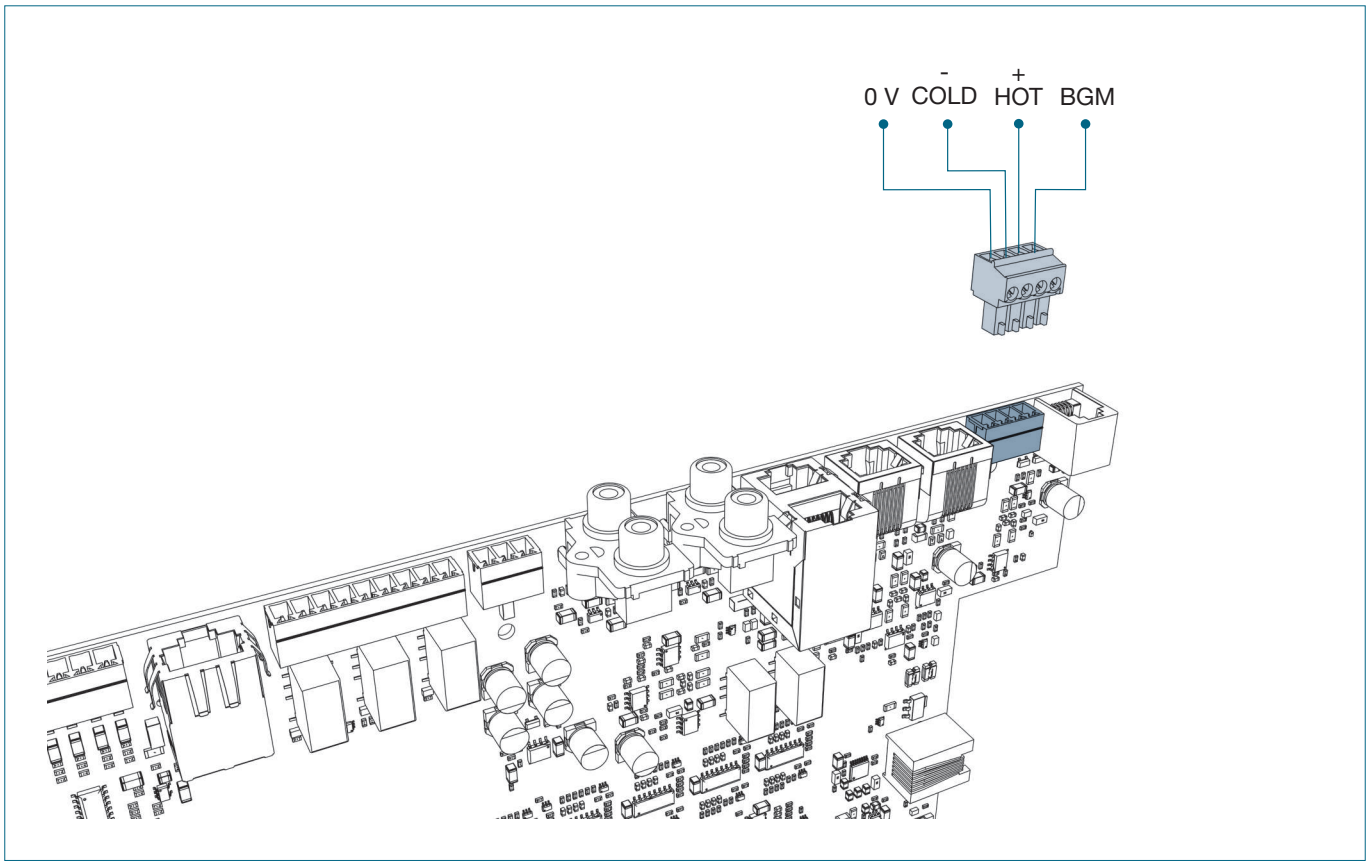
J7	**PABX**	Balanced audio input alongside a non-monitored input on the same connector

Connector **J7** is available for the connection of auxiliary sources such as a telephone switchboard.

It is a balanced audio input alongside a non-monitored input on the same connector. When the input is closed towards ground, depending on programming, the audio signal at connector J7 is reproduced over one or more zones.

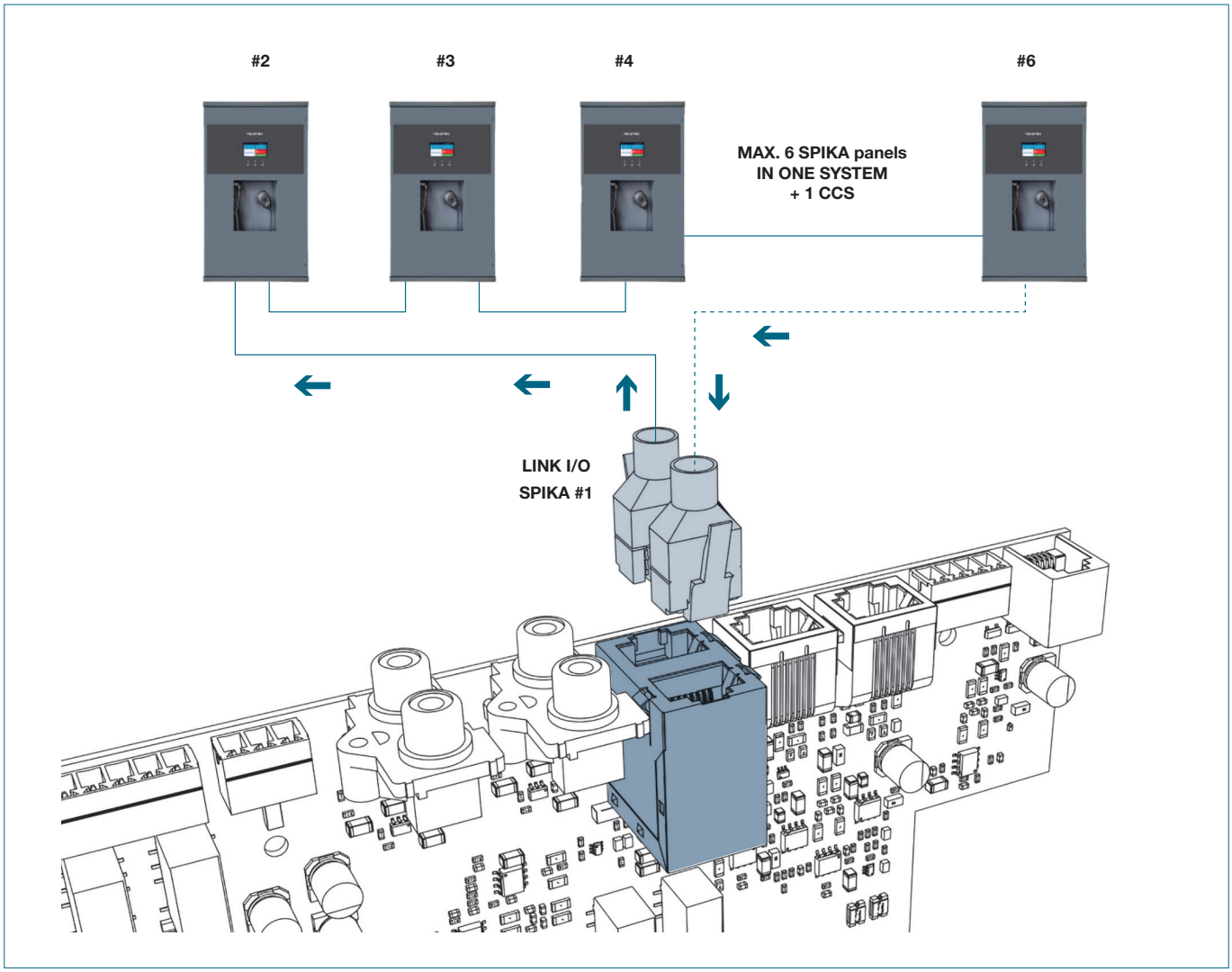
It is independent of the technology used by the PABX (voice over IP, ISDN or analogue); the important thing is that the switchboard has an auxiliary audio output associated with a programmable voltage-free contact for audio channel requests.

POSITION (from left to right)	**CONTACT** (from left to right)
1	BGM (contact referenced at 0 V)
2	HOT +
3	COLD -
4	0 V



6.8. Connecting Other Control Panels

J1	**LINK**	2 RJ45 ports for loop connection (RS485+audio) to other SPIKA control panels and a fire panel with suitable protocol



The wiring that connects the various SPIKA control panels to each other (max. 6 + 1 CCS if equipped with suitable communication protocol) should be linear. Star or mixed linear/star connections are not permitted.

- RJ45 enter/exit connection with UTP cat 3 cable or higher
- Maximum length of the cable from the first to the last SPIKA control panel: 500m
- The Link connection standard is T568A or T568B

Connection between SPIKA control panels should only be carried out with straight cables. The use of CROSS cables will cause the bus not to work and the fault will be indicated by the control panel

6.9. Power supply connection

We recommend following the correct sequence for powering the appliance, in order to avoid damaging it.

SPIKA control panels require connection to a power supply system that is grounded in accordance with legal requirements.

RISK OF ELECTRIC SHOCK

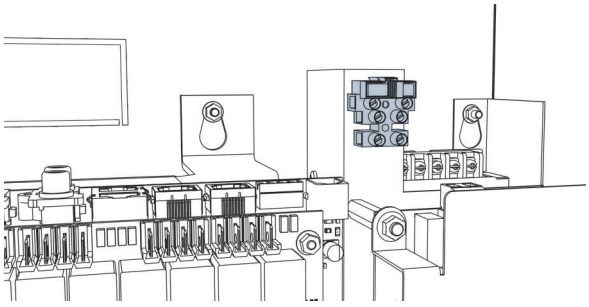
- On opening the control panel, parts posing a risk of electric shocks are accessible.
- Always make sure the thermomagnetic switch upstream is OFF before carrying out any procedures inside the box.
- Anyone working inside the control panel must be equipped with safety gloves.

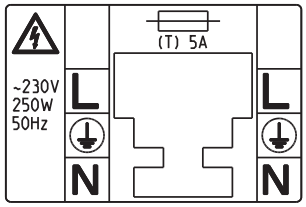
Steps for correct electrical power supply

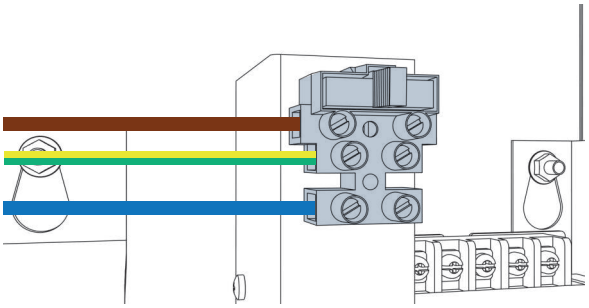
1. Make sure the thermomagnetic switch upstream is OFF before carrying out any procedures inside the control panel

2. Connect the power supply cable originating from the thermomagnetic switch and the earth cable to the terminal block located internally, in the top right-hand corner

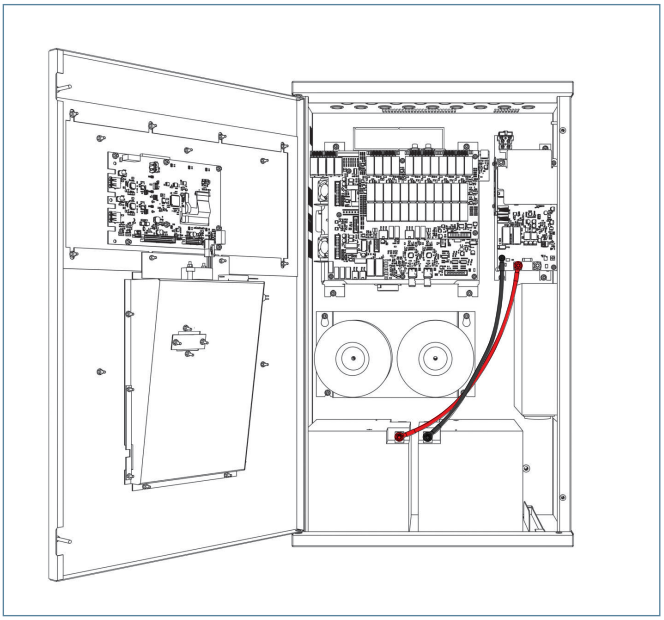
PHASE = BROWN
GROUND = YELLOW/GREEN
NEUTRAL = BLUE





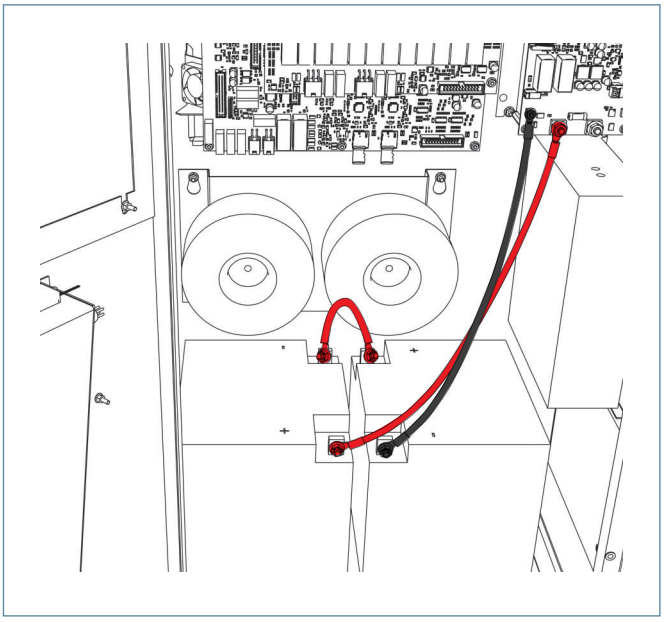


3. Connect the two wire terminals originating from the control panel power supply to the batteries, observing the polarities (red = battery 1 positive; black = battery 2 negative)



4. Set the thermomagnetic switch upstream of the equipment to ON

5. Connect the terminals inside the batteries using the cable provided

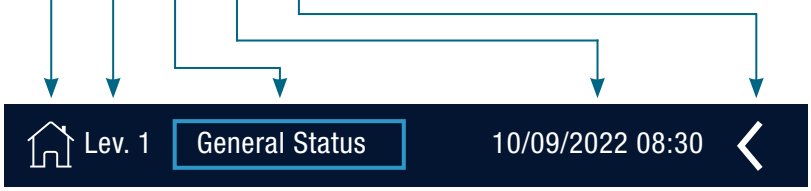


6. From this point on the control panel will be working; close the door by tightening the two screws

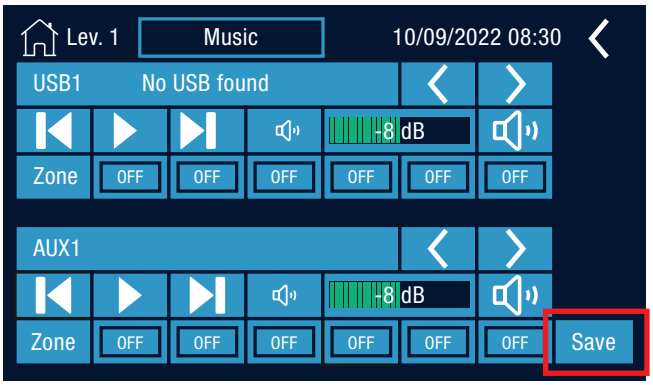
7. Menus and Using the Control Panel

Menu navigation takes place using the touchscreen display, using your finger to tap the submenus you want to access or the function you want to define/enable. Nearly all screens have a few elements at the top with specific functions:

FIGURE	ELEMENT	ACTION
1	HOME	Used to return to the HOME screen from any level
2	LEVEL	Selected access level or level editing
3	MENU NAME	Shows the name of the submenu displayed
4	DATE & CLOCK	Control panel date and time
5	BACK	Used to go up one level in the submenus

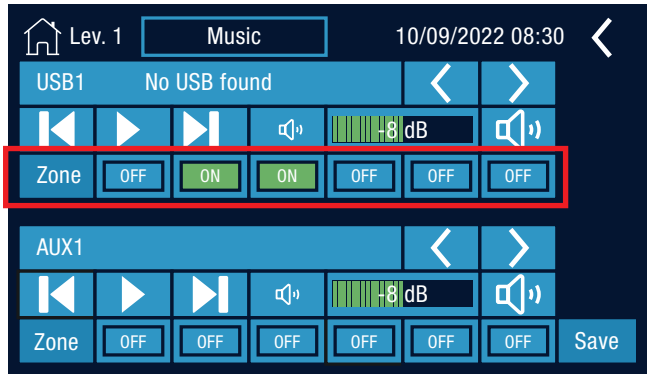


The “SAVE” key is used to save and apply the changes made in the various menus.
NOTE: This instruction will not be repeated later in the explanation of the various menus!



