

Digital Network Public Address & Voice Alarm System

VAC/C

**DIGITAL NETWORK PUBLIC ADDRESS
& VOICE ALARM SYSTEM**

Thanks for using HEINRICH Digital Network Public Address & Voice Alarm System.
For better operation, please read this manual carefully before operating the system.



HEINRICH

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1. Dear Readers

Thank you for using HEINRICH fire voice broadcasting system, in order to facilitate your understanding and the manual's description, suggestion are as follows:

The mentioned "Voice information" in the manual includes

Built-in EVAC, ALERT voice.

Built-in paging and PSTN voice menu prompt tone.

Built-in BGM, line input audio and remote paging audio.



















Note: The qty of voice information of EVAC / ALERT / BGM / PROMPT memory cards cannot exceed 100.

The system control priority

When configuring audio operation priority, please follow the principle that manual first, then automatic, local first, then remote.

Recommend to make Mic PTT and EVAC voice configuration with a higher priority. It has total 39 kinds of audio signal system, in consideration of the network bandwidth, only 24 different audio signal can be sent to the system partitions, audio priority can be configured through software (when configured with backup host, the priority of the audio signals come from one host can be the same, the priority of the audio signals come from different hosts must be different).

Some icons are described as belows

- —Loop playback.
- —Single cycle.
- —Order play.
- —Single player.
- —Random Play.
- —Click to adjust the output level of the current partition (It is invalid for EVAC voice and zone paging broadcasting).
- —Represent the current partition output muted (volume output is 0).
- —Click for monitoring audio signal of current partition.
- —It means audio signal of current partition is monitored.
- —Equipment or module fault appears in the system.
- —It indicates that the system is currently operating in an emergency mode.
- —It represents that the host is offline.
- —It indicates that the network is connected.
- —It represents the host starts the PSTN calling function.
- —It indicates that MIC is calling.
- —Green indicates that the module is working.
- —Yellow indicates module failure.
- —Grey indicates that the module is normal.

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LED Status Description of the Equipment

Yellow —Fault, system detect that some equipment is lost comparing to the current configuration, the normal operation of the system may be affected. Off - indicates that the system according to the user's current configuration does not detect the equipment, or equipments work abnormally, everything runs smoothly (in the case that module is not configured, it is also off).

Green – 1. On ---- works normally; 2. Flashing ----- current partitions which are called are all switched to playing the audio with the higher priority. Red – 1. On ---- warning; 2. Flashing ----- waiting.

The system partition status descriptions

Partition status means that the real-time job status of local speaker loop bus, which includes the loop bus open, short-circuit, ground, normal and currently working audio. When system diagnostics speakers' partition bus that has short circuit, in order to protect the power amplifier, it will immediately stop outputting audio signal of the current partition; when system diagnostics speakers' partition bus that has grounded and open, it does not stop outputting audio signal of the current partition, but it will beep and fault indication to alert the user and record the time point of failure and failure of the partition, for the specific view, please refer to the following sections.

Attention

- 1) Do not let the system equipment install in the sunlight or near a heater, because the device may become deformed or fade into the protected status due to high temperature and stop working.
- 2) Do not install the system device or store in a dusty, humid place, otherwise it will affect stability or cause intermittent fault when the system is working.
- 3) System equipment should be as far away from the strong magnetic field generated by the device, in case of high electromagnetic interferences system equipment normal operation.
- 4) System equipment are designed specifically for cabinet installation, if you install two or more units on a cabinet, between the device and the device you should set aside the corresponding space for ventilation to maintain good heat dissipation.
- 5) In order to make the system work stably, please ensure the reliability of ground connection of the equipment.
- 6) The system does not allow parallel amplifier, which may cause permanent failure.
- 7) Remote Microphone provides phantom power, real-time testing, please do not turn off the switch at work to avoid system to report failures misjudgment.
- 8) The main equipment lines of the system all have back-up, please allocate according to the actual needs. If any serious fault happens and lead to system disorder, please contact the staff for after-sales service. Do not attempt to disassemble the internal portion for personal maintenance treatment , in order to prevent permanent damage to the device or module and avoid electrical shock.
- 9) The product is the Class I device that must be connected to a power outlet with a grounding power outlet to ensure adequate grounding device.
- 10) The equipment used the power plug is disconnected from the grid power supplies, to ensure security, please pull out the power plug after using the equipment, and make sure complete loss of the power.
- 11) Because the appearance and functions of this system will continue to upgrade, but are backward compatible, any discrepancy in kind, please in kind prevail.

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2. System Overview

Nowadays the building is higher and higher and the area need to be controlled at the same time is becoming wider and wider. If EVAC System also is designed based on the traditional analog technology, there are problems about signal attenuation from the long-distance, electromagnetic interference between different space, the cost of construction and maintain, the system centralized control and monitor, the data backup, the more redundancy and so on.

EVAC System is designed for solving all the above problems. It is a perfect PA system solution that meets the demands of fire alarm, public address and BGM. It is controlled by effective MPU Module without linkage problem between different systems. The system contains our Independent developed ASD technology which system automatically detect fault, SID technology which speakers circuit detect automatically, DLB technology which for data lines Automatic redundancy. It is a more stable system with low maintenance cost in the future. If you are looking for a perfect PA system, EVAC System is your best choice. It is widely used for five-star hotel, office building, super market and stadium. Compared to EVAC System, it is more stable with better audio output which could bring you perfect feeling.

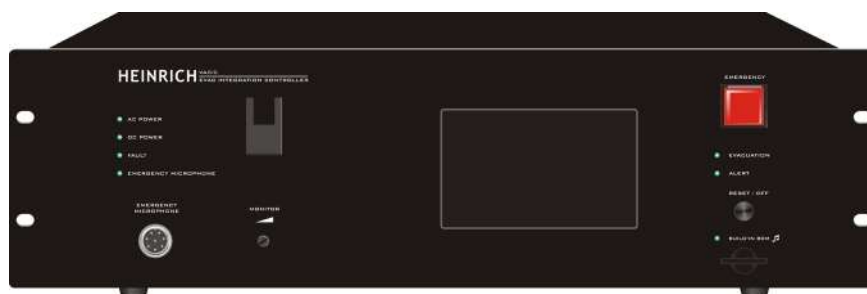
3. Products Introduction

3.1 Voice alarm system controller - VAC/C

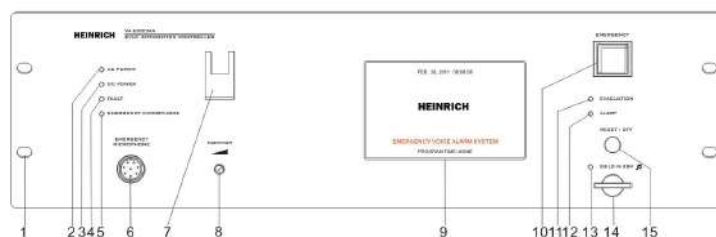
EVA system is a combination of leading electronic intelligent voice warning, alarm and public address system, can not only alert and alarm (alarm mode and alarm voice can be done by programming), but also achieve refuge guidance, It is an intelligent PA system in the absence of fire.

FEATURES

- 4inches high definition graphical operation interface with true LCD color touch screen Display.
- Support 304 partitions control and management.
- Support zone selection and grouping operations, partition volume can be adjusted independently.
- Support events trigger control output.
- Support device status real-time view.
- Support system partition monitor.
- Support event-triggered telephone notification.
- Integrates 4 independent player (supports mp3 and wma audio format).
- Up to 1000 logging.
- Can connect max 4 remote microphone with distance of 600m at the same time.
- Support line redundant cabling.



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3.2 Front Panel

1. Installing hole(19" Cabinet).

2. Host main power indicator:

- Green - indicates the current host AC power supply is normal.
- Yellow - indicates the current host AC power is failure.

3. Host DC24V standby power indicator:

- Green - indicates the current host standby power supply is normal.
- Off - indicates the current host standby power supply is not configured.
- Yellow - indicates the current host standby power is failure.

4. System Status Indicator:

- Yellow - indicates the current system has faulty, lasting light indicates the user excutes a manual reset, time lasting about 1
- minute, if detects the system faulty has not ruled out, it will continue flash; when system faulty rule out, indicator will automati

cally turn off. Off - indicates the current system modules operate properly or the system does not open the module testing.

5 & 7. Panel emergency PTT (push to talk) MIC. "5" Color status explanation:

- Off - PTT work normally.
- Green - PTT being broadcast.
- Yellow - Open circuit fault / PTT microphone internal short circuit fault.

"6" Aerial socket, can connect PTT MIC:

"7" PTT MIC hook. Before pressing PTT switch, the host will make the following judgment, the performed functions as below

- for reference:
- If user selects partition, then it is zone selection broadcast.
- If user does not select partition, then it is all zone broadcast.
- If the system operates in emergency mode without zone selection, then broadcast from the current trigger output partition.

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8. Partition monitor speaker volume control knob: When user opens the monitor partition, adjusting appropriate volume to

- monitor the audio output from the current partition.

9. Man-machine interface (5-inch TFT true color touch screen, please refer to related operations - User Manual).

10. System working mode switch:

- Red rapid flashing - the system is currently operating in a reset mode, prohibiting all manual operation.
- Off - The system is currently operating in normal mode.
- Note: 1. When the light is flashing, press to exit the emergency mode.

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10. System working mode switch:

- Red rapid flashing - the system is currently operating in a reset mode, prohibiting all manual operation.
- Red slow flashing - the system is currently operating in emergency mode (can press the button to manually enter or triggered automatically enter, under this mode playing EVAC voice is allowed, under normal mode playing EVAC voice message is prohibited).
- Off - The system is currently operating in normal mode.
- Note: 1. When the light is flashing, press to exit the emergency mode.
- 2. When the light is off, press to enter the emergency mode.

11&12&13. Evacuation voice / warning voice / background music work status indicator:

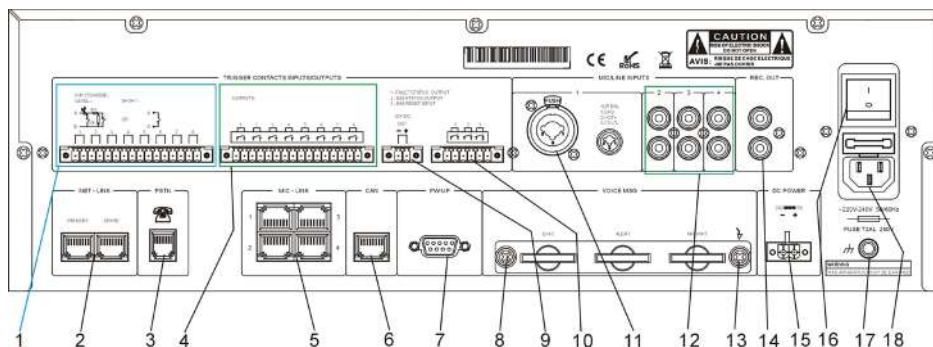
- Off - indicates the current evacuation voice / warning voice / background music work normally.
- Yellow - indicates the current evacuation voice/ warning voice/ background music has faulty.

14. The host feet.

15. Background music storage (SD)card,to store background music, can be mp3 and wma format (note the number of song in the card can not be more than 100):

16. Multi-function reset button(RESET/OFF):

- Users can choose partition to close the current selected partition output.
- If panel PTT microphone is broadcasting, press this button can quickly finish the broadcast.
- When system has faulty, press this button to temporarily turn off the buzzer output (about 1 minute, in order to turn off the buzzer output, need to exclude the prohibition detection function of system all faulty or corresponding faulty module).
- When system is under non-primary interface system, press this button to enter system log interface. Note: The order of execution - PTT broadcast - Select Partition - System fault - return to the main interface.



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1. 8 programmable trigger input signal (which can be level signal or short-circuit signal, determined by the parameters of the machine configuration).
2. System network interface.
3. Tel-phone interface.
4. 8 channel programmable relay trigger output signal.
5. 4 remote MIC online interface (note the MIC's address need to be corresponding to the remote MIC interface's number).
6. CAN bus interface, connect DC24V UPS power supply.
- 7&12. Voice SD card bezel and fastening screws.
8. DC24V/1A power output (can be programmable, manual and automatic control output).
9. From left to right: 1, system fault status output interface - when any module has fault, this interface is short-circuit output, otherwise disconnected; 2, system status output - when system work in emergency mode, this short circuit interfaces connect, it will be off in normal mode; 3, emergency reset input interface when system is operating in emergency mode, this interface reset into normal operation mode if input a low-level signal which is bigger than 0.5S.
10. Microphone / line input 1, for external users MIC / CD / MP3 / TUNER and some other audio signal
 - (when input is unbalanced 6.3 plugs audio signal as MIC input; when input is XLR balanced audio signal, as line input).
11. AUX2/AUX3/AUX4 line inputs for external user's CD players, radios and other standard audio signal.
13. Unbalanced microphone audio output signal is recorded audio signal output.
14. Host DC 24V power input jack, the external power connector.
15. Host power switch.
16. Host chassis ground (Note: Please ensure reliable ground at this point).
- 17&18. AC Main power input socket (with fuse and power switch, check the voltage range before energizing).

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SPECIFICATION:

Model	VAC/C
AC power supply	
Voltage	~220V 50Hz
The maximum current	Less than 0.2A
Fuse specifications	250V/1A, slow type
Power consumption	36W
DC power supply	
Voltage	24V DC, $\pm 20\%$
Maximum current	1.5 A
Performance	
Emergency microphone	
Sensitivity	5mV
Impedance	600 Ω
Line Input	
Distortion	<.01% (rated output power), 1kHz
Frequency Response	20Hz ~ 20kHz
Sensitivity	350mV
Impedance	10k Ω
SNR	>70dB
Record Output	
Connectivity	Cat6 and fiber
Sensitivity	200mV
SNR	>70dB
Contact output	
System fault relay output	Short circuit, no voltage
Fire interlocking relay output	Short circuit, no voltage
8 relay programmable output	Short circuit, no voltage
Programmable DC24V power	output +DC 24V, 1A
8 programmable trigger input	
Level Mode	Up to 3.3V
Short circuit	mode No voltage, short-circuit
Short circuit input	
Fire reset input Contact	$\geq 0.5S$, no voltage
Voice messages	

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Data format	MP3 or WMA format
Storage Type	SD card
Message Number	65535 (programmable up to 255)
Save time	>10 years
Log information	
Data format	HEX
Storage Type	Nand Flash
Message Number	1000
Save time	>10 years
Mechanical specifications	
Dimensions (L x W x D)	484*132*449 mm (19 inch width, 4U)
Net Weight	About 8.0 kg
Installation	Desktop or 19 inch rack
Color	Black
Environmental requirements	
Operating temperature	+5°C~+ 40°C
Storage temperature	-20°C ~+ 70°C
Relative temperature	<95%

4. System Operating Instructions

Emergency Mode

Enter emergency mode method

1. Auto - Triggering emergency or fire linkage bus linkage.
2. Manual - Press red button which is with cover in the panel (VAC/C or Microphone).
 - Exit Emergency Mode method - Fire Reset
1. By pressing the red button in the panel (VAC/C or Microphone).
2. Through fire linkage dry contact input control.
3. By fire linkage system reset control.

Note: The system EVAC voice information must enter emergency mode. EVAC voice information playing

- Make sure the system is currently operating in emergency mode - red button indicator is lit (slow flashing).
- Select the partition.
- Select EVAC Voice.


Ordinary voice messages playing

- Select the partition.
- Select the voice message you want to play.

Note: When the selected partition is working, the selected voice must have a higher priority than the voice which is playing, otherwise the selection is invalid. View the status of the device and module Description:





- For the optional devices which have not been configured, the corresponding devices will show gray and its operation is prohibited.

- To view the host voice information, you need to load into the sub menu "Emergency microphone PTT & voice messages ..." of "host state Main Menu".

- Each device display on "Main Menu", once a fault is detected, the corresponding device icon will show  , then you can click on the corresponding device menu, enter the lower sub-menu interface in conjunction with the function keys on the right you can find out specific fault module type.

- The status of each sub menu in "XX Status Menu" is shown by icons and text, icons indicate its current image of the type of device, the text indicates its current working state, green font indicates normal operation, yellow font indicates failure, white font is the default display font regardless of device module status, in addition to the text description of all menu items have item after three small digital point indicates that you can click to enter a sub menu again.

- Position System Charger connected decide its status attached to the corresponding device, such as a host VAC/C, backup power have configured, want to know the current configuration of the charger working status, we need to enter the corresponding DC power menu to view;

- System MIC (Microphone / Microphone) working status is determined by the host, the host can be determined by the current host ID or host name, that means users can name the different hosts in one system different name to differentiate them by software EVAC, so that is easy to manage, of course, can also be in the main interface, click "  " to enter the "zone control" submenu View "  " (behind the numbers is the current host number), or click "  " to enter submenu check "  HOST 01 " where "EVAC host 01" in the "01" that is the first host system, the name is the default, you can modify its own host name, such as "total control Center" (the other system-related user-defined name (such as: host name, partition name, group name) named character not more than six characters, 12 ASCII characters, also recommended not to use punctuation characters mixed with ASCII definitions to not display properly, you can not use the keyboard "|", ^ "symbol, the system for other purposes).