The zones are selected (enabled for operation) when “ON” is set on the screen.

Every pressing of the button “OFF”/“ON” changes the status.



7.1. Accessing the Menus

Access to the menus and the associated functions is password-protected according to the credentials of the operator.

LEVEL 1 USER

Can access + User Menu + Silence Buzzer + Messages
View system status. Manage playback of music and commercial messages
Default level

LEVEL 2 SAFETY PERSONNEL
Can access = USER + EVACUATE
Activate Emergency voice and recorded messages
Default password **2222**

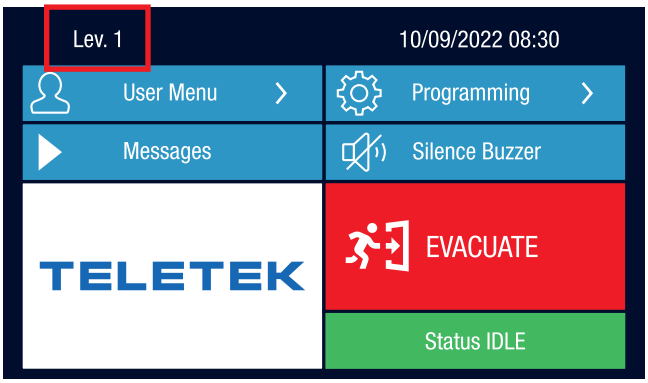
LEVEL 3 INSTALLER / MAINTENANCE TECHNICIAN

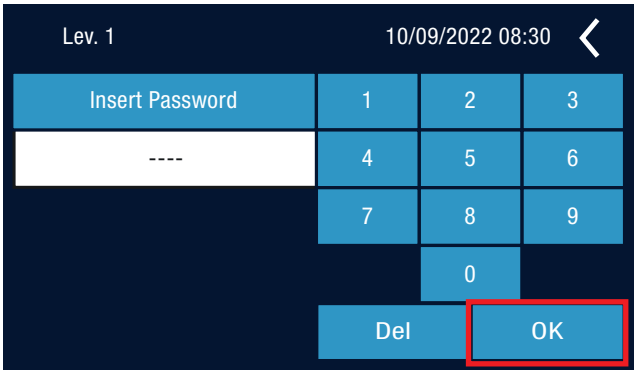
Can access = SAFETY PERSONNEL + Programming + Erasing the System and Fault log registries
Programme control panel Intervene in the event of problems
Default password **3333**

LEVEL 4 MANUFACTURER
Can access = INSTALLER + EDIT FIRMWARE
Update the firmware for the boards
Default password (installer) 3333 + 5.5mm combination or socket wrench tool

7.1. Accessing the Menus

To change the level of the credentials, press **Lev.1** and then enter the 4-digit numerical password for level 2 or 3, confirm with OK to return to Home at the appropriate level.

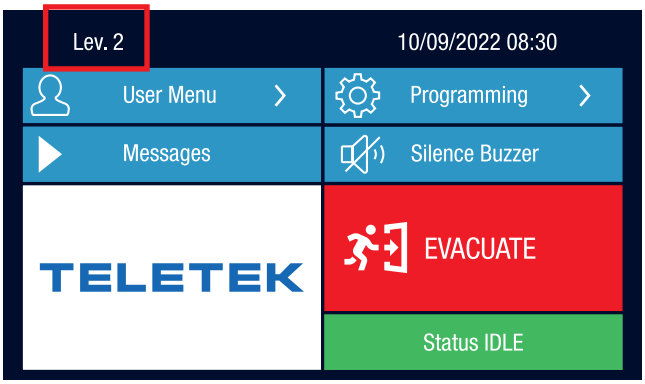


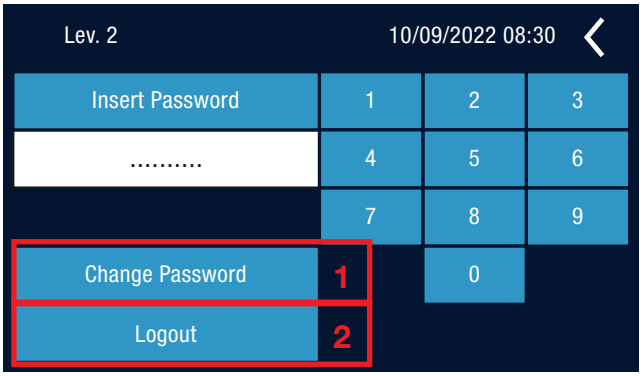


When level 2 (or 3) is selected, select **Lev.2 (or 3)** in order to:

1. Change the password for the level by selecting **Change Password**

2. Abandon the active higher level by selecting **Logout**



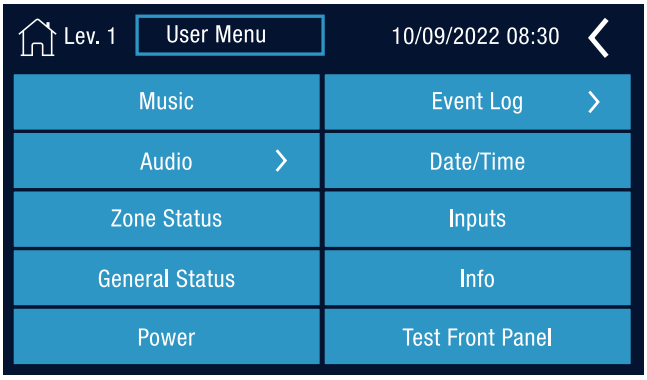


When accessing a menu/function on a higher level, the password entry screen appears automatically.

7.2. User Menu

This menu requires access to Level 1 and can be used to manage music playback, adjust the audio level and view the control panel status.

User Menu



Music: managing music playback from players

Audio: submenus for - equalising of music players, managing the BUSP/PABX bus, defining what to monitor with the monitor box, managing the 0dB output to sub-woofer or high-fidelity system, adjusting audio levels in the various zones

Zone Status: displaying the status of the various zones

General Status: displaying the status of all the control panel components

Power: displaying the status of the primary and secondary power supply

Event Log: submenus for FAULT Log and SYSTEM Log registries

Date/Time: setting the actual date and time

Input: displaying the status of the 8 monitored inputs

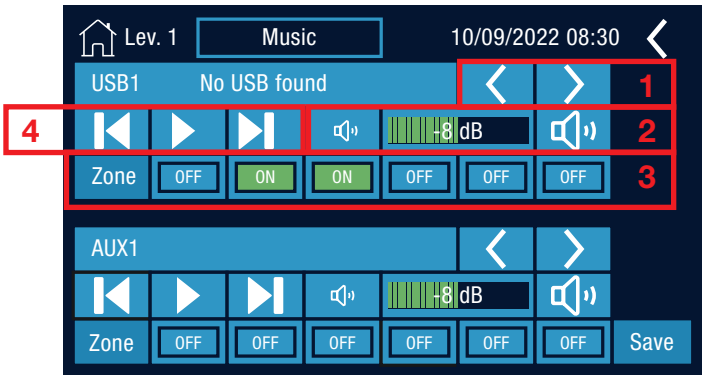
Info: displaying the Firmware version, Hardware, Variant and Serial Number for each of each circuit board for the SPIKA model

Test Front Panel: testing the operation of the LEDs on the front panel and the buzzer

7.2.1 User Menu -> Music

1. Use the arrow buttons to select the audio source: **USB1** - **USB2** - **AUX1** - **AUX2**
2. Set the audio level for the source (-60 ÷ 0 dB):
   - Press the button to decrease the value
   - Press the button to increase the value
3. Select the zones in which to play source 1, while source 2 will be effective in the remaining zones
4. Depending on the selected source, some commands will be enabled/disabled, such as track selection and start playback

The control panel allows simultaneous playback of two music sources.



The “Save” key is used to save the selections made in the various menus.

User Menu -> Audio



Audio Equal is about managing the audio level and the equalising of the 7 audio sources USB1-USB2-AUX1-AUX2-BUSP/PABX-BUS SRV-MSG (non-EVAC sources)

BUSP/PABX is a menu for selecting the zones in which the analogue audio input associated with the priority contact will apply

Monitor is a menu for selection the audio channel which should be played by the monitor box in SPIKA control panels

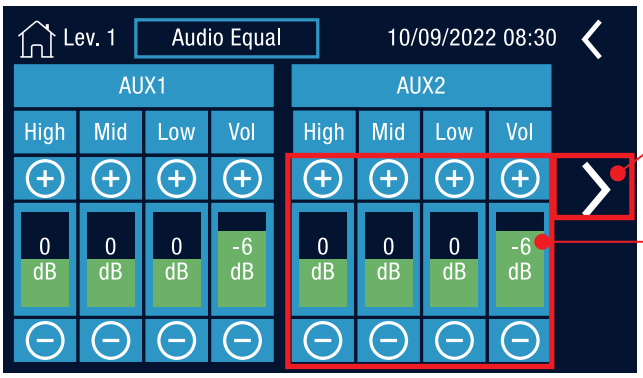
Sub-woofer is used for setting the audio channel sent to with 0 dB output

Audio Level menu is for setting the volume for the individual zones, when a non-EVAC audio source is played

7.2. User Menu

7.2.2 User Menu -> Audio

• User Menu -> Audio -> Audio Equal



This menu equalises the 7 non-EVAC audio sources: **USB1-USB2-AUX1-AUX2-BUSP/PABX-BUS SRV-MSG** (non-EVAC sources)

1. Use the button to scroll through the screen to view the other sources

2. Set the High, Middle and Low (-14 ÷ +14 dB), and Volume (-60 ÷ 0 dB) values for the selected audio source

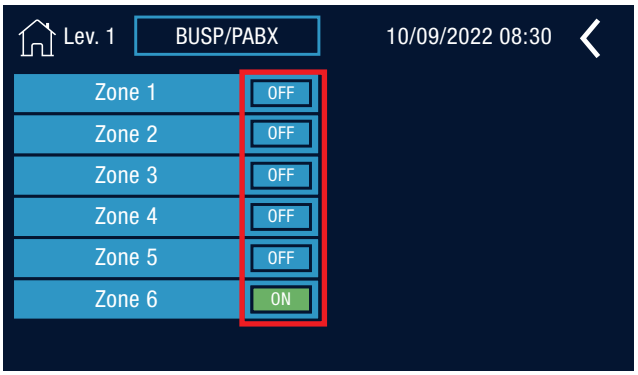


Press to increase the value

This is the currently set value

Press to decrease the value

• User Menu -> Audio -> BUSP/PABX



Select the zones* in which the voice message originating from microphone stations SPIKA-SRM will be broadcast.

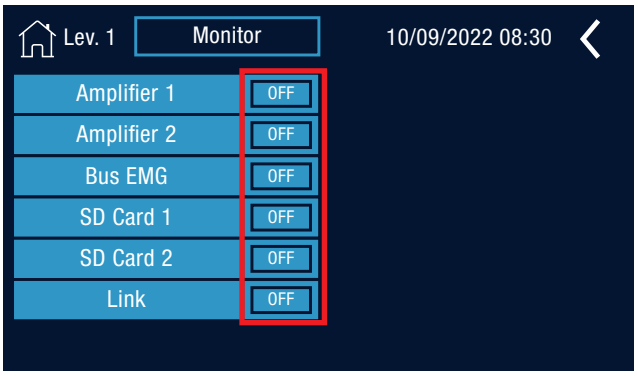
Every single press of the OFF/ON button changes the status:

ON = zone selected

OFF = zone excluded

* The number of presented zones depends on the model of SPIKA panel.

• User Menu -> Audio -> Monitor



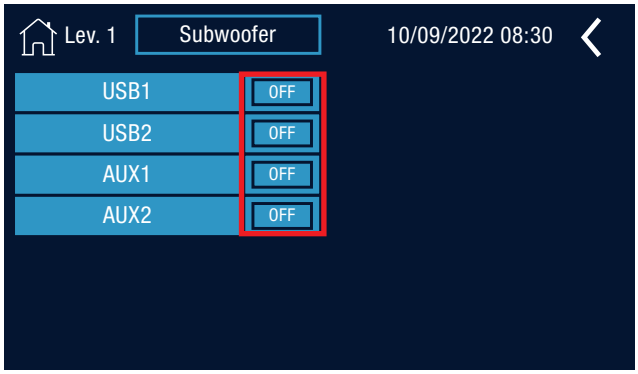
Select which audio should be played by the speaker in the monitor box on the front panel - see position 12 in item 4.5.