4.1 EVAC system controller status inquiries and operations

Click on any region Logo screen to enter the "Main Menu", click "EVAC Host" enter as shown below "EVAC host Main

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Logo Interface

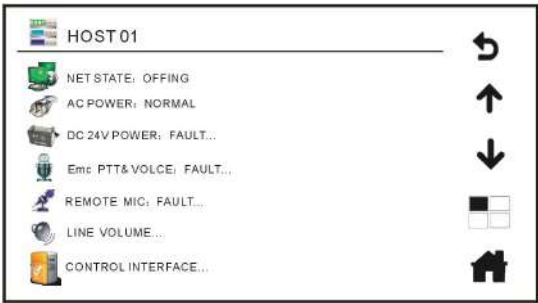


Main menu

Explanation:




In the "main menu", the first three menu items displayed on LCD for the system equipment status, namely EVAC host, amplifier guide and zones amplifier, click to view real-time status of the corresponding device. The other six menu items are: "Date & Time" is used to calibrate the system calendar; "regular program" is used to view system timing program and weekday settings; "System Settings" is used to view and configure system parameters; "zoning control" working for the system partition and the partition status to view the output speech control; the "background music" for background music player control; system self-test six menu items, a total of nine main menu items, the interface for the functional operation of the

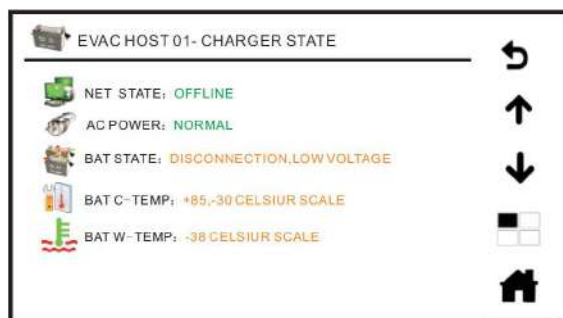
rightmost keys, function interface associated with the current, such as the top "↶" means to return to the previous menu on the current menu, "⏮" indicates the page Up, "⬆" indicates down, "⬇" stands directly into the "Main Menu", "🏠" means direct access to the system "logo screen" which is standby interface. Enter EVAC host, then enter the main menu to view status: Click on logo interface EVAC host



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Menu Instruction:



1.  This icon shows physical and logical connection status between host and network. "Online" is displayed in green letter and "Offline" is displayed in yellow letter.
2.  This icon shows AC ~220V main power status: "Normal" or "Fault"; (It will show as "Normal" while working without DC 24V backup power; it will show as "Fault" while system is powered by 24V backup power and main power is disconnected.)
3.  This icon shows backup power status: Normal/Fault/Unconfigured. It will show as "Normal..." (in green) while host has detected that DC 24V is connected; it will show as "Fault..." (in yellow) while battery voltage is low, battery is disconnected, operating temperature exceeds the set value or charger is faulty; it will shown as "Unconfigured" (in grey) while there is not battery connected. It will show as below if system is equipped with battery: EVAC Host 01- Charger Status
 - Network Status: Online or Offline (detect communication connection of charger), it will show as Online when it's normal.
 - AC Power: Normal or Fault (it will show as Fault while system is powered by 24V backup power and main power is disconnected).
 - Battery: 3 kinds of statuses: Connected, Normal-voltage; Connected, Low-voltage; Disconnected, Low-voltage (system can detect battery voltage).
 - Battery Operating Temp. Range: +80,-30 Celsius degree (Temp. unit has 2 modes: Celsius and Fahrenheit—configure in software, default setting is Celsius).
 - Battery Operating Temp: +00 Celsius degree (system detects battery's operating temp.) Check other charger status by pressing up and down icon when there is more than one charger.

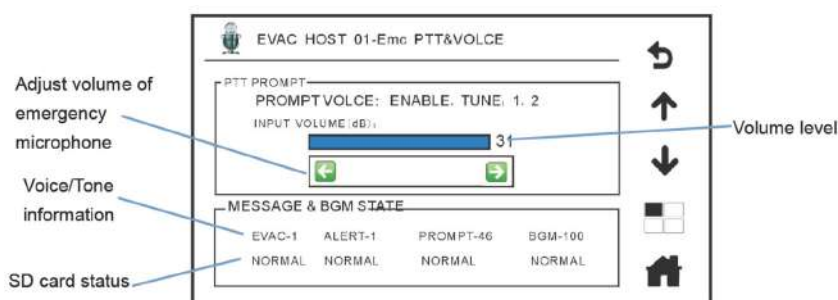



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This submenu (Emergency Microphone PTT & Voice Messages) is shown below. Note: in order to prevent self-actuated, output level of PTT microphone is set at 16.

Press and enter the submenu, and it will show all relative statuses in this submenu. PTT Paging & Prompt Tone

- Prompt tone: Open/Closed (configure in software)
- Tracks: 1, 2 (prompt tone list: the former is the tone before speech, the latter is the tone after speech) can be configured in software
- Input Volume:   Adjust volume of emergency microphone by pressing left and right icon
- Voice & BGM Status:
 - Evacuation-5 (figure represents voice quantity) the next line shows working status: Normal or Fault.
 - Warning-2 (figure represents voice quantity) the next line shows working status: Normal or Fault.
 - Prompt-00 (figure represents tones quantity) the next line shows working status: Normal or Fault.
 - BGM-100 (figure represents songs quantity) the next line shows working status: Normal or Fault.




5.  This icon shows current status of remote microphone: Normal/Fault... Note: system default setting doesn't configure it. Press this icon and enter the submenu to check current remote microphone status. The submenu (Host

01-Remote MIC01) is shown below:



Host 01-Remote MIC01 or Fireman MIC01 (Check other remote microphone status by pressing up and down icon when there is more than one remote microphone)

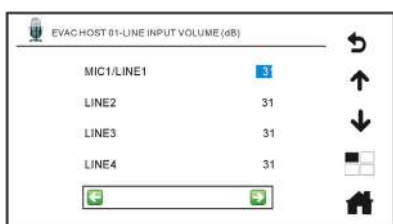
- Network Status: Online/Offline (detect connection status between microphone and host)
- Prompt Tone: Open/Closed (configure in software)
- Tracks: 1, 2 (prompt tone list: the former is the tone before speech, the latter is the tone after speech) Configure in software.
- Handheld MIC (Gooseneck MIC): Normal/Fault.
- Interface 1 (corresponding to remote microphone interface on rear panel)

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6.  Line Input Volume... Enter submenu (Line Input Volume) by pressing this icon to adjust line input volume. Check other line input status of other VAC/C by pressing up and down icon when there is more than one VAC/C. Note: system default setting configures one VAC/C, the following is the same;

Introduction:

If want to adjust output volume of "MIC1/Line1", please press figure "31" in the same line with "MIC1/Line1", then turn into operable status (shown below), press   to adjust volume (maximum volume is 31 and minimum is 0). The rest may be deduced by analogy.



Line Input Volume

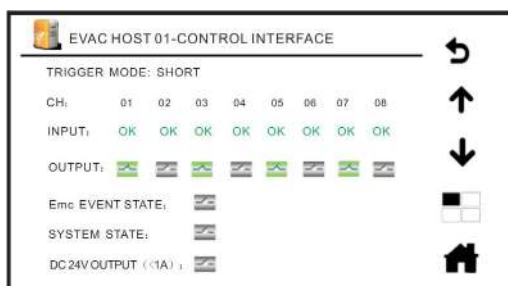


Line Input Ports on Rear Panel

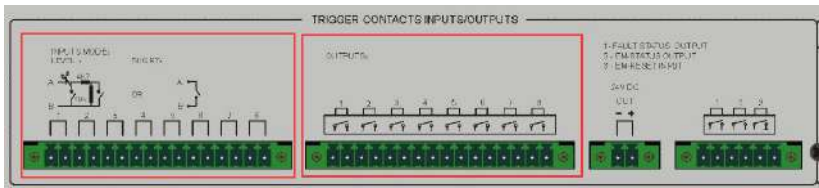
7. Online Interface... Press this icon and enter the submenu to check online interface status of current host. The submenu (EVAC Host 01-Online Interface) is shown below:

EVAC Host 01-Online Interface

- Trigger Mode: Electric Level or Short Circuit mode (mode can be configured in PC software)
- Channel: 01 02 03 04 05 06 07 08 (host 8-channel interface INPUTS MODE: LEVEL and SHORT).
- Inputs: In Electric Level mode: it will show as Normal when it's normal, show as Open when it's open-circuit, show as Triggered when it's in fire alarm. In Short Circuit mode: it will show as Normal when it's normal, show as Triggered when there is short circuit signal input.
- Outputs: output interface can be controlled manually: short circuit or open circuit (automatic trigger output mode can be configured in PC software).
- Emergency Output: output interface can be controlled manually: short circuit or open circuit (default setting is open circuit).
- System Status Output: output interface can be controlled manually: short circuit or open circuit (default setting is open circuit).
- DC 24V Output(<1A): output interface can be controlled manually: DC 24V or no-voltage (automatic trigger output mode can be configured in PC software).



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Instruction:


Trigger Mode: There are two options in software (system default mode is short circuit mode):

- 1) Electric Level Mode—Intelligently detect physical connection status: open, short, normal or triggered.
- 2) Short Circuit Mode—Just detect input-voltage: triggered and normal. Emergency Output: when the fire breaks out and activates fire alarm, the relay will close. System Status Output: when there is any fault, the relay will open and cannot close manually.

DC 24V Output (<1A): controlled by software, can be started manually.

Note:

- If current system doesn't equip this device (some devices  EVAC HOST 01-LINE INPUT VOLUME (dB)  pending icon shows in grey and inoperable.
- After entering "Host Status Main Menu" by pressing  press  EVAC HOST 01-LINE INPUT VOLUME (dB) to check working status of current host voice messages and files total in SD card (Note: EVAC and

prompt voice can only be checked in this way). BGM also can be checked by pressing  in Main Menu to enter

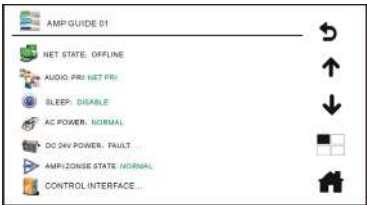
4.2 View Working Status of Device Physical Zone

View working status of 8 Channel Changeover (8 main/1 spare amplifier switcher):

In Main Menu, press amplifier controller  to view submenu:

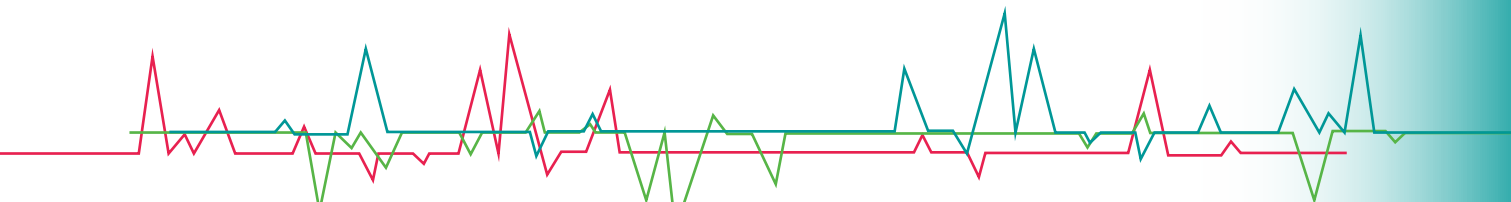


Main Menu Amplifier








Controller Menu

Status instruction for amplifier controller menu (from top to bottom):

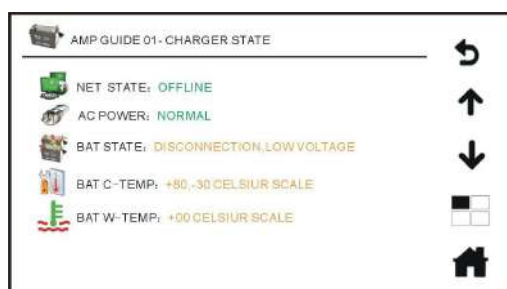


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1.  Network Status: Online/Offline; this icon shows physical and logical connection state between host and network. "Online" is displayed in green and "Offline" is displayed in yellow.
2.  Audio Priority: Local/Network; this icon shows current audio priority status of amplifier controller (configure in PC software).
3.  Sleep: Open/Closed. Closed: amplifier controller won't turn into power saving mode when there is not input signal; Open: amplifier will turn into power saving mode when there is not input signal (configure in PC software).
4.  AC Power: Normal/Fault. This icon shows AC 220V main power status: "Normal" or "Fault"; (It will show as "Normal" while working without DC 24V backup power; it will show as "Fault" while system is powered by 24V backup power and main power is disconnected.)
5.  DC 24V Backup Power: This icon shows backup power status: Normal/Fault/Unconfigured. It will show as "Normal..." (in green) while host has detected that DC 24V is connected; it will show as "Fault..." (in yellow) while battery voltage is low, battery is disconnected, operating temperature exceeds the set value or charger is faulty; it will shown as "Unconfigured" (in grey) while there is not battery connected. (Only when system has equipped with backup power, you can enter and view. To view working status of other amplifier controller's backup power, please press up and down icon.)

Amplifier Changeover 01-Charger Status 01:

- Network Status: Online or Offline (detect connection to charger), it will show as online when it is normal
- AC Power: Normal or Fault (it will show as Fault while system is powered by 24V backup power and main power is disconnected).
- Battery: 3 kinds of statuses: Connected, Normal-voltage; Connected, Low-voltage; Disconnected, Low-voltage (system can detect battery voltage).
- Battery Operating Temp. Range: +80,-30 Celsius degree (Temp. unit has 2 modes: Celsius and Fahrenheit—configure in software, default setting is Celsius).
- Battery Operating Temp.: +00 Celsius degree (system detects battery operating temp.) Check other charger status by pressing up and down icon when there is more than one charger.



Amplifier Changeover Charger Menu Page on Host Touch Screen

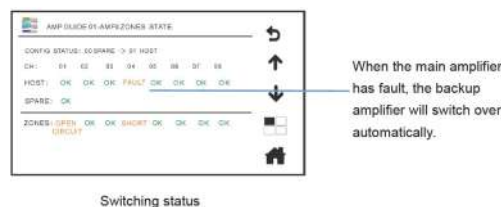
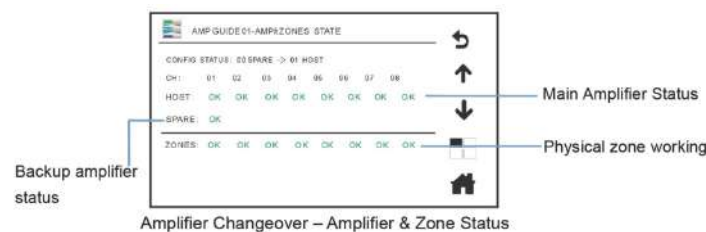
Digital Network Public Address & Voice Alarm System

6. Amplifier Status & Zone Status: Normal/Fault.... Press to check current statuses of zone and amplifier, and refer to "Amplifier & Zone Status" menu.

If system is equipped with amplifier changeover, you can press this icon and enter the submenu shown below:

Amplifier Changeover 01-Amplifier & Zone Status.

- Configuration Status: 01 spare->-8 main (quantity of main & spare amplifier can be set in PC software and it depends on actual demand). For example: 01 spare—there is one piece spare amplifier.
- 08 main—there are eight main amplifier.
- Channel: 01 02 03 04 05 06 07 08 (it means that system is equipped with eight main amplifiers. If system is just equipped with four main amplifiers, it will show: 01 02 03 04)
- Main Amplifier: Normal/Fault/Sleep. It shows working status of main amplifier: it shows as Normal when main amplifier works well; it shows Fault when amplifier output AMP loop is short-circuited or faulty. If sleep function is on and more than 3 minutes without input signal, it will switch to sleep-mode to save power (configure in software).
- Spare Amplifier: Normal/Fault/Sleep. It shows working status of spare amplifier: it shows as Normal when spare amplifier works well; it shows Fault when amplifier output AMP loop is short-circuited or faulty. If sleep function is on and more than 3 minutes without input signal, it will switch to sleep-mode to save power (configure in software).
- Physical Zone: Normal/Open/Short/Ground. It shows channels working status of current main amplifier: it shows as Normal when connection is good; it shows as Open when loop between H and C is open-circuit; it shows as Short when loop between H and C is short-circuit; it shows as Ground when H and C of output terminal is grounded.
- Switch Instruction: How does amplifier changeover switch main amplifier to spare amplifier automatically? For example: If first channel main amplifier breaks down, first spare amplifier will be switched to main channel 01 output; if third channel main amplifier breaks down, first spare amplifier will be switched to main channel 03 output; if several main amplifiers break down at the same time, system will switch in following order: CH1>CH2>CH3>CH4>CH5>CH6>CH7>CH8.

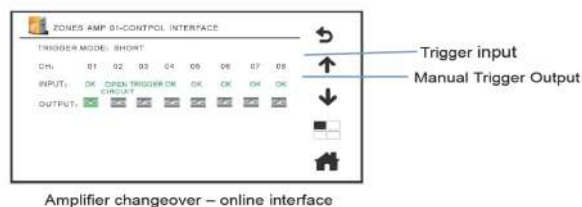


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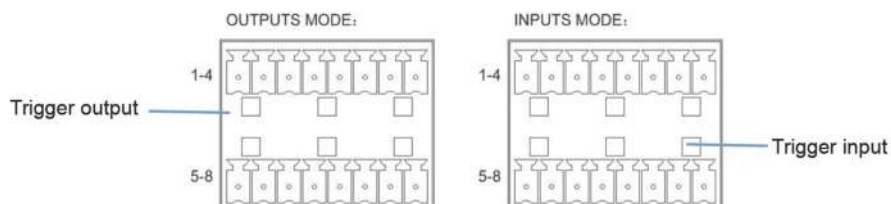
7. Online Interface...: Press this icon and enter submenu to view online interface status of current amplifier changeover. This submenu (Amplifier Changeover 01-Online Interface) is shown below:

Amplifier Changeover 01-Online Interface

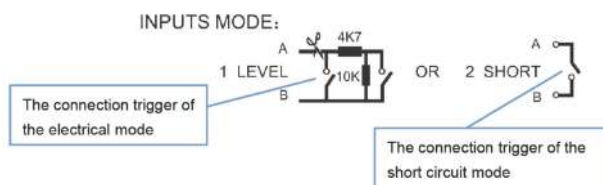
- Trigger Mode: Electric Level or Short Circuit mode (mode can be configured in PC software)
- Channel: 01 02 03 04 05 06 07 08 (host 8-channel interface INPUTS MODE: LEVEL and SHORT);
- Inputs: In Electric Level mode: it will show as Normal when connection of input circuit is normal; it will show as Open when input circuit is open or there is no connection to input port; it will show as Short when connection of input circuit is short-circuit; it will show as Trigger when emergency is triggered. In Short Circuit mode: it will show as Normal when it's normal; it will show as Trigger when there is short circuit input signal.
- Outputs: output interface can be controlled manually: short circuit or open circuit (automatic trigger
- output mode can be configured in PC software). Check other amplifier changeover status by pressing up and down icon when there are more than one amplifier changeovers.



Amplifier Changeover Online Interface on Rear Panel



Connecting diagram:



Digital Network Public Address & Voice Alarm System

How to trigger the fire alarm?

How to trigger fire emergency alarm?