Every single press of the OFF/ON button changes the status:

ON = the audio source is selected

OFF = the audio source is selected

• User Menu -> Audio -> Sub-woofer



Select which audio should be sent to the 0 dB output connected to the sub-woofer

Every single press of the OFF/ON button changes the status:

ON = the audio source is selected

OFF = the audio source is selected

• User Menu -> Audio -> Audio Level



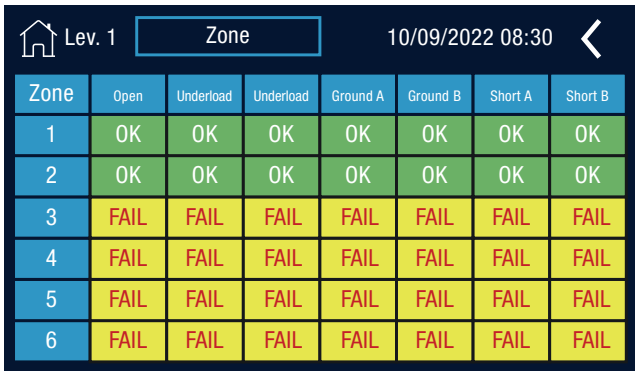
In this menu the installer sets the volume level (-9 ÷ 0 dB) in every zone* of the control panel

Press the button to decrease the value

Press the button to increase the value

* The number of presented zones depends on the model of SPIKA panel.

7.2.3 User Menu -> Zone Status



This menu displays the status of the various zones in relation to the potential error conditions:

Open - line disconnected

Underload - line load lower than the reference value

Overload - line load higher than the reference value

Ground A - short circuit to ground, line A

Ground B - short circuit to ground, line B

Short A - line A in short circuit

Short B - line B in short circuit

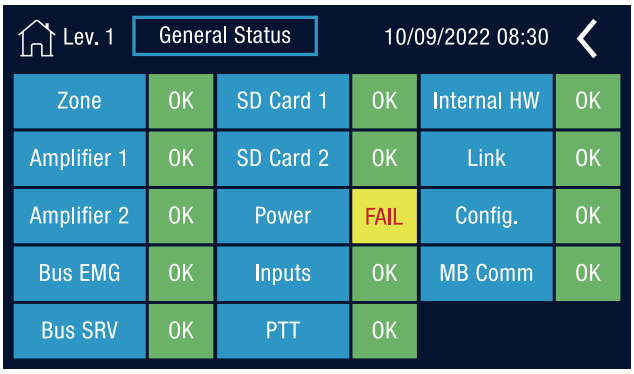
OK — indicates that the test for the specific zone was positive and there are no error conditions.

FAIL — indicates that the test for the specific zone failed and there is an error condition.

If the zone has not been calibrated, all tests will result in a FAIL. Note also, that all disabled for operation zones will be presented in FAIL condition.

7.2. User Menu

7.2.4 User Menu -> General Status



OK — The component works properly.

FAIL — There is problem with the operation of the component. Press the button to check the type of fault.

This menu indicates the status of the main control panel components

Zone - group of sound broadcast lines connected

Amplifier 1 - Amplifier 1

Amplifier 2 - Amplifier 2

Bus EMG - Microphone stations on the emergency bus

Bus SRV - Microphone stations on the service bus

SD Card 1 - reproduces messages stored on SD Card 1

SD Card 2 - reproduces messages stored on SD Card 2

Power - primary and secondary power supply system

Input - group of 8 input contacts

PTT - emergency PTT (push-to-talk) microphone status

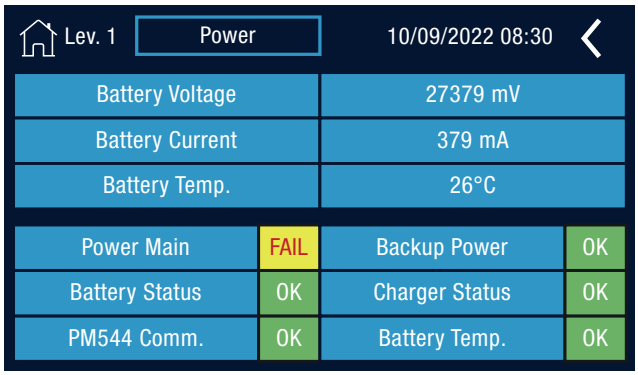
Internal HW - control panel electronics internal errors

Link - connection to other SPIKA control panels

Config. - control panel configuration status

MB Comm - communication with main board

7.2.5 User Menu -> Power Supply



OK — The component works properly.

FAIL — There is problem with the operation of the component. Press the button to check the type of fault.

This menu provides indications regarding the batteries and the status of the main control panel components used in the primary and secondary power supply

Battery Voltage - value in mV of the battery pack

Battery Current - charge value in mA of the battery pack

Temp. Battery - temperature in °C of the battery pack

Main Power - primary power supply status

Backup Power - backup power supply status

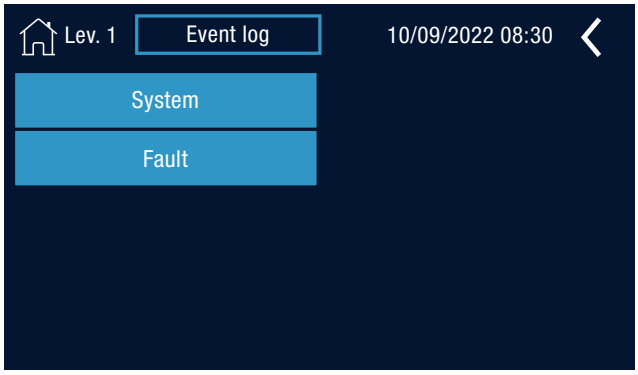
Battery Status - battery pack status

Charger Status - status of the battery charging device

PM544 Comm. - communication with power supply management board

Battery Temp. - battery pack temperature status

7.2.6 User Menu -> Event Log



This menu is used to access the 2 independent LOG registries

System: general control panel events (both activation and factory reset)

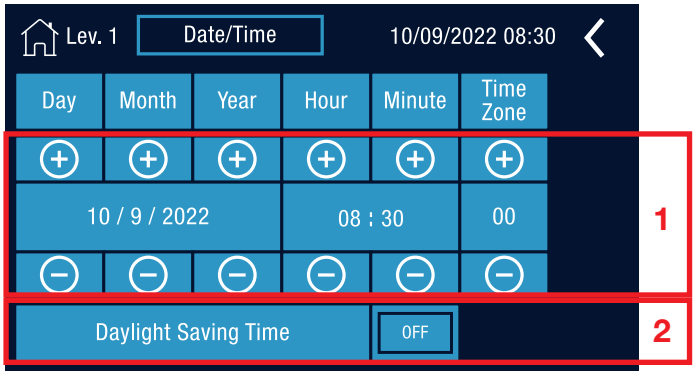
Fault: all fault indications (both activation and factory reset)

See item 7.7 Log tables for further information

At access Levels 1 and 2 is possible only to review the System and Fault registry logs.

At access Level 3 is possible to review both registry logs and to erase them.

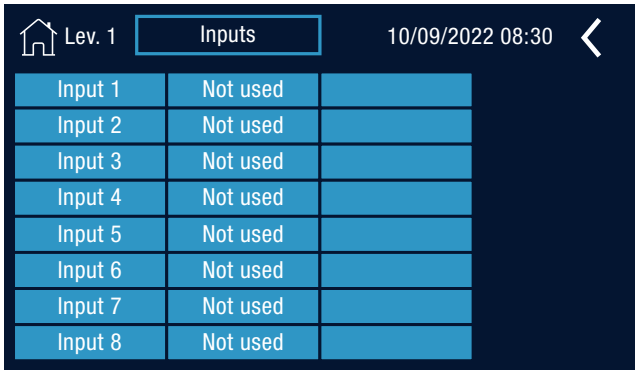
7.2.7 User Menu -> Date/Time



1. Set the control panel date and time by changing the values with "+" and "-". In "Time Zone" field set the UTC time for the current time zone.
2. Activate daylight saving time

Remember to save your changes with '**Save**' button, if such are made.

7.2.8 User Menu -> Input

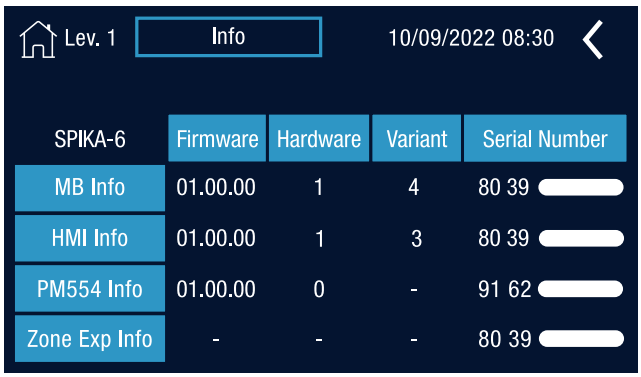


This menu shows the status of the 8 monitored inputs on the control panel. The inputs are programmed in "Inputs" menu at Level 3. See for details also item 7.3.

The inputs disabled for operation are displayed as "Not used", and those enabled for operation are displayed as "Used".

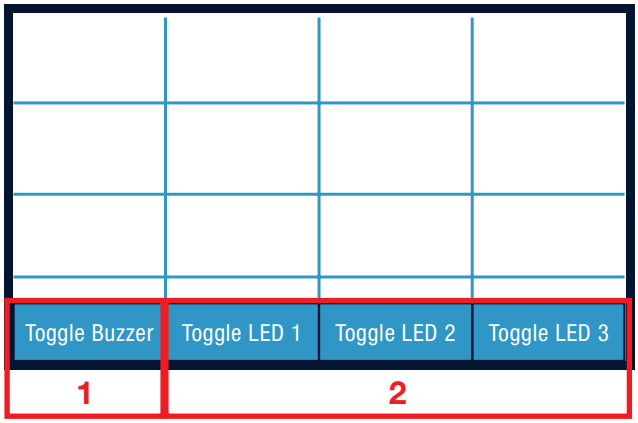
The current status of used inputs is displayed in the third column, according the condition:
- "Cut"- The input circuit is cut.
- "Short"- The input is short-circuited.
- "Activated" - The input is ON.
- "Idle" - The input is in standby mode.

7.2.9 User Menu -> Info



This identifies the panel model: SPIKA-2/4/6 and Firmware version, Hardware, Variant and Serial Number for each of the four circuit boards

7.2.10 User Menu -> Front Panel Test



In menu “Test Front Panel”, you can perform some tests:

1. of the buzzer which provides an audible indication of any faults

2. of the three LEDs on the front:

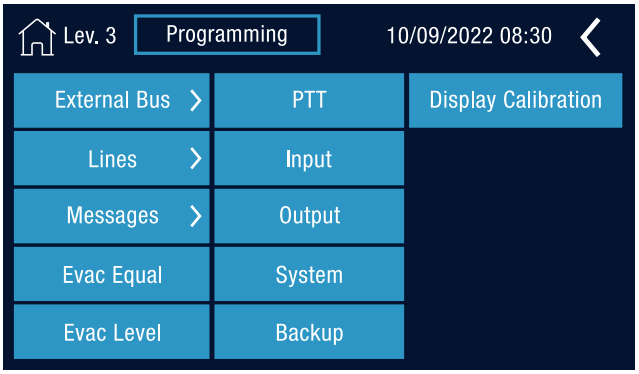
- POWER (LED1)
- FAULT WARNING (LED2)
- VOICE ALARM (LED3)

During the above tests, the display changes colour every 3 seconds

7.3. Programming Menus

Access to this menu is password-protected (Level 3) and is reserved for personnel who have been specifically instructed and authorised to use the advanced functions of the control panel and change its configuration parameters, for both system activation and maintenance.

Programming Menus - Main Screen



External Bus configures microphone stations on both the BUS EMG (Emergency) and the BUS SRV (Service)

Lines sets the parameters for the speaker lines and performs calibration

Messages configures the emergency messages, commercial messages and the chime

Evac Equal sets the audio level of the emergency messages in the various zones

Evac Level adjusts the volume of the emergency messages zone by zone

PTT defines the zones in which the PTT (push-to-talk) microphone can be heard when pressed

Input configures the 8 input contacts

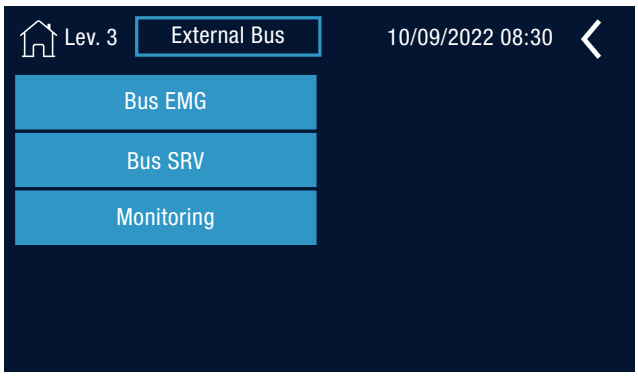
Output configures the 3 output contacts

System configures the control panel in relation to connection with other panels

Backup copies the configuration

Display Calibration calibrates the display when necessary

7.3.1 Programming -> External Bus



Bus EMG configures the microphone stations on the Emergency Bus

Bus SRV configures the microphone stations on the Service Bus

Monitoring enables continuous monitoring of the Service Bus and the chime

General Notes for Microphone Stations Configuration

It is recommended first to set the ID number of every microphone station using the DIP-switches, as described in item 5.3 - Addressing the Microphone Stations. Then add them to the system configuration following the same order - the set ID must correspond to the addressed ID position in the panel. If a microphone station is connected to the EMG/SRV bus line, but its ID number does not correspond of the addressed position in the panel, the base starts to emit short sound signals for fault condition.

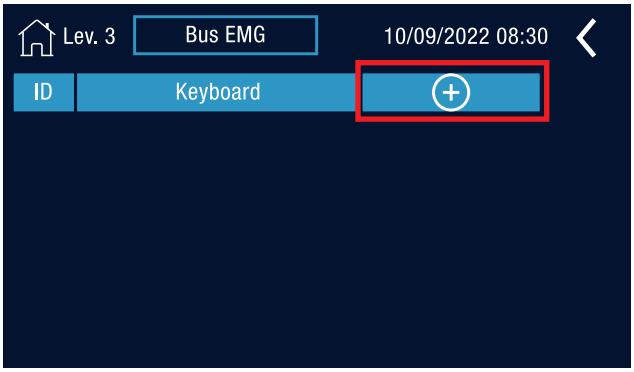
The functionality and settings of the operation buttons of the microphone stations differ according the model.

The microphone stations with one PTT (push-to-talk) button - SPIKA-EM1, SPIKA-RCM and SPIKA-RM1, are attached only to zone numbers of one or several SPIKA panels (if there are some connected into network).

For the microphone bases with 6 programmable buttons - SPIKA-EM7 and SPIKA-RM7, are available settings for the functionality of every of the buttons and attached zone numbers.