There are two kinds of trigger mode on rear panel: Electric Level or Short Circuit. As diagram shown above, in Electric Level mode, only when a short circuit occurs between two poles of the 10K resistor, it will trigger the appropriate emergency; In Short Circuit mode, press the trigger switch, internal A and B short-circuit is turned on, it will trigger the corresponding amplifier to send out an emergency signal. (Note: one input can trigger several output, it can be configured in PC software).

4.3 View Working Status of Zone Amplifier

In Main Menu, press Zone Amplifier to view





submenu:



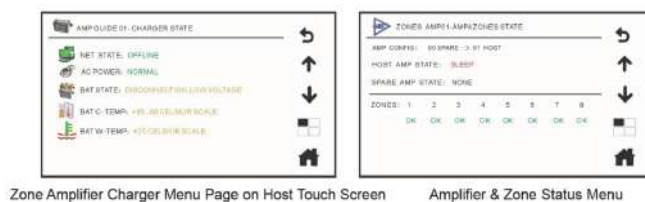
1.  Network Status: Online/Offline; this icon shows physical and logical connection state between host and network. "Online" is displayed in green and "Offline" is displayed in yellow.

2.  AC Power: Normal/Fault. This icon shows AC ~220V main power status: "Normal" or "Fault".

3.  Sleep: Open/Closed. This icon shows working status of zone amplifier when there is no input signal. Closed: amplifier controller won't turn into power saving mode when there is not input signal; Open: amplifier will turn into power saving mode when there is not input signal.

4.  DC 24V Backup Power: This icon shows backup power status: Normal/Fault/Unconfigured. It will show as "Normal..." (in green) while host has detected that DC 24V is connected; it will show as "Fault..." (in yellow) while battery voltage is low, battery is disconnected, operating temperature exceeds the set value or charger is faulty; it will shown as "Unconfigured" (in grey) while there is not battery connected. (Only when system has equipped with backup power, you can enter and view. To view working status of other zone amplifiers' backup power, please press up and down icon.) Zone Amplifier 01-Charger Status 01

- Network Status: Online or Offline (detect communication connection of charger), it will show as Online when it's normal.
- AC Power: Normal or Fault (it will show as Fault while system is powered by 24V backup power and main power is disconnected).
- Battery: 3 kinds of statuses: Connected, Normal-voltage/Disconnected, Low-voltage/Connected, Low-voltage (system can detect accumulator's voltage).
- Battery Operating Temp. Range: +80,-30 Celsius degree (Temp. unit has 2 modes: Celsius and Fahrenheit—configure in software, default setting is Celsius).
- Battery Operating Temp.: +00 Celsius degree (system detects accumulator operating temp.) Check other charger status by pressing up and down icon when there is more than one charger.




Zone Amplifier Charger Menu Page on Host Touch Screen

Amplifier & Zone Status Menu

5. Amplifier Status & Zone Status: Normal/Fault... Press to check current statuses of zone and amplifier, and refer to “Amplifier & Zone Status” menu.

If system is equipped with amplifier controller, you can press this icon and enter the submenu shown below (To view working status of other zone amplifiers’ backup power, please press up and down icon)
Zone Amplifier 01-Amplifier & Zone Status

- Configuration Status: 01 spare->-01 main. For example: 01 spare—there is one piece spare amplifier; 01 main—there are one main amplifier.
- Main Amplifier: Normal/Fault/Sleep. It shows working status of main amplifier: it shows as Normal when main amplifier works well; it shows Fault when amplifier output AMP loop is short-circuited or faulty. If sleep function is on and more than 3 minutes without input signal, it will switch to sleep-mode to save power (configure in software).
- Spare Amplifier: Normal/Fault/Sleep. It shows working status of spare amplifier: it shows as Normal when spare amplifier works well; it shows Fault when amplifier output AMP loop is short-circuited or faulty. If sleep function is on and more than 3 minutes without input signal, it will switch to sleep-mode to save power (configure in software).
- Physical Zone: 01 02 03 04 05 06 07 08 (it means that system is equipped with eight main amplifiers. If system is just equipped with four main amplifiers, it will show: 01 02 03 04);
- Sub-Zone Status: Normal/Open/Short/Ground. It shows physical working status of current sub amplifier: it shows as Normal when connection is good; it shows as Open when loop between H and C is open-circuit; it shows as Short when loop between H and C is short-circuit; it shows as Ground when H and C of output terminal is grounded.


6.  Audio Priority...: This icon shows priority level of zone amplifier audio: when several audio signals are inputted at the same time, the final output audio is determined by these values. Please refer to Audio Priority Menu. (Press up and down icon to view priority level of other zone amplifier). Zone Amplifier 01-Audio Priority (Priority level can be configured in PC software).

Digital Network Public Address & Voice Alarm System

Instruction: default setting of zone amplifier audio priority.
(00--highest priority, 05--lowest priority)

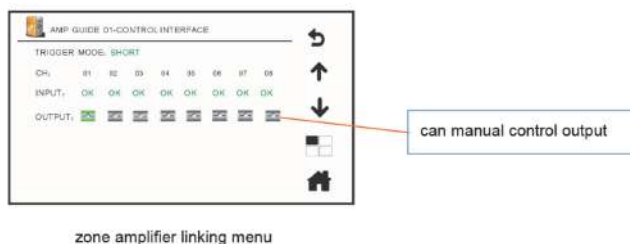
- Network EVAC Voice--00
- Network BGM--03
- Local Emergency MIC--01
- Local Common MIC--02
- Local Line 01--04
- Local Line 02--05



7.  Online interface..., To view or manual control of the third party online interface, see "partition amplifiers online interface menu, each menu item meaning refer to section" host online interface "; Click the icon to enter submenu (can press the up and down key page to see other partitions online interface state)

Partition power amplifier 01 - online interface:

- Trigger modes: electric level or short circuit state, (the mode can be configured by PC software).
- Channels: 01, 02 03 04 05 06 07, 08 (host 8-channel interface INPUTS MODE: LEVEL and SHORT);
- Input: in the condition of electric level mode, it will show as Normal when input end test normal,
- It shows open circuit when input end is no external connection trigger circuit is disconnected; it shows short circuit when input ends or trigger short circuit; it shows trigger in the condition of short circuit when Trigger emergency, it shows as Normal when testing is normal.
- Output: It can be manual control output interface, and is a short circuit connected or disconnected state, (automatic trigger output mode can be configured in PC software).
- In the condition of more than one partition power amplifier, it can press up and down button, return to choose and can view the amplifier automatically detect controller working condition.



When enter into main menu interface, click"  "menu into "system time setup menu" (first

click on the number, then, press"  " Button adjust system time, it can be calibrated synchronously in the PC software).



4.5 Timing Program View



In the main menu interface, click on the "PROGRAM" menu item to enter the "Timing Program Menu": You can view the number of timing program, and confirm if the current working day play the timing program; working status " ☒ " indicates the corresponding days of the program, working status is " ☐ " means non-execution correspondence work program, even if the timing program exists, represents 100 timed tasks to be performed.

STATE	WEEK	QUANTITY
<input type="checkbox"/>	SUN	000
<input checked="" type="checkbox"/>	MON	100
<input checked="" type="checkbox"/>	TUES	100
<input checked="" type="checkbox"/>	WED	50
<input checked="" type="checkbox"/>	THURS	90
<input checked="" type="checkbox"/>	FRIDAY	66
<input checked="" type="checkbox"/>	SAT	22

Timing Program Menu

4.6 System settings

After entering into the main menu interface, click on the "SETTINGS" menu item, enter into "user identity verification interface", first to enter a security password (factory default password: 666666), then press

" " to enter the "System Settings Main Menu", press " " abandon the current operation, return to the main menu, press " " to delete erroneous input.

666666

1

2

3

4

5

6

7

8

9

0

User identity verification interface

SETTINGS

NET PARAMETER...

LANGUAGE

FACTORY DEFAULT...

SYSTEM DETECTION SWITCH...

POSTAL ADDRESS...

USER PASSWORD...

TELEPHONE NUMBER...

System settings main menu

In the "System Settings Main Menu", click the "network parameters" submenu, enter into "Network Parameters View Menu", you can view the system configuration of hosts and query the host MAC address, see "Network Parameters View Menu":

Select the check box of the MAC address of the machine, The user may not operate.

NET PARAMETER

IPADDR: 192.168.1.10

MACADDR: 02:00:00:00:00:01

MACADDR TABLE:
01:00:00:00:00:01

Here are two lines of MAC address table, said there are two hosts, one of the lines of the MAC address and tick boxes, said the address of the host, the other is share of the host address

Network Parameters View Menu

In the "System Settings Main Menu", click the "LANGUAGE" submenu, enter into "system language selection menu", check the ☒ box, you can select the current language interface switching, see "System language selection menu"




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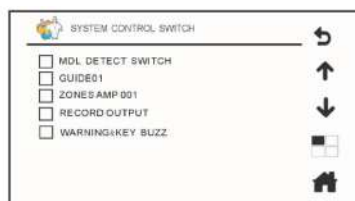
System Settings Main Menu

In the "System Settings Main Menu", click the "  Restore Factory Settings" submenu, enter into "Restore Factory Settings Menu": click, it will pop up a warning dialog box prompts, [Note this careful operation], if need to confirm, then click "  again to confirm, otherwise, please click "  Cancel.



Restore Factory Settings


Restore Factory Settings the "System Settings Main Menu", click the "  device detection switch" submenu, enter into "device detection switch menu", click the check box "  ", the corresponding function working state can be detected, uncheck the "  " it shows they don't detect their equipment working conditions, namely: device fails, the system will default to its normal state, see "Device detection switch menu"



Device Detection Switch Menu

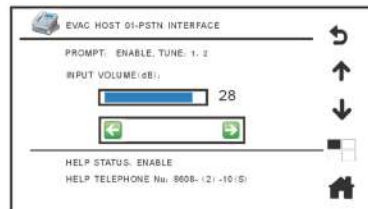
In the "System Settings Main Menu", click the "  telephone interface" submenu, enter into "telephone interface menu", you can view the status of settings, the phone can be preset to adjust the input volume, view the trigger time of help state, and view the number of calls see "telephone interface menu";

Host 01 telephone interface

- Prompt tone: on / off, indicates the current remote telephone prompt tone is on / off status, can be set in the PC software.
- Tracks: 1,2, indicates the track of prompt tone, the former is the system prompt tone before the speech, the later is the system beep after the closing speech, it can be set in the PC software.
- Input Volume: 31, indicates the volume level of the current remote telephone, you can click on the "  key to adjust.

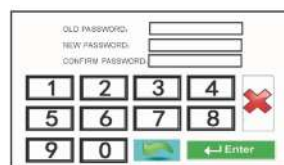
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- Help status: ON / OFF, indicates that the current emergency telephone is open / closed, can be set in PC software.
- Help calls: 8608- (2) -15 (S), 8608 indicates that the current emergency calls is 8608; (2) shows the number of redials the current emergency calls is twice; 15 (S) indicates that the current emergency telephone redial time interval is 15 seconds.



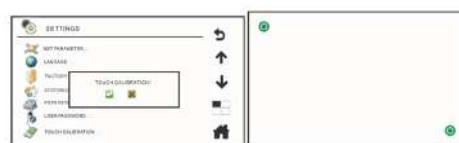
telephone interface menu

In the "System Settings Main Menu", click the "user password" submenu, enter the "change password menu", you can modify the user's password. Old password, enter present login password, the new password interface: Enter the 6 figures' password which you want to set, confirm password: Enter the new password again, and press " Enter " to confirm. Click " " Delete, click " " return (This password can be set and viewed in the PC software).



change password menu

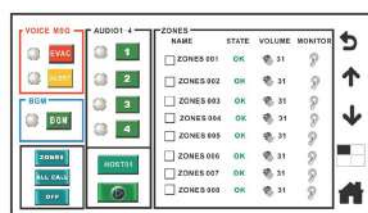
In the "System Settings Main Menu", click the " " submenu, enter into "touch screen calibration menu", when clicked, it will pop up a warning dialog box prompts to confirm whether to calibrate the touch screen, you need to calibrate, then click again " " a dot appears on the screen after the confirmation, click on the screen to confirm the point, if no need calibration, then click " " to cancel.



Touch screen calibration menu









4.7 Partition control

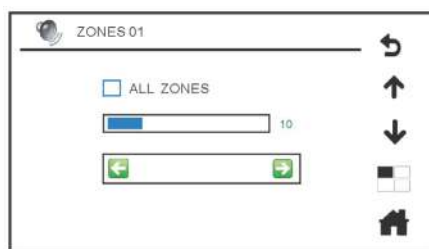
In the interface of the main menu, click on " " to enter the partition control menu, you can view partition state, control partition, monitor, control volume and play background, etc.








Partition control menu

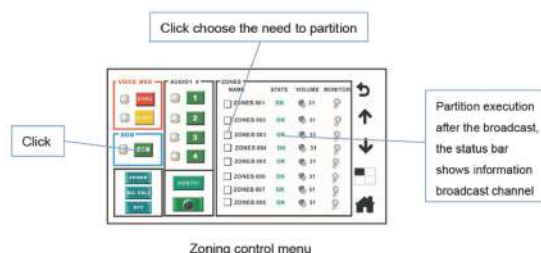
Digital Network Public Address & Voice Alarm System












- Monitoring: click on icon  ,  turns to green, you can monitor the corresponding partition audio state; and you can adjust the monitor volume through the MONITOR on the panel.
- The volume: click the number 31 in front of the icon area "  ", enter the partition volume adjustment menu, press "   " to increase or reduce the volume; meanwhile the volume level " 31 " will be changed as regulation; if you need to adjust volume on all partitions simultaneously, tick "  All the partition ", again press "   " to increase or reduce the volume.



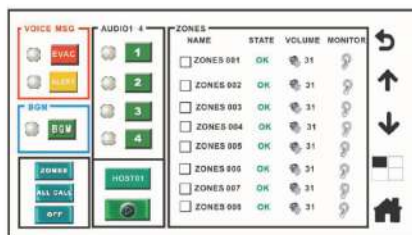
Partition volume adjustment menu

- BGM operation
- Play on an independent partition or multi partitions
 - Firstly tick "  " to choose a single or multiple partitions that need to play.
 - Then click on the button ,  when  in front of the icon  by the gray into green ,  the system will automatically play the background music songs; meanwhile, after the implementation of the partition, the partition of the status bar will display the playback of the information channel. Zoning control menu



- Play to all zones
 - Firstly click the button . 
 - Then click the button ,  when the icon in front of  turns from grey  to green  , the system will automatically play background music, at the same time, the partition of the status bar will display the information channel.
- Play to group
 - Firstly click button "  " button to change it into button "group".
 - Then, tick  to choose the required groups to play.
 - And then click the button ,  when the icon in front of  turns from grey  to green ,  the system will automatically play background music, at the same time, the partition of the status bar will display the information channel.

Digital Network Public Address & Voice Alarm System

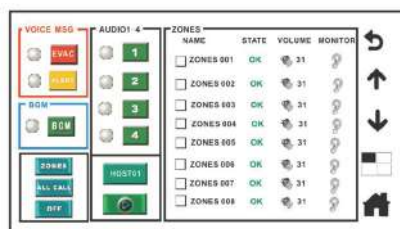


Group control menu

- To play a number of different music in multiple partitions, operation is similar as above, just the choice of background music changes to outer connecting "line 4, line 3, line 2, line 1" audio input; (external circuit can be CD, MP3, tuner and other sources), such as: to play music "line 3" in the first division. Step 1: firstly click on the check box in the first partition. Step 2: click "line 3", and then select the partition


will automatically play the selected audio inputs. To play music "line 4" in the second partition, step 1: firstly click on the checkbox before the second partition; step 2: click "line 4"; the selected partitions will automatically play the selected audio input. To play "BGM" background music in the third partition, step 1: firstly click on the checkbox before the third partition -> step 2, then click on the background music "BGM", the input audio will automatically play to the selected partitions.

As for the volume adjustment of the line inputs, please refer to the EVAC host 4 line input volume.



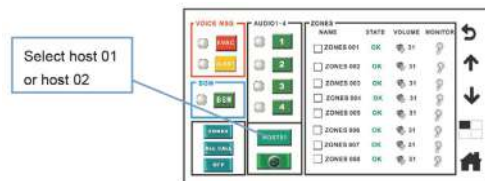
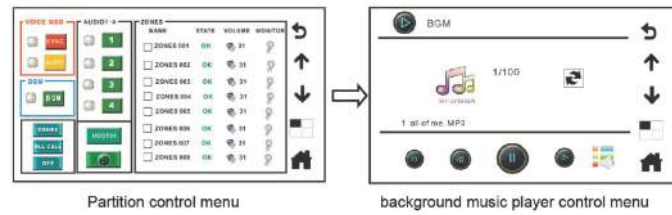
Partition control menu

- Close partition play operation
 1. Firstly tick the " ☒ " to choose the partition / group that needs to be closed.
 2. Then select the button, you can shut it down (It is invalid for EVAC voice.)
- Close all zone play operation
 1. Tick button.
 2. Tick to close all the zones (It is invalid for EVAC voice.)
- The background music BGM of the unit controls playback operation, during the above playing


background music BGM, you can click on the background music player icon"  " to enter the BGM operation interface and operate the background music. (Please refer to "background music player control menu").

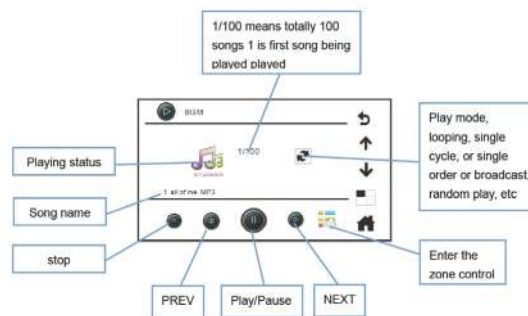
Multiple hosts background music playing: if there are two sub control hosts, you can select host 01 or host 02 BGM music playback, playback steps is same as the above operation.

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4.8 Background music player

Enter the main menu, click on the background music icon "  " to enter the "background music player control menu". (The condition is: to play music, you must have a partition to play BGM signal, otherwise it is invalid.)





2.2 Pick up the handset and press the PTT switch to broadcast to all zones.

2.3 Press the reset button, then you can close the current radio talk.





4.9 Emergency Broadcast Operation

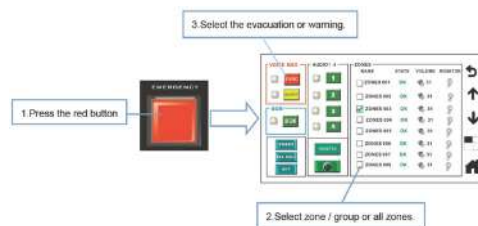
1. VAC/C emergency broadcasts steps

1.1 Press the EMERGENCY work switch on the host VAC/C; after pressing, it enters into emergency mode (slow blinking red); at the same time, the host of "Logo standby interface" will activate emergency mode, "  " icon.