For the microphone station with up to 50 programmable buttons - SPIKA-DRM, are available settings for the functionality of every of the buttons and the attached zone numbers. The station has 3 addition programmable buttons for direct emitting of messages.

7.3.1.1 Programming -> External Bus -> Bus EMG



In this menu are attached (added) emergency type microphone bases connected to the Emergency Bus. The emergency bases are powered up from the control panel.

You can attach max. 2 (ID1 and ID2) emergency microphone bases.

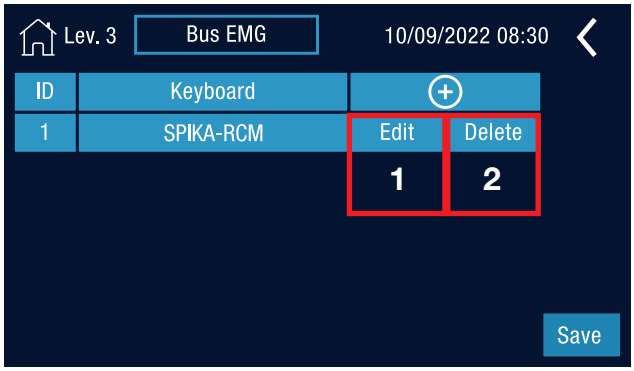
Press the "+" button - a new subscreen will appear with available SPIKA models of emergency microphone bases.

• Programming -> External Bus -> Bus EMG -> Press "+"



On the subscreen are presented available SPIKA models of emergency microphones for configuring on the Emergency Bus (BUS EMG). On the top of the screen is visible the corresponding ID number. Select the model according the system configuration - the exit from the subscreen is automatic.

• Programming -> External Bus -> Bus EMG -> + -> Emergency Microphones Settings

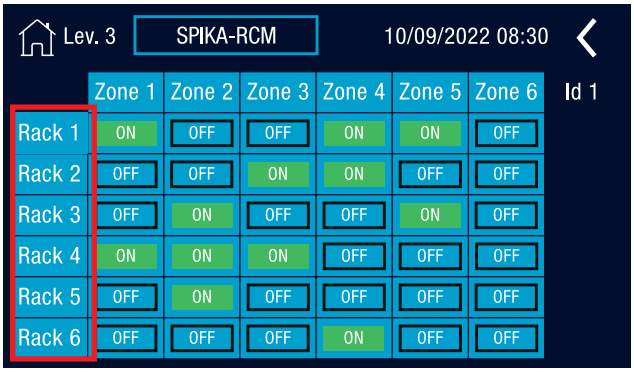


1. **Edit** is a submenu for configuration of the microphone base selected previously, it depends on the model.
2. **Delete** button removes the microphone base selected previously. Note that, if a microphone base is removed from the EMG Bus list, but is physically still connected it will emit short sound signals for a trouble event.

After saving, the display returns to the Emergency Bus menu.

After saving the added model emergency microphone base, the panel checks its physical connection to EMG Bus. If the added model is missing or does not match with the present on the bus, the internal buzzer of the panel is activated.

• Programming -> External Bus -> Bus EMG -> Edit mode (models SPIKA-EM1 and SPIKA-RCM)



Every single press of the OFF/ON button changes the status: **ON** = zone selected; **OFF** = zone excluded

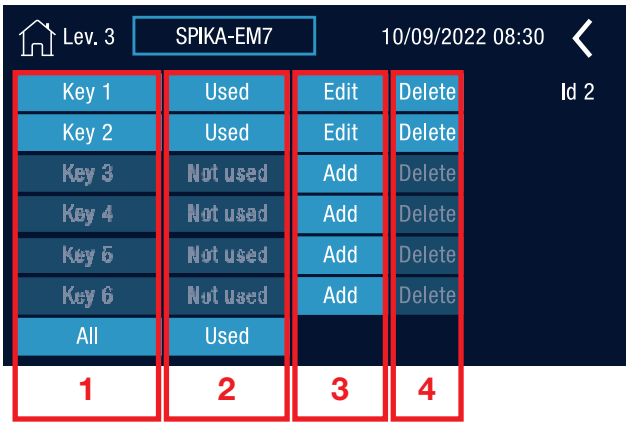
The maximum number of SPIKA control panels that can be connected to each other is 6 and therefore the maximum number of zones in which the voice from the microphone base can be heard is 36*.

* Depends on the SPIKA models connected.

In the example, there are 6 control panels model SPIKA-6 (Rack1 - Rack6).

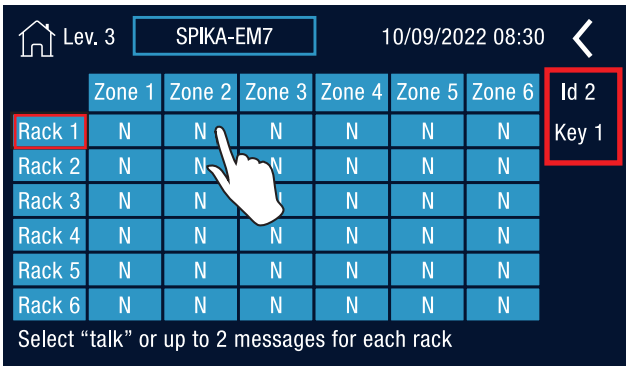
7.3. Programming Menus

• Programming -> External Bus -> Bus EMG -> Edit mode (model SPIKA-EM7)



The screen is divided in 4 columns for information and settings.

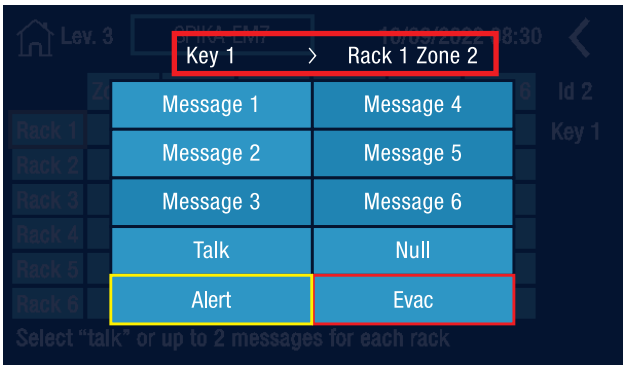
1. **Key number.** Represents the numbered keys (1-6) on the microphone operation panel, including "All" key for speaking in all zones of the control panel / system.
2. **Status of the key.** The keys with programmed voice messages/talking for at least one zone are displayed as "Used".
   "Not used" are keys with set no voice messages/talking.
3. **Add/Edit active button.**
   For all "**Not used**" keys, press the **Add** button to set voice messages/talking to zone numbers.
   For "**Used**" keys, press **Edit** button to make changes.
4. **Delete active button.** Press to erase the current programming (set voice messages/talking) of a key.



In this settings screen you can select a voice message for a respective zone. The maximum number of SPIKA control panels that can be connected to each other is 6 and therefore the maximum number of zones in which the voice from the microphone base can be heard is 36*.

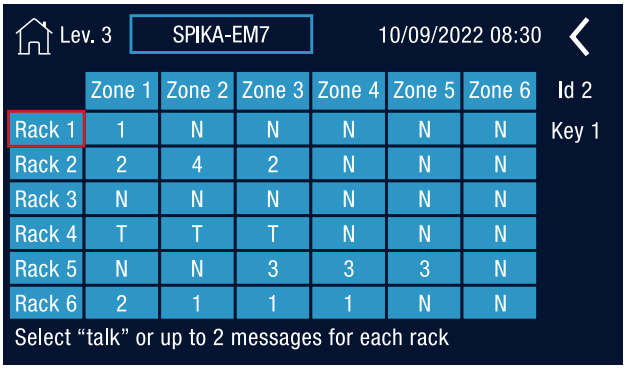
* Depends on the SPIKA models connected. In the example, there are 6 control panels model SPIKA-6 (Rack1 - Rack6).

On the right you can find some information about the programmed currently device - ID and the key number.



On the subscreen are listed all available options for setting:

1. **Message 1** - **Message 6** for announcing of routine events. They are set at access Level 3 - Programming - Messages - Announcement.
2. **Talk** used to speak to the zone using the PTT key on the microphone station.
3. **Alert or Evac message** for announcing of events for emergency situations. They are set at access Level 3 - Programming - Messages - Emergency.
4. **Null** indicates that no action will be performed.



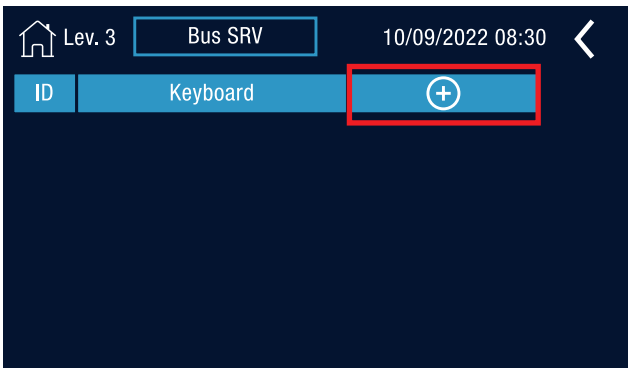
On the top of the screen you can find some information about the number of the programmed key, the number of the Rack and zone respectively.

Note that, you can set no more than 2 types of different messages for each SPIKA panel (Rack) or the option "Talk".

For example, you can set for a Rack Messages 1 and 2 (displayed as "1" and "2") for all zone numbers or the option to talk only (displayed as "T"). "N" means no action.

After all settings are completed move back with the arrow at the right top corner to the previous screen for setting the key options. Set the operation of other keys. Move back to the main screen of EMG Bus showing all added devices and press the Save button in the right bottom corner to save the configuration.

7.3.1.2 Programming -> External Bus -> Bus SRV



In this menu are attached (added) remote microphone stations connected to the Service Bus. The remote microphone stations must be powered up individually.

You can attach max. 7 (ID1 - ID7) remote microphone stations.

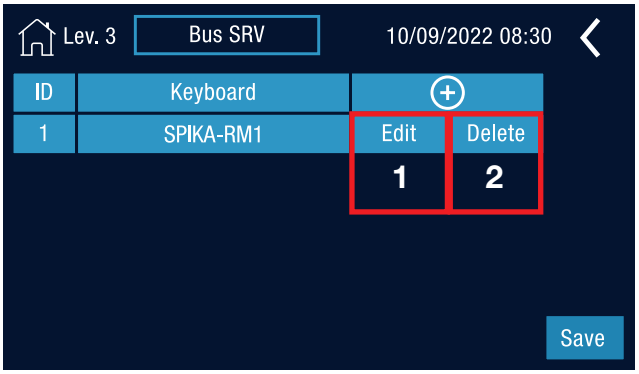
Press the "+" button - a new subscreen will appear with available SPIKA models of remote microphone stations.

• Programming -> External Bus -> Bus SRV -> Press "+"



On the subscreen are presented available SPIKA microphone base models for configuring on the Service Bus (BUS SRV). On the top of the screen is visible the corresponding ID number. Select the model according the system configuration - the exit from the subscreen is automatic.

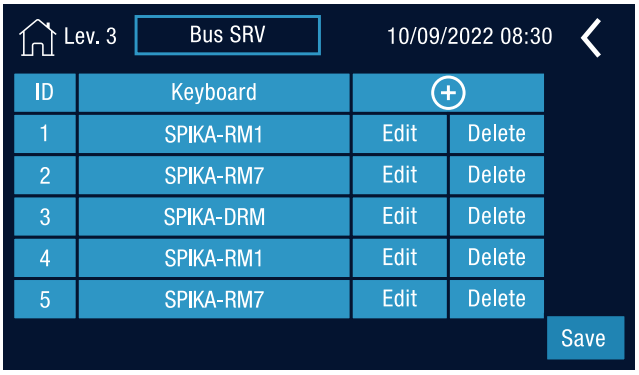
• Programming -> External Bus -> Bus SRV -> + -> Remote Microphone Base Settings



1. **Edit** is a submenu for configuration of the microphone base selected previously, it depends on the model.
2. **Delete** button removes the microphone base selected previously. Note that, if a microphone base is removed from the SRV Bus list, but is physically still connected it will emit short sound signals for a trouble event.

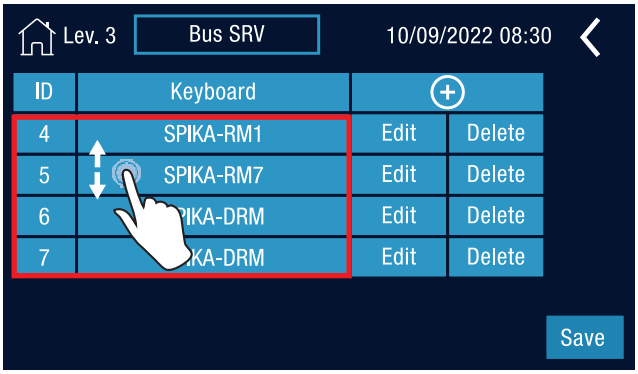
After saving, the display returns to the Service Bus menu.

After saving the added model remote microphone base, the panel checks its physical connection to SRV Bus. If the added model is missing or does not match with the present on the bus, the internal buzzer of the panel is activated.



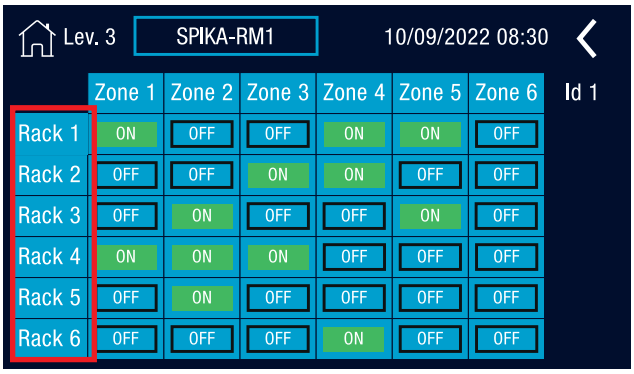
Use the "+" button to add more remote microphone bases, according your system configuration.

You can connect up to 7 different remote microphone bases to the Service Bus. It is possible to display up to 5 bases on the screen at the same time.



To review all added microphone bases to the system configuration press the screen and slide up and downwards with your finger.

• Programming -> External Bus -> Bus SRV -> Edit mode (model SPIKA-RM1)

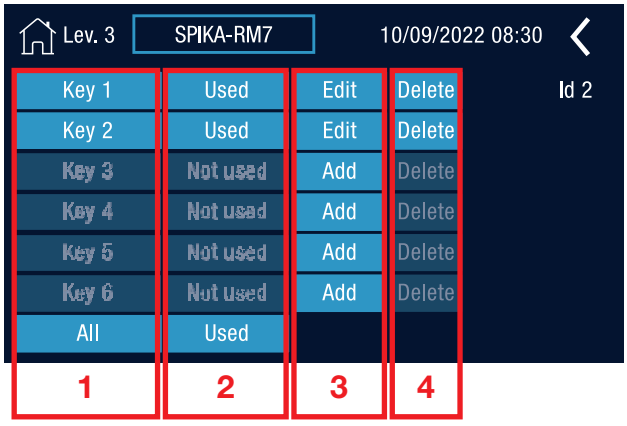


Every single press of the OFF/ON button changes the status: **ON** = zone selected; **OFF** = zone excluded

The maximum number of SPIKA control panels that can be connected to each other is 6 and therefore the maximum number of zones in which the voice from the microphone base can be heard is 36*.
* Depends on the SPIKA models connected.

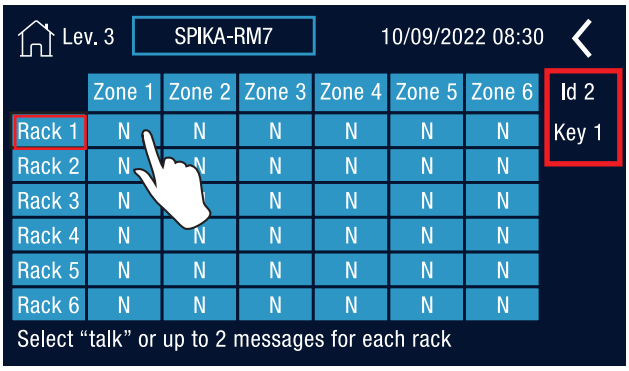
In the example, there are 6 control panels model SPIKA-6 (Rack1 - Rack6).

• Programming -> External Bus -> Bus SRV -> Edit mode (model SPIKA-RM7)



The screen is divided in 4 columns for information and settings.

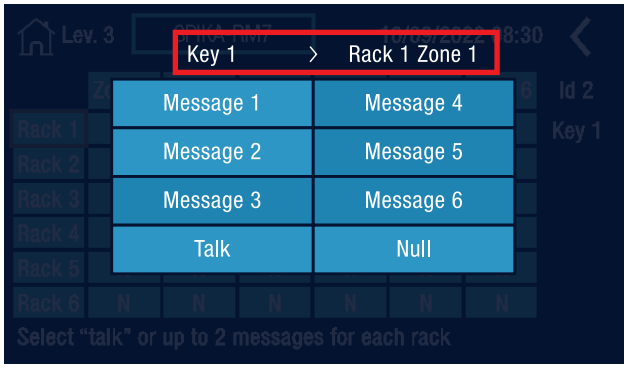
1. **Key number.** Represents the numbered keys (1-6) on the microphone operation panel, including "All" key for live on air speaking in all zones of the control panel / system.
2. **Status of the key.** The keys with programmed voice messages/talking for at least one zone are displayed as "Used".
   "Not used" are keys with set no voice messages/talking.
3. **Add/Edit active button.**
   For all "**Not used**" keys, press the **Add** button to set voice messages/talking to zone numbers.
   For "**Used**" keys, press **Edit** button to make changes.
4. **Delete active button.** Press to erase the current programming (set voice messages/talking) of a key.



This is the settings screen for selection a voice message for a respective zone. The maximum number of SPIKA control panels that can be connected to each other is 6 and therefore the maximum number of zones in which the voice from the microphone base can be heard is 36*.
* Depends on the SPIKA models connected. In the example, there are 6 control panels model SPIKA-6 (Rack1 - Rack6).

On the right you can find some information about the programmed currently device - ID and the key number.

"N" for no action is set to all zones by default.



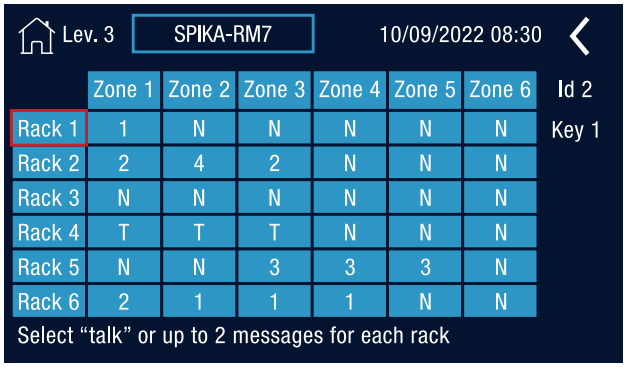
On the subscreen are listed all available options for setting:

1. Message 1 - **Message 6** for announcing of routine events. They are set at access Level 3 - Programming - Messages - Announcement.

2. Talk used to speak to the zone using the PTT key on the microphone station.

3. Null indicates that no action will be performed.

On the top of the screen you can find some information about the number of the programmed key, the number of the Rack and zone respectively.

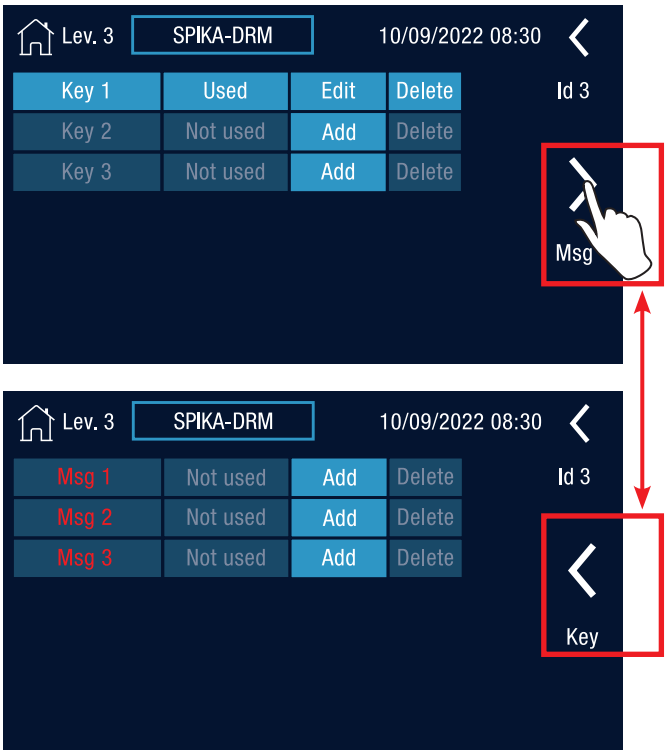


Note that, you can set no more than 2 types of different messages for each SPIKA panel (Rack) or the option "Talk".

For example, you can set for a Rack Messages 1 and 2 (displayed as "1" and "2") for all zone numbers or the option to talk only (displayed as "T"). "N"means no action.

When all settings are completed move back with the arrow at the right top corner to the previous screen for setting the key options. Set the operation of other keys. Move back to the main screen of SRV Bus showing all added devices and press the Save button in the right bottom corner to save the configuration.

• Programming -> External Bus -> Bus SRV -> Edit mode (model SPIKA-DRM)



SPIKA-DRM is a remote microphone base with extended functions. It is capable to operate with up to 47 keys (set on ID 1-47) with available programming for playing of voice messages/talking to zones and has 3 additional buttons for direct playing of messages to zones - MSG1, MSG2, MSG3 (set on ID 48, 49, 50).

The programming of Keys and Messages (Msg) is separated into two screens because of the different settings.

From the keys' settings screen press the "Msg" arrow button to move to the screen for programming direct messages. You can return to the previous screen with pressing "Key" arrow button.

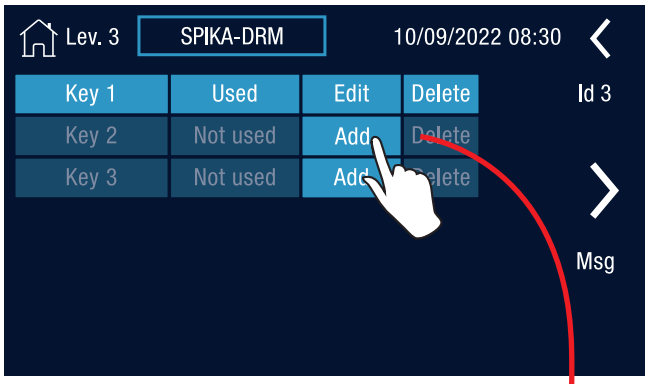
The settings and programming process are similar to those for the other bases*, as differ only into the available options:

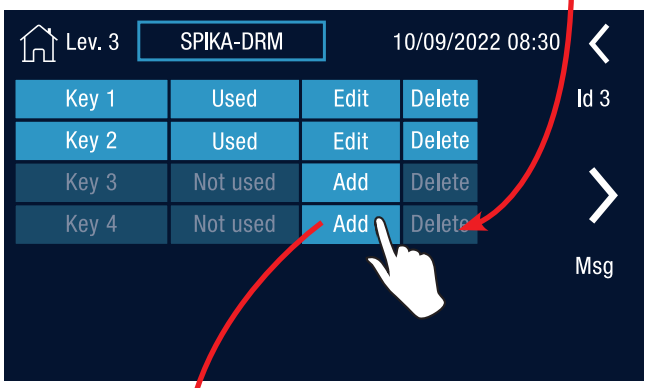
Option for Zone	Add/Edit Button	
	Key (ID 1-47)	Msg (ID 48-50)
Message 1	✓	✓
Message 2	✓	✓
Message 3	✓	✓
Message 4	✓	✓
Message 5	✓	✓
Message 6	✓	✓
Talk	✓	×
Null	✓	✓

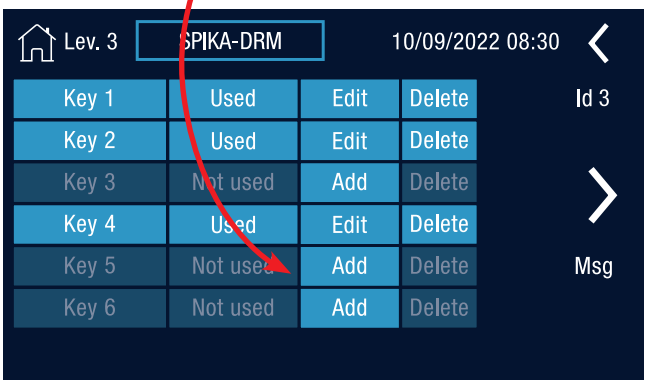
* See for details the programming of SPIKA-EM7 and SPIKA-RM7.

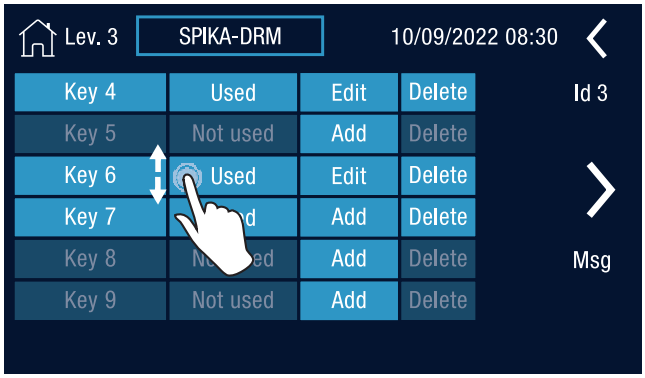
7.3. Programming

Programming -> External Bus -> Bus SRV -> Edit (model SPIKA-DRM)









Initially only the first three Keys are shown (Key1 - Key2 - Key3). The following Key numbers will appear automatically one-by-one after finishing the zone settings (voice messaging/talking).

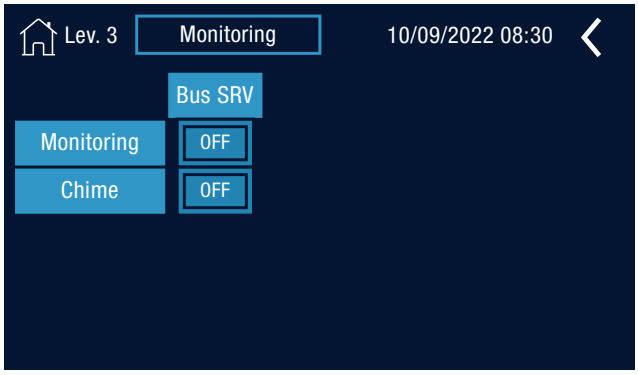
In case the programming is for a Key, which is not last in the list, the system will add only one new Key at the end.

In case the programming is for the last Key in the list, the system will add two new Key numbers at the end.

The Keys do not necessarily have to be progressive.

Each screen shows up to 7 Keys. To review all added Key numbers, press the screen and slide up and downwards with your finger.

7.3.1.3 Programming -> External Bus -> Monitoring



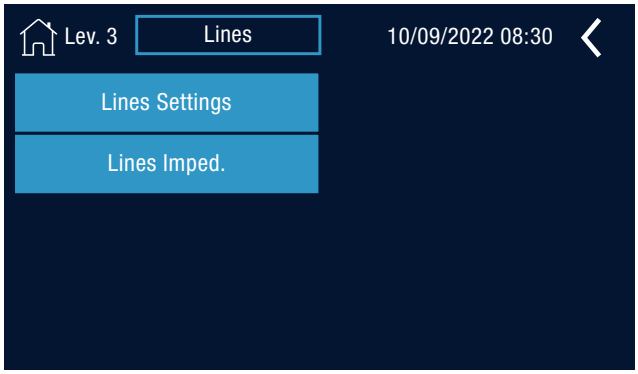
Monitoring is used to enable checking or the chime (attention signal for service communications) on the Bus SRV.

ON means it is active

OFF means it is not active

Checking on the BUS EMG is always active.

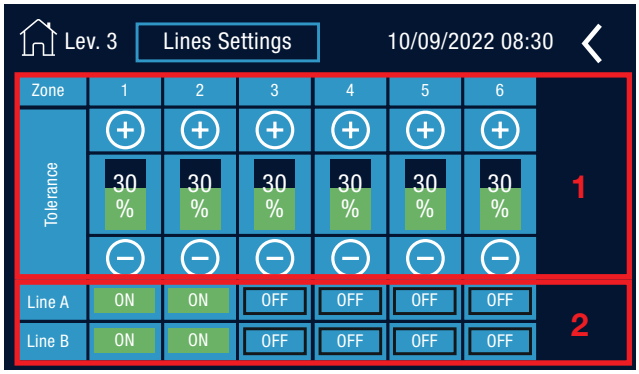
7.3.2 Programming -> Lines



Lines Settings is used to activate/disable the speaker lines and set the tolerance on those lines.

Lines Imped. allows calibration of the speaker lines.