1.2 In the main menu interface, click on the sub-control "  " enter "Partition Control Menu".

1.3 Under the "Partition Control menu", select "  " for the partition you want to play or select "  ".

1.4 And then click on the "  " or "  " button, when the indicator button change from gray "  " to be green "  ". After Green, the system will automatically play related emergency broadcasting, while playback is performed after the partition, the partition of the status bar will Display playing information channel.



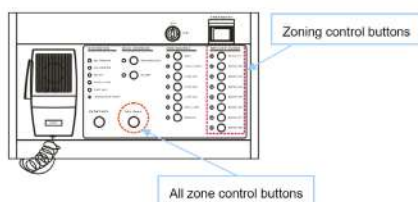
Digital Network Public Address & Voice Alarm System

2. Microphone emergency broadcast operation steps

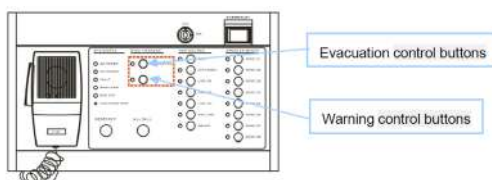
2.1 Open EMERGENCY work on Microphone switch, as shown below, after you press, you can enter emergency mode (slow blinking red), while the VAC/C host of "Logo standby interface" will activate emergency mode " icon.)



2.2 Press the Microphone panel, need to play "EVAC emergency voice message" partition / group or all zone keys, as shown:



2.3 Press the "EVAC or ALERT" button on the Microphone, the emergency system will broadcast the voice message to the selected partition or region , as shown in Figure:



3. Contacts trigger an automatic emergency broadcasts steps:

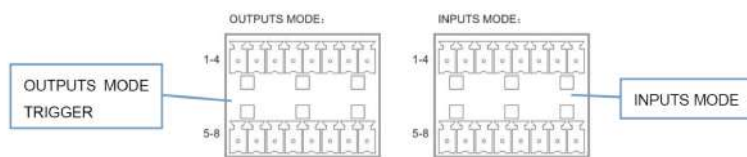
When input a trigger on the INPUTS MODE from machine VAC/C / 8 Channel Changeover / 8 Zone Voice Alarm Amplifier, the MODE OUTPUTS interface will be triggered emergency when receiving the corresponding trigger signal, and execute the emergency broadcast signal to the related zones.

Note:

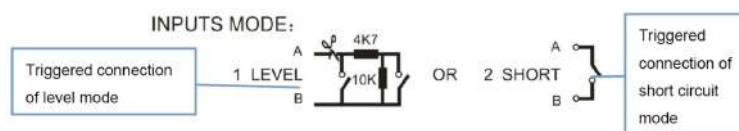
1. Triggering line 1 interface contacts, you can specify a certain way, or multiple partitions output; and it can be set on PC software.
2. The trigger input contacts, according to the level of short trigger mode or short trigger, depending on PC software settings, such as: setting the next LEVEL (level mode) state, as shown below, when only when a short circuit across the 10K resistor, it will trigger the corresponding emergency; when setting is under SHORT (short mode) state, as shown below, press the trigger switch, short-circuit making A and B connected, will be triggered corresponding amplifier issued an emergency signal.

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8 Zone Voice Alarm Amplifier amplifier auto detector rear connection after online interfaces:



Wiring diagram:



4.10 Emergency reset control

1. Reset operation on the host (operation steps)

When pressing the EMERGENCY switch on the host VAC/C, system will go into the reset state of emergency; EMERGENCY push-button switch will turn from slow red flashing to be fast red flashing, after flashing red stop, reset is finished.



2. Reset operation on the host interface after online connection

When the fire alarm reset trigger is contact, after the host VAC/C received short trigger reset signal fire, the system will go into the reset state, EMERGENCY push-button switch will turn from slow red flashing to be fast red flashing, after flashing red stop, reset is finished.

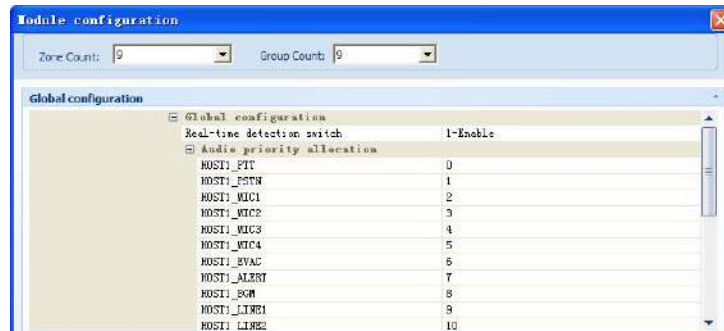
3. Reset operation on fireman microphone

When the EMERGENCY switch on from fireman microphone Microphone panel, system status will be in the reset state of emergency, EMERGENCY push-button switch will turn from slow red flashing to be fast red flashing, after flashing red stop, reset is finished.

4.11 Audio priority configuration

1. Audio priority configurations of the host VAC/C

- 1) Open the PC computer, install EVAC System PC software, click PC software "configuration" inside the "Device Configuration", then it will pop up "Device Configuration" configuration window.
- 2) Click the "system global parameters" in configuration window, then click "Audio priority Configuration" under "System Global Parameters Configuration", as shown below, you can change the priority data from "Audio priority configuration" according to actual needs level digital, you can adjust priority configuration on VAC/C.

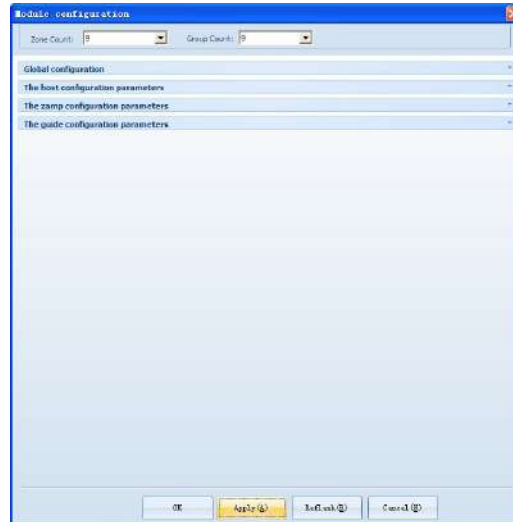


Description: The lower the priority number, the higher priority (0- is the highest priority).

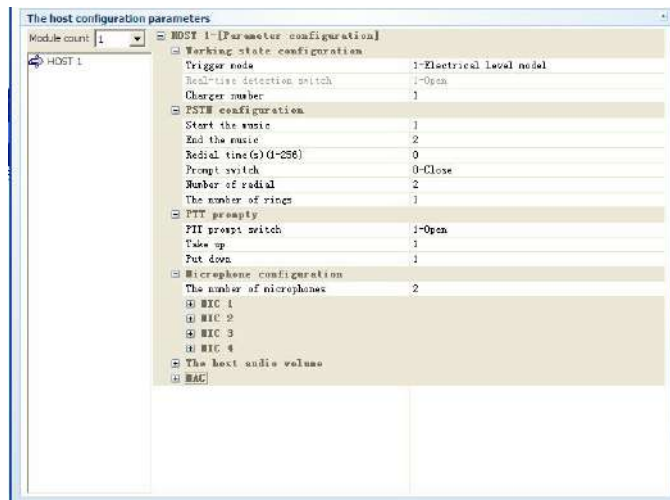
2. Priority configurations on zone amplifier 8 Zone Voice Alarm Amplifier.

- 1) Open the PC computer, install EVAC System PC software, then click "Device Configuration" under "configuration", it will pop up "Device Configuration" configuration window.

Digital Network Public Address & Voice Alarm System



2) Click on the configuration window "partition amplifier parameters", click the [...] sub-menu under "Audio Priority Configuration", it will pop-up "Audio priority partition amplifier configuration" configuration window, as shown:



3) In the "Partition Amplifier Audio Priority Configuration" window, the user can adjust the partition local audio and network audio amplifier priority sequence upon demand, select audio, hold down the left mouse button and drag up or down move, change their sequence, to set up the amplifier priority level.

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Description: 00-the highest priority, 05- the lowest priority.

- Network EVAC voice --00
- Network Background music --03
- local emergency MIC - 01
- local ordinary MIC - 02
- line 1--04
- line-2--05

4.12 Monitoring operation

Describe the system testing for the equipment and modules. EVAC System system can achieve real-time detection and monitor all connected devices and modules, the followings are the composition for detection and monitoring.

1. Voice Alarm Controller(VAC/C)
2. 8 Channel Changeover
3. 8 Zone Voice Alarm Amplifier
4. Voice recorder(Voice recorder)
5. 8 zones Fireman Remote Microphone
6. 8 zones Remote Paging Microphone
7. Microphone Extension Unit
8. DC Power Supply and Battery Charger
9. Main amplifier
10. Backup amplifier
11. DC24V battery
12. Speaker (short circuit or open circuit)
13. The speaker (ground fault)






Through Setting on host VAC/C and software EVAC System PC, users can enable or disable the above detection on monitoring events. The operation steps of starting and forbidding module detection in VAC/C and PC.