7.3.2.1 Programming -> Lines -> Lines Settings



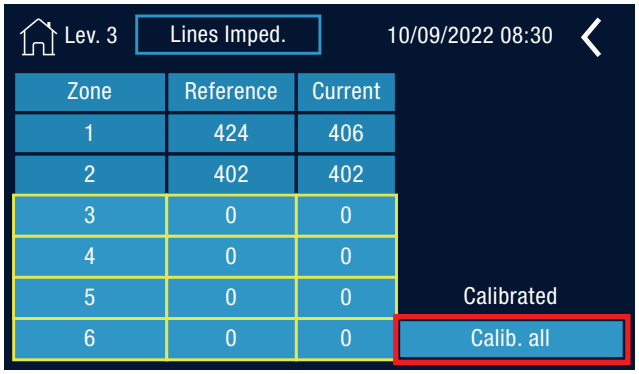
In this menu the installer sets the tolerance for variations in impedance for each line.

1. Use the "+" and "–" buttons to set the impedance tolerance for each zone (in range 10-50%).

If the control panel detects a variation in impedance greater than the set tolerance, it indicates the problem on the line

2. The operation of Lines A and B (enabled/switched off) is set using the OFF / ON keys: ON means enabled and OFF means it is switched off.

7.3.2.2 Programming -> Lines -> Lines Imped.



Use **Calib. all** button to performs calibration of all speaker zones (the number depends on the SPIKA model) in the control panel.

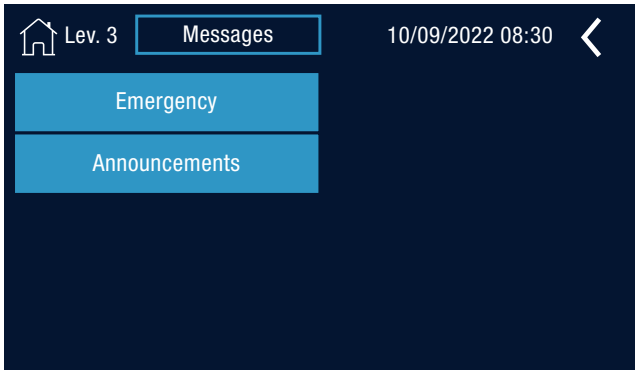
Attention: You must calibrate the zones after every change in configuration of the connected speakers!

The table shows, for each zone, both the **Current** value (last reading) and the **Reference** value to which the tolerance defined in Lines Settings is applied

The minimum power accepted by the control panel on each line is 40 W.

7.3. Programming

7.3.3 Programming -> Messages



The SPIKA control panel accepts any message in MP3 format.

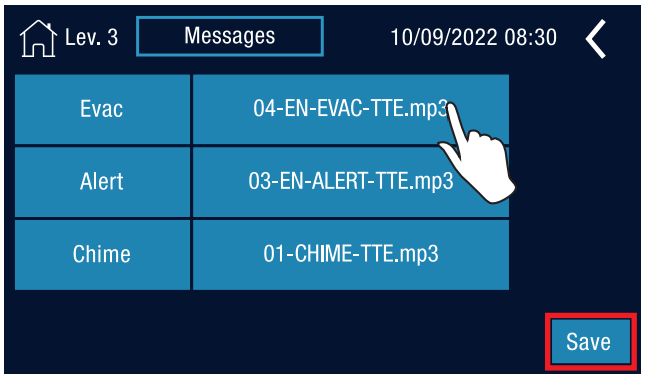
Emergency selects the messages stored on the micro-SD to be used as Evac, Alert, Chime

Announcement associates the messages stored on the micro-SD with the 6 messages required by the control panel

Refresh tracks is an option which only appears if the two micro-SD cards are replaced or changed in the messages and therefore are different from the originals.
Refresh tracks sets the new micro-SD cards as its reference value.

The content of the two micro-SD cards must be identical! If it is not, at start-up the control panel will indicate an error that the two micro-SD cards do not match and therefore Refresh tracks will not be available.

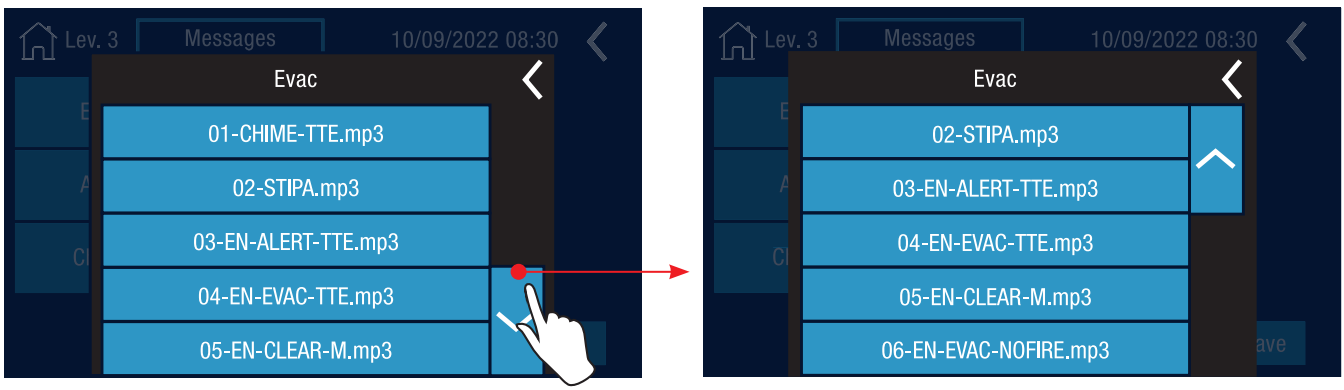
7.3.3.1 Programming -> Messages -> Emergency



This menu can be used to select a message (from those stored on the two micro-SD cards) to associate with an **EVAC**, **ALERT**, **CHIME** event.

The control panel must always have a message on the micro-SD cards that is associated with Evac and Alert

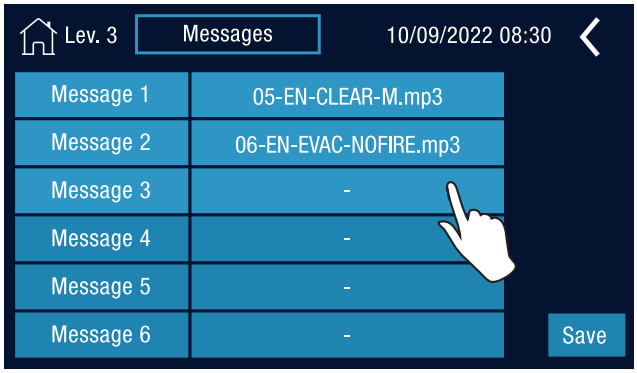
• Programming -> Messages -> Emergency -> Evac/Alert/Chime



A message is selected by scrolling through the files stored on the micro-SD cards using the arrows. After file selection, confirm it with the Save button at the main screen.

Note: STIPA file is a special test signal used by specialist for speakers audio settings. STIPA file is not suitable to be set as an emergency type message.

7.3.3.2 Programming -> Messages -> Announcements

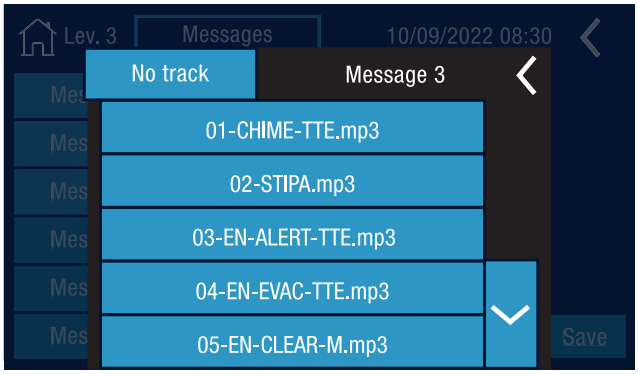


You can select a message (from those stored on the two micro-SD cards) to be associated with **Message 1**, **Message 2 ... Message 6**.

The set files are confirmed with Save button.

Commercial messages are repeated only once when activated from the control panel or from a microphone station; if, however, they are activated by a contact (input), they are repeated as long as it is active.

• Programming -> Messages -> Announcement -> Message Setting



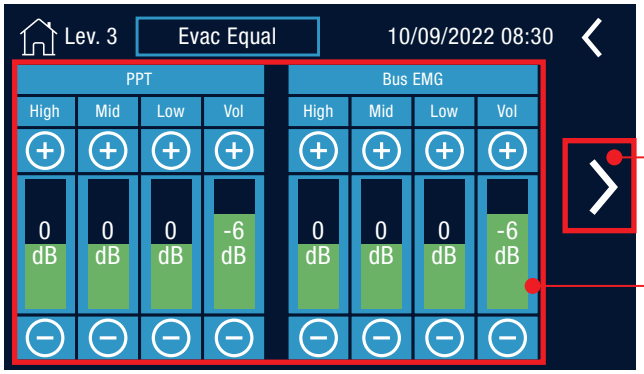
A message is selected by scrolling through the files stored on the micro-SD cards.

The example illustrates changing the message associated with Message 3.

No track should be selected when you do not wish to associate any message.

Note: STIPA file is a special test signal used by specialist for speakers audio settings. STIPA file is not suitable to be set as an announcement message.

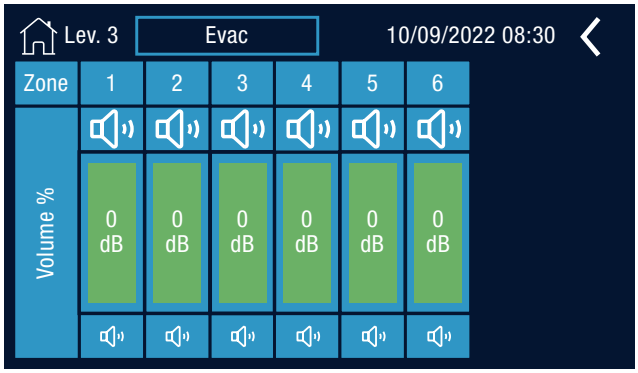
7.3.4 Programming -> Evac Equal



The **Evac Equal** menu is used to equalise the 4 channels dedicated to emergency communication: **PTT** (push-to-talk), **Bus EMG**, **Evac Msg**, **Alert Msg.**

1. Each screen shows 2 channels. By default are displayed PPT and Bus EMG. Press ">" button to review Evac Mgs and Alert Msg channel. To return back press ">" button again.
2. In addition to the **Volume** (range -60dB ÷ 0dB), use "+" and "–" buttons to change the **High**, **Mid**, **Low tones** (range -14dB ÷ +14dB).

7.3.5 Programming -> Evac Level



The **Evac Level** menu can be used to adjust the volume of the emergency messages zone by zone. The volume is set in range -9dB ÷ 0dB.

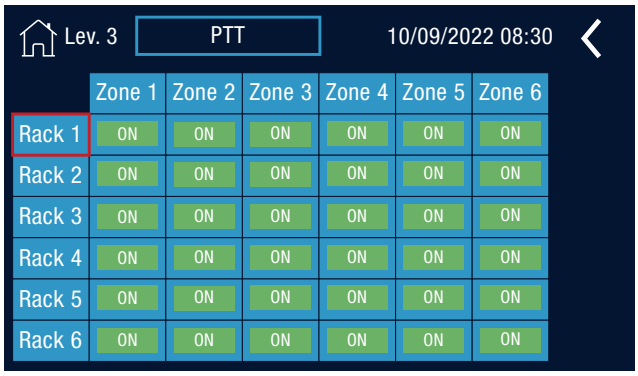
Press the button to decrease the value

Press the button to increase the value

After saving, the display returns to the main menu.

7.3. Programming

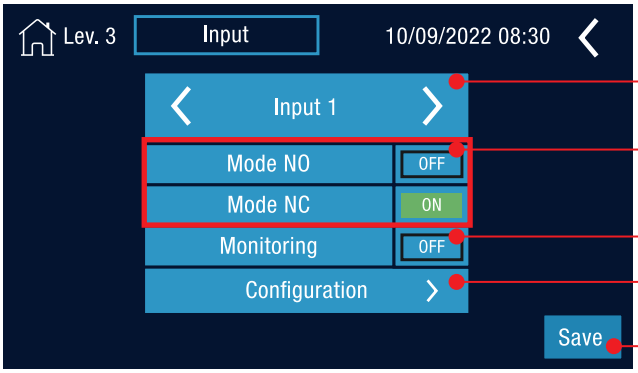
7.3.6 Programming -> PTT



The PTT menu is used to enable / disable the zones in which the main Push-To-Talk microphone on the SPIKA front panel can be heard. Every pressing of the button changes the state: ON (enabled) and OFF (disabled). The number of displayed zones depends on the SPIKA model. In the presented example, the configuration includes 6 SPIKA-6 (Rack 1-6) evacuation panels connected in a network.

As the PTT microphone is the main emergency station, initially all zones are enabled. The exclusion of some zones must be assessed carefully and in line with the evacuation plan provided.

7.3.7 Programming -> Input

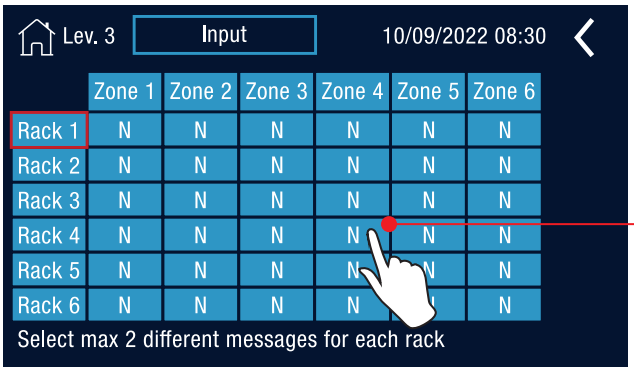


The **Input** menu is used to configure the operation of the supervised inputs at the main board - see item 6.3.

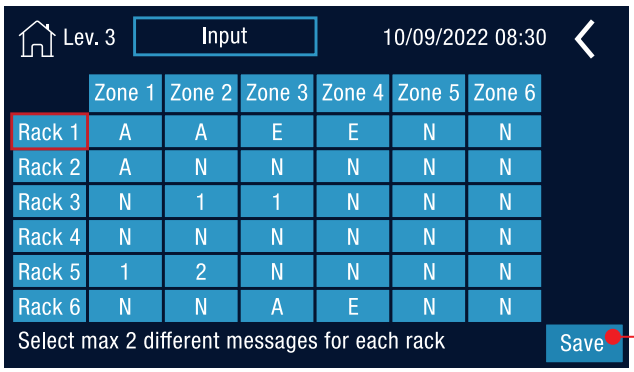
1. Use the arrow buttons to switch to select an Input number (1-8).
2. Select whether the input is **NO** (normally open) or **NC** (normally closed). These are mutually exclusive.
3. Activate **Monitoring** if you want the input to be monitored
4. **Configuration** is used to select the action of the SPIKA panel corresponding to the received signal at the input.
5. **Save** the configuration of Inputs after finishing all settings.

7.3.7.1 Programming -> Input -> Configuration

In **Configuration screen** you set the type of action (message played) in every control panel zone when the input contact is activated. Note that you can select maximum 2 different messages for each panel (Rack).





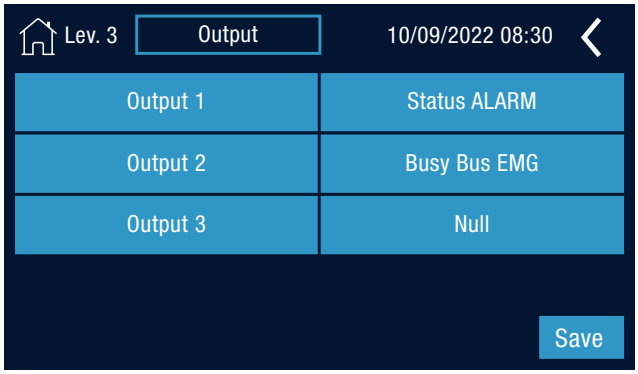


At the top of the screen is visible information about the Input number, Rack (Panel) number and Zone number. Select the Message type you want to be played when the input is activated. The set messages are displayed with respective letters in the configuration screen:

E → Evac message
A → Alert message
1..6 → service message
N → no associated message

After completing the configuration, confirm all settings with Save button.

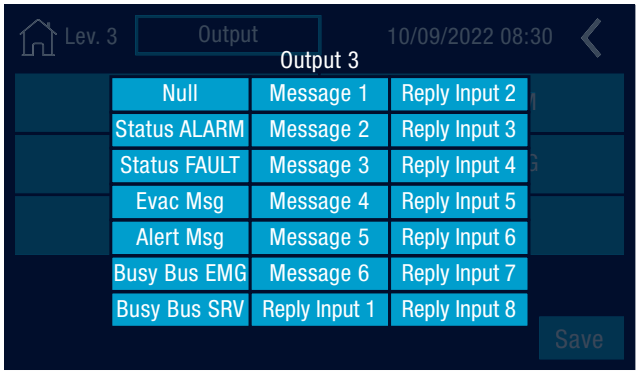
7.3.8 Programming -> Output



The **Output** menu can be used to select the condition which causes the 3 relay outputs (Output 1, Output 2, Output 3) to be activated for any necessary alerts to external peripherals - see also item 6.4.

Press the buttons to the right of the contacts to configure them

7.3.8.1 Programming -> Output -> Select Condition



For each output contact (relay), select the control panel condition which determines its activation:

Null …no condition selected and therefore output contact not activated

Status ALARM …when the control panel enters Status Alarm mode (at least one pre-recorded alarm or hands-free live voice announcement from an emergency microphone station is being broadcast)

Status FAULT …when the control panel enters Status FAULT mode (at least one fault detected by the internal diagnostics system)

Evac Msg …when the Evac message is in progress

Alert Msg …when the Alert message is in progress

Bus EMG Busy …when the Bus EMG is busy

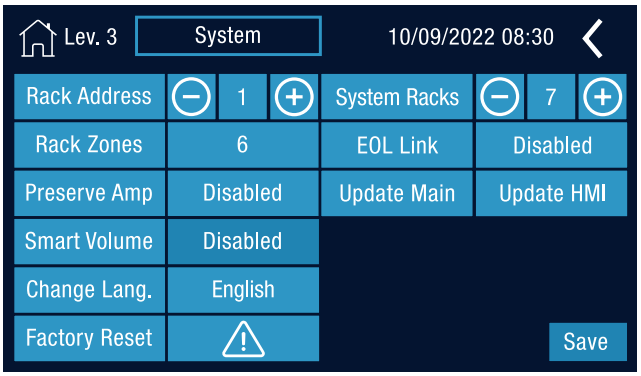
Bus SRV Busy …when the Bus SRV is busy

Message 1..6 …when Message n is in progress

Reply Input 1..8 …replicates the status of the Input contact

7.3. Programming

7.3.9 Programming -> System



Rack Address assigns a unique ID to the SPIKA panel

System Racks defines how many SPIKA units are in the entire audio evac system (connected into network)

Rack Zones indicates the number of zones available. This depends on the SPIKA panel selected and cannot be changed

EOL Link enables the 120 ohm termination resistor on the bus dedicated to connection of the control panels. For activation in accordance with the shape and topology of the system and the cables used to connect them. **It should never be activated on more than two, regardless of the number of control panels connected to one another.**

Preserve Amp Enabling the Spare Amplifier safeguards the second amplifier that only starts working when the first breaks down. SPIKA panels support two amplifiers and in the event of the first breaking down, the second takes over playback according to priority.

Update Main updates the Main board firmware (level 4)

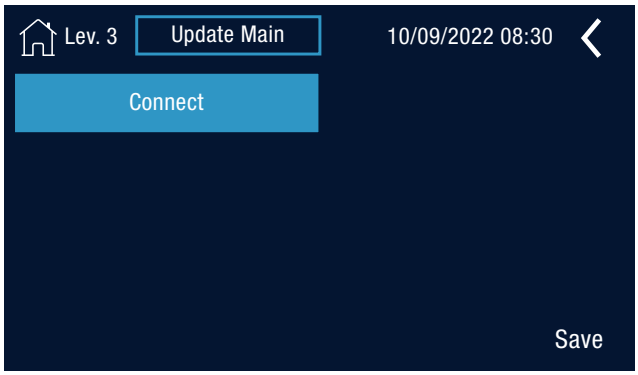
Update HMI updates the firmware for the display and the menus (level 4)

Smart Volume, a feature of model SPIKA-2 only; if an amplifier breaks down, the second amplifier covers all zones with a loss of 6 dB (not available of the Preserve Amp option is enabled)

Change Lang. selects the menu language

Factory Reset Restores the initial factory configuration

7.3.9.1 Programming -> System -> Update Main (or Update HMI)



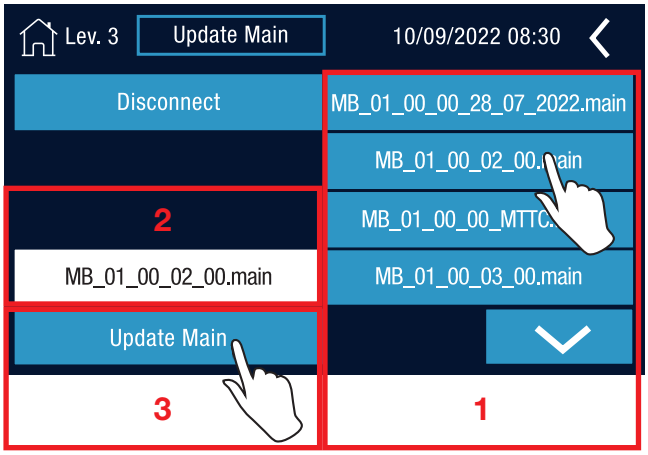
Update Main And Update HMI are carried out in the same way and require access to level 4.

In this condition the new software can be written by performing the following steps:

- remove the metal cover of the HMI board
- insert the USB stick holding the firmware into the relevant connector inside the HMI board (the exact location is shown in section 4.5)
- access the dedicated menu on the display - press Connect
- carry out a software update with Connect

This process can only be carried out at level 4 MANUFACTURER (or by personnel authorised and trained by the manufacturer)

• Programming -> System -> Update Main (or HMI) - Connect



The list to the left of this menu shows the files (**.main** or **.hmi**) for updating the firmware that are stored on the USB stick (access at level 4)

1 you can scroll through the contents of the USB stick

2 select the desired firmware - it is presented as selected into the white field on the left

3 use **Update Main** (or **HMI**) button to update the firmware

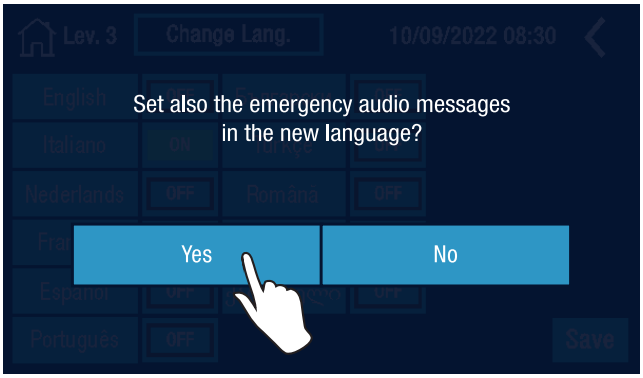
This process can only be carried out at level 4 MANUFACTURER (or by personnel authorised and trained by the manufacturer)

7.3.10 Programming -> System -> Language



This menu is used to select the menu language. Press the button next to the new language. The buttons are mutually exclusive - only one language is selected (**ON**)

Then press Save button to confirm the change.

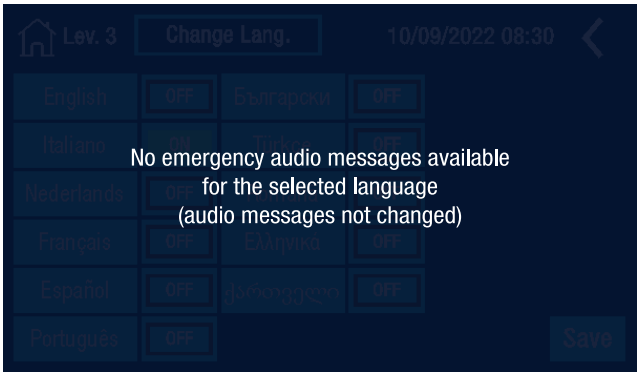


After changing the language, the system will suggest to change also the language of the already set audio messages for emergency situations (ALERT and EVAC).

It is important, the recorded audio messages on the SD card to be named respectively for the language and to include letters EN, IT, FR, etc. and to be easily recognized.

Press "**Yes**" to confirm the language change also for emergency audio messages.

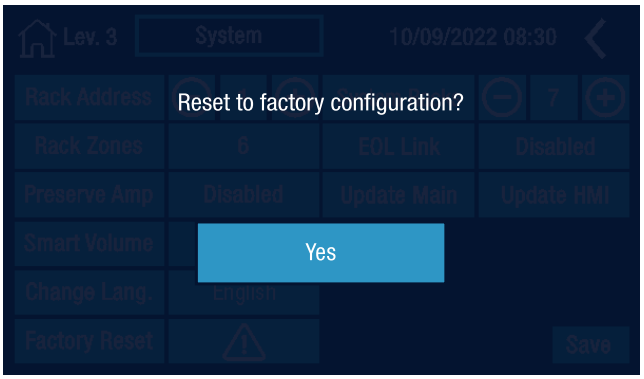
Press "**No**" if you do not wish to proceed with changing the language of the emergency audio messages



If there are no stored on the SD card messages for the selected language, the emergency audio messages remain unchanged and the following error message appears: “No emergency audio messages available for the selected language (audio messages not changed)”

7.3. Programming

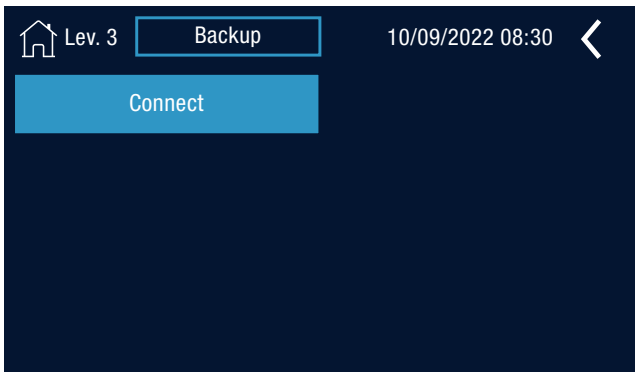
7.3.11 Programming -> System -> Factory Reset



To restore the factory configuration settings, press the button next to Factory Reset field ⚠ and confirm the operation pressing button "Yes" into the next screen.

After restoring the factory settings:
- English language will be set after panel reset.
- All added microphone stations to Bus EMG and Bus SRV will be erased from the system configuration. You must add and program them again.
- You must set the actual date and time.
- You must calibrate the lines.
- System and Fault event log is not erased.

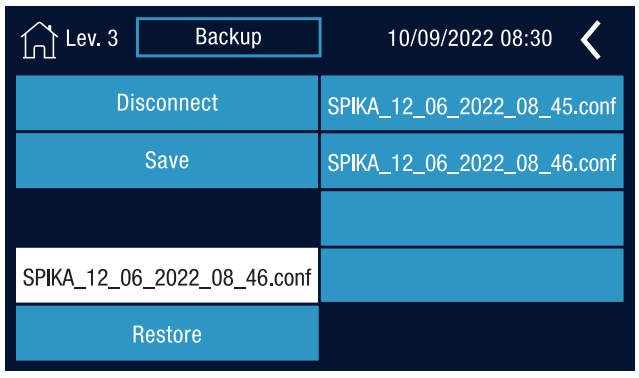
7.3.12 Programming -> Backup



The **Backup** menu is used to save / restore the control panel configuration.

With **Connect**, the control panel connects to the USB stick inserted in the HMI board which is accessed (Level 4) inside the door after you have removed the protective panel (the exact location is shown in section 4.5)

• Programming -> Backup -> Connect



This menu shows the content of the USB and can be used as follows:

Disconnect disconnects from the USB stick

Save saves the current configuration to the USB stick as a *.*conf type file with date and time in the name.

Restore restores a control panel configuration (**.conf**) selected previously (list on the right-hand side) and therefore highlighted in the white box

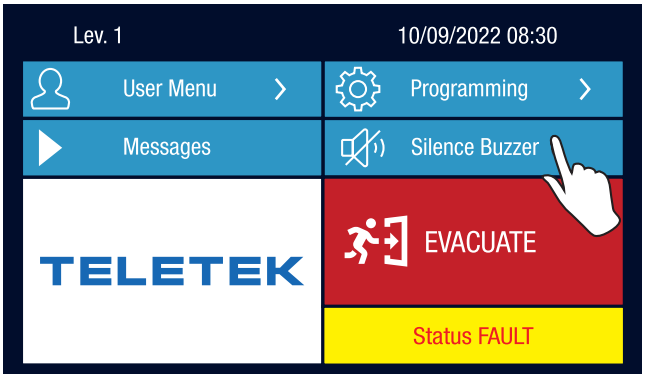
7.3.13 Programming -> Display Calibration



Follow the instructions on the display to calibrate the touchscreen and improve the accuracy of the commands in the event of problems.

7.4. Silence Buzzer

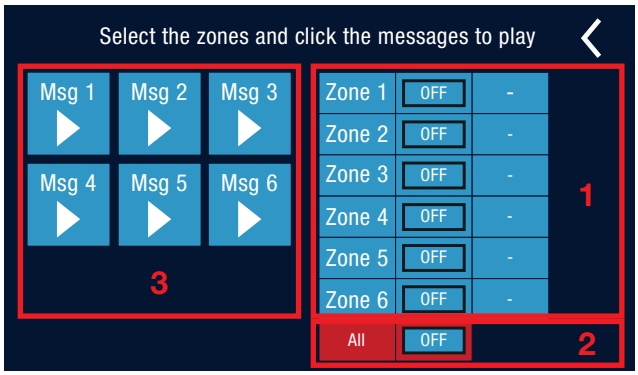
Access to Level 1 is required and allows authorised individuals to silence the audible fault indication. The internal buzzer is activated in case of FAULT or ALARM condition (as a continuous sound signal).



Silence the audible buzzer indication. This action does not remove the fault/alarm or its indication.

7.5. Messages

Access to Level 1 is required and allows authorised individuals to manage the playback of commercial messages.



This menu can be used as follows:

1. Select the zones* where the message will be played - ON the zone is selected; OFF the zone is switched off.

2. Use "All" button to enable/switch off all zone numbers.

3. Press a number of commercial message to play. The message number in progress will appear next to each zone.

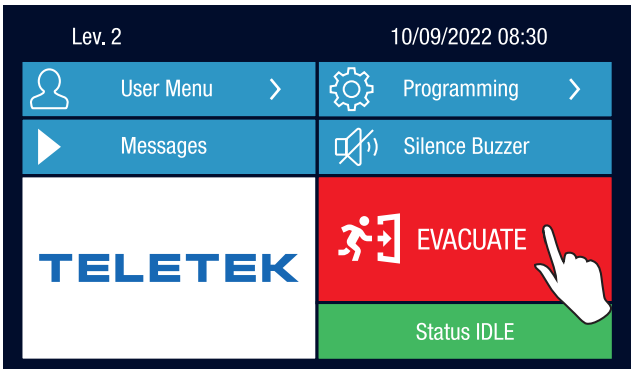
* The number of displayed zones depends on the model of SPIKA panel.

Commercial messages are played once and automatically stop after finishing.

CHARACTERISTICS OF AUDIO FILES THAT ARE COMPATIBLE WITH THE CONTROL PANEL		
TYPE	**FORMAT**	MAXIMUM SAMPLING FREQUENCY
MP3	All MP3 variants	48 kHz

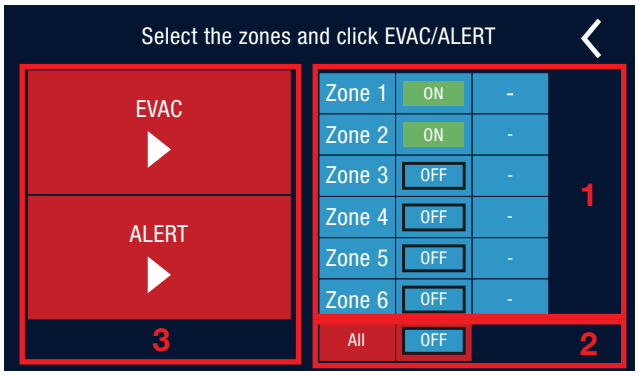
Customised mp3 audio messages can be added by removing the SD cards and entering the new audio messages on both SD cards. The titles of the messages on the SD cards must not exceed 50 characters and should be preceded by a progressive 2-digit number (following the order of the messages already stored on the SD cards). E.g. 08-evac message.mp3, 09-custom message.mp3, etc.

7.6. Manual Evacuation



Access to Level 2 is required and is reserved for personnel who are expressly authorised to activate live voice and recorded emergency messages.

To start a manual evacuation press EVACUATE button.



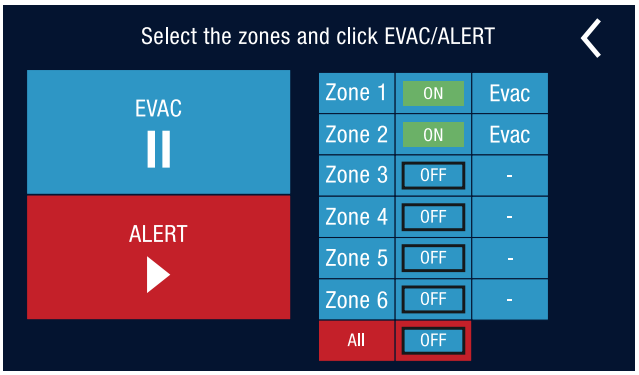
To activate EVACUATION or ALERT message, do as follows:

1. Select the zones* where the EVACUATION or ALERT message will be played: ON - the zone is selected; OFF - the zone is switched off.

2. Use "All" button to enable/switch off all zone numbers.

3. Press the button for EVACUATION or ALERT message to play.

* The number of displayed zones depends on the model of SPIKA panel.



The message in progress will appear next to each selected zone.

The Alert/Evac messages are played on a loop.

The internal buzzer of the panel will be activated. You can stop the buzzer as return to main screen - see item 7.4.

The control panel has four types of message pre-loaded on the two micro-SD cards:

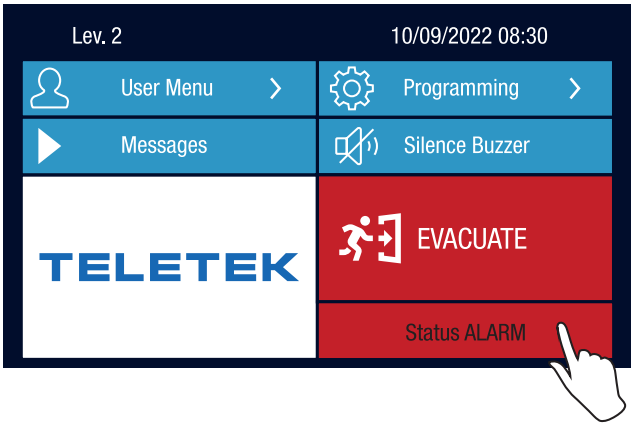
1. ALERT in various languages

2. EVAC in various languages

3. CHIME.mp3

4. STIPA.mp3

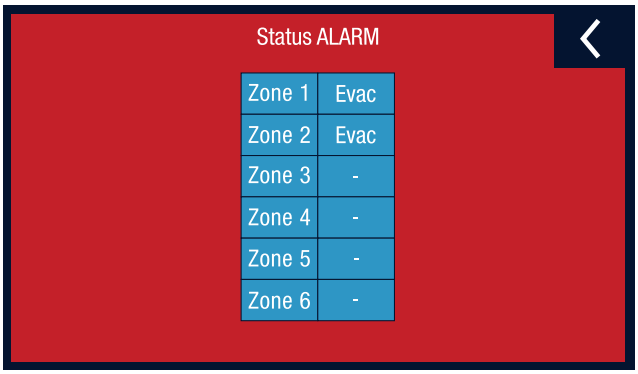
The messages used by the control panel can be changed at any time via its programming. At start-up the control panel indicates an error if it cannot identify configured ALERT and EVAC messages on the two micro-SD cards.



In case of activation of EVACUATION or ALERT message, the panel enters ALARM status mode.

From the main screen, you can review the zones and the type of message played at the moment.

Press the Status ALARM button. You can check the status from all access levels.



The number of displayed zones depends on the model of SPIKA panel.

To return to main screen, press the back arrow button.

To stop Manual Evacuation:

- Return to main screen
- Enter access level 2 or 3
- Press the EVACUATE button
- Stop the EVAC/ALERT message

7.7. Log Tables

SPIKA control panels have two different - and independent - event logs:

- **FAULT Log:** saves all fault indications (both activation and factory reset)
- **SYSTEM Log:** saves general control panel events (both activation and factory reset)

Both logs have a capacity of 4096 events and observe the FIFO rotation logic, i.e. when all 4096 events have been saved, the control panel begins overwriting them, starting with the first (oldest) event saved and so on.

The event, which can be seen on the display, is structured as follows:

- Date/time of the event
- Event description
- Activation/reset of the event

FAULT LOG DESCRIPTION	MEANING
Initialization	Fault during initialization
HMI Comm.	Communication with display lost
Ext Flash	External memory fault
SPI	Error during SPI communication
SD 1	Micro-SD card 1 fault
SD 2	Micro-SD card 2 fault
SD Mismatch	The two micro-SD cards have different files
IO Exp Matrix	Fault with the IO expander for the audio matrix
IO Exp Feedback	Fault with the IO expander for feedback signals
IO Exp Zone	Fault with the IO expander for the zone board
TDA ampli 1	Fault with the equaliser for amplifier 1
TDA ampli 2	Fault with the equaliser for amplifier 2
Input Short	Input short-circuited
Input Cut	Input cut
PTT Open	PushToTalk disconnected
PTT Short	PushToTalk short-circuited
PM544 ModBus	Communication with PM544 board lost
PM544 230 VAC	Main power supply lost
PM544 24 VDC	24 V power supply lost
PM544 Charger	Battery charger fault
PM544 Battery	Battery Fault
Watchdog	Control panel restart due to watchdog
Bus EMG Id x Capsule OPEN	Microphone base x for emergency bus with capsule open
Bus EMG Id x Capsule SHORT	Microphone base x for emergency bus with capsule short-circuited
Bus EMG Id x Type Err	Microphone base x for emergency bus incorrect type
Bus EMG Id x Comm. Timeout	Loss of communication with microphone base x for emergency bus
Bus SRV Id x Capsule OPEN	Microphone base x for service bus with capsule open
Bus SRV Id x Capsule SHORT	Microphone base x for service bus with capsule short-circuited
Bus SRV Id x Type Err	Microphone base x for service bus incorrect type
Bus SRV Id x Comm. Timeout	Loss of communication with microphone base x for service bus
Zone x Open	Zone x open
Zone x Underload	Zone x underload
Zone x Overload	Zone x overload

FAULT LOG DESCRIPTION TABLE - COUNTINUE

FAULT LOG DESCRIPTION	MEANING
Zone x Short A to GND	Zone x line A short-circuited to ground
Zone x Short B to GND	Zone x line B short-circuited to ground
Zone x Short A	Zone x line A short-circuited
Zone x Short B	Zone x line A short-circuited
Zone x Amp	Zone x amplifier loss
Ampli 1	Amplifier 1 fault
Ampli 2	Amplifier 2 fault
Config.	Configuration Error
Link x	Communication error with rack x of the Link
EEPROM	EEPROM memory fault

SYSTEM LOG DESCRIPTION	MEANING
Power On	Control panel startup
Status IDLE	Control panel in standby mode
Status FAULT	Control panel with fault
Status ALARM	Control panel with at least one zone in alarm condition
Status LOW POWER	Control panel in energy saving mode
Input IDLE	Input in standby mode
Input ACTIVE	Input On

8. Maintenance

To guarantee optimal operation, several cleaning and maintenance procedures should be performed as described in this section.



Maintenance should only be performed by qualified personnel

8.1. FW Update

Where possible keep the FW up to date; refer to chapter 7.3 “Programming -> System -> Update Main (or Update HMI)”

8.2. Display and LEDs

Make sure the visual and audible indications are working properly as per chapter 7.2 “User Menu -> Test Front Panel”

8.3. Batteries

Check the status of the batteries regularly and replace them as necessary.
(Consult the specifications and instructions provided by the battery supplier)



Risk of explosion if incorrect batteries are used in replacement. Only replace them with batteries that are identical or of an equivalent type. Dispose of used batteries in compliance with current environmental standards and procedures.

8.4. Cleaning

Clean the appliance regularly with a soft dry cloth; make sure the fans and air inlets are free from dust.

9. Technical specifications

MODEL	SPIKA-2	SPIKA-4	SPIKA-6
MAX. power (total and per zone)	500 W (250 W+250 W)	500 W	500 W
Distortion	<10%		
Display	4.3" backlit touchscreen 480 x 272 pixels		
No. of control panels that can be connected	Up to 6 compact SPIKA + 1 fire panel (with suitable protocol)		
No. of AB zones	2	4	6

POWER SUPPLY		SPIKA-2	SPIKA-4	SPIKA-6
Primary voltage		230 Vac (-15% +10%) ~50/60 Hz		
Primary power		300 VA	375 VA	375 VA
Backup power supply	Batteries	33 Ah to 42 Ah batteries can be used: e.g.12FGL42; Ri max. ~0.2 Ω		
	Min. voltage	~21 V		
	Max. voltage	~27.8 V		
	Max. current	~25 A		
Internal fuses	Power supply	T5A 250 Vac		
	Battery charge	Not replaceable: PM544.F3 63 Vdc T3A		
	Inverter	Not replaceable: PM544.F2 72 Vdc T50A		
	Audio amplifiers	2xT2A5 250 Vac	1xT6A3 250 Vac	
Battery charge	PMAX	24 Vdc: 50 W always available to the system • I max. a: ~2 Adc • I max. b: ~3 Adc • I min: ~0.85 Adc 230 Vac: I max. a = Imax. b ~2.4 Adc		

AUDIO		SPIKA-2	SPIKA-4	SPIKA-6
AB Zones 100 V	Level	+39 dBV	+39 dBV; +36 dBV; +33 dBV; +30 dBV	
	Min. impedance	32R	16R	
	BW	80-20000 Hz		
Distortion		<10%		

AUDIO Elements Characteristics (see item 4.6)

	PTT	BUS EMG/SRV	BUSp	PABX	AUX1/2	LINK	0 dB
Max. level	0 dBV	0 dBV	0 dBV	0 dBV	0 dBV	+6 dB	0 dBV
Sensitivity	-66+-3 dB	-66+-3 dB	-45 dB+-3 dB	0 dBV	0 dBV	0 dBV	-
BW	100-6000 Hz	200-12000 Hz	50-12000 Hz	20-12000 Hz	20-20000 Hz	80-12000 Hz	20-20000 Hz
SNR	>45 dB	>45 dB	>45 dB	>45 dB	>45 dB	>45 dB	-
Impedance	-	IN: 22k	IN: 22k	IN: 22k	-	IN: 22k OUT: 240R	OUT: 240R
Min. load	-	-	-	-	-	-	> 400R

I/O	
Outputs	3 relays 0-30 Vdc 1A NO/NC, configurable
Inputs	8 monitored 2K2
	1 priority PABX contact (ref. GND)

MISCELLANEOUS		
Ambient operating conditions	Temperature: +5°C to +40°C	Relative humidity: 25% - 75% with no condensation
Mounting Dimensions (L x H x D) in mm	Surface-mounted or rack-mounted	
	430 x 710 x 280	
Net weight without batteries	21.5 kg (SPIKA-2)	29.85 kg (SPIKA-4 and SPIKA-6)

TELETEK

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