EVAC System system can perfor real-time detection and monitor to all the online equipments it connects. The detection and monitor must be conducted on the basis that the system is rightly configured and connected, as well as the detection & monitor switch of all the equipments and modules are switched on. Otherwise, the system will not perform detection and monitor steps. The system will take all states as normal.

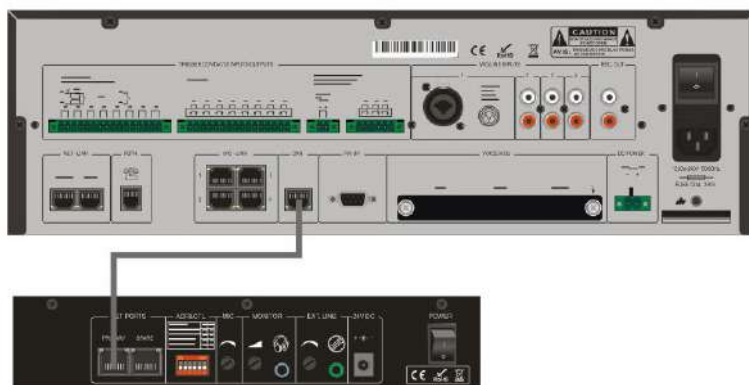
1. The operation steps of starting and forbidding module detection in VAC/C.

Click on LOGO Standby Interface enter into Main Men click  on enter into User Identity

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Checking Interface --> enter login password(default password is 666666) --> click on  enter into System Setting Main Menu --> click on  --> enter into Equipment Detection Switch --> click on  . By following the above steps, you can make the system start the operation of detection and monitor function. If you want to ban the detection and monitor operation, click on  to make it  .After banning that operation, the system will regard it normally working even if the equipment is malfunctioned.

Malfunction example: Connection malfunction



Suppose that there is malfunction in the connection between Microphone and VAC/C. When the malfunction is detected, the system will have the following situations:

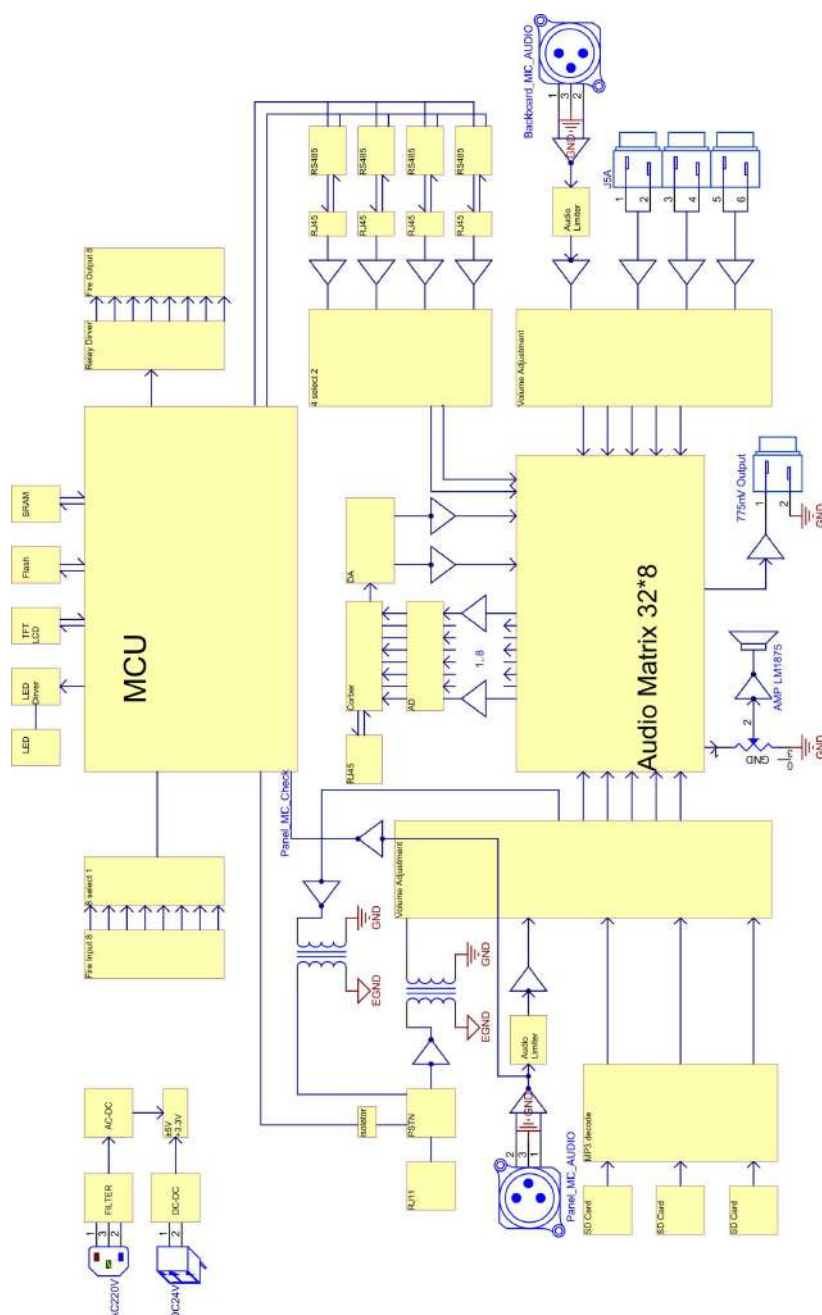
1. The buzzer in VAC/C will ring on, the system indicator will turn to yellow and flash, and the LCD screen will show the malfunction.
2. The buzzer in Microphone will ring on, and the system state indicator will turn to yellow and flash.

The right detection way:

1. Firstly, press [RESET/OFF] button on VAC/C to stop the system buzzer.
2. Secondly, connect Microphone and VAC/C with a proper cable.
3. If the equipments are normally connected, the system will automatically restore to its previous working state. The buzzer of Microphone and VAC/C will stop ringing. The system state indicator will turn to green light flashing.

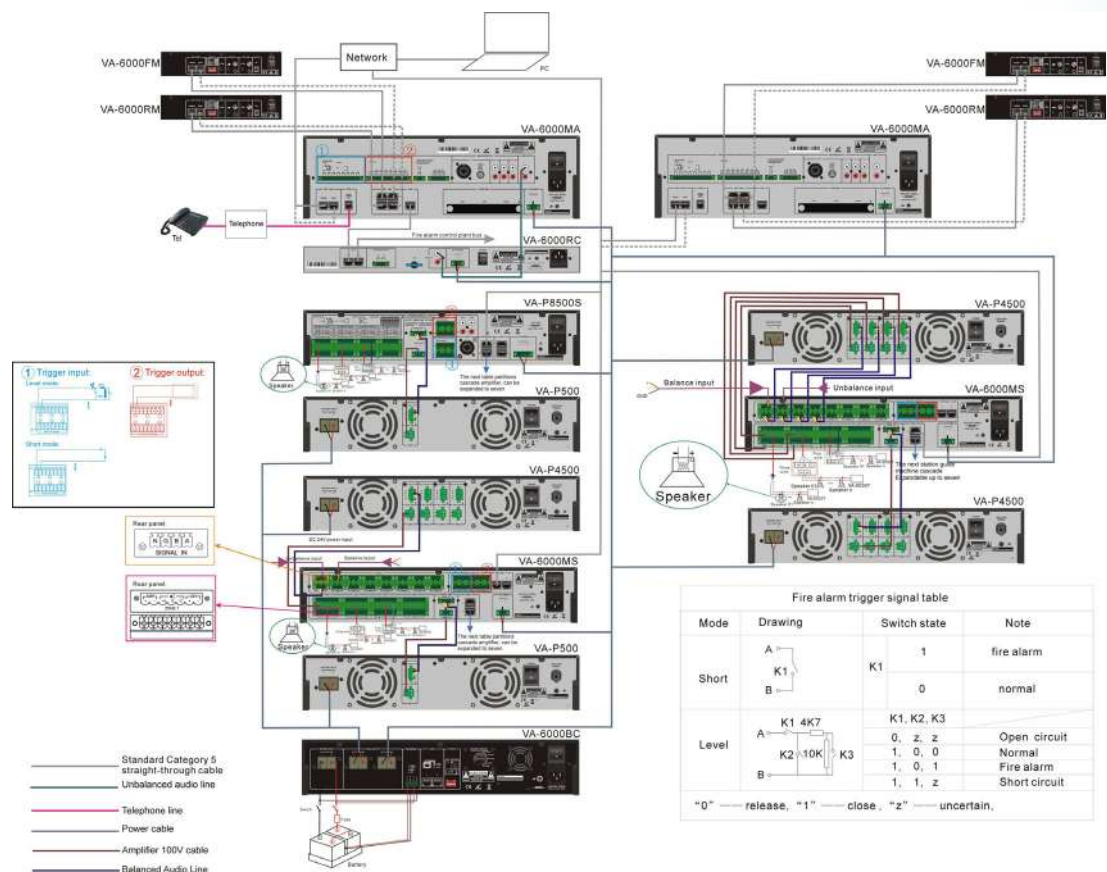
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BLOCK DIAGRAM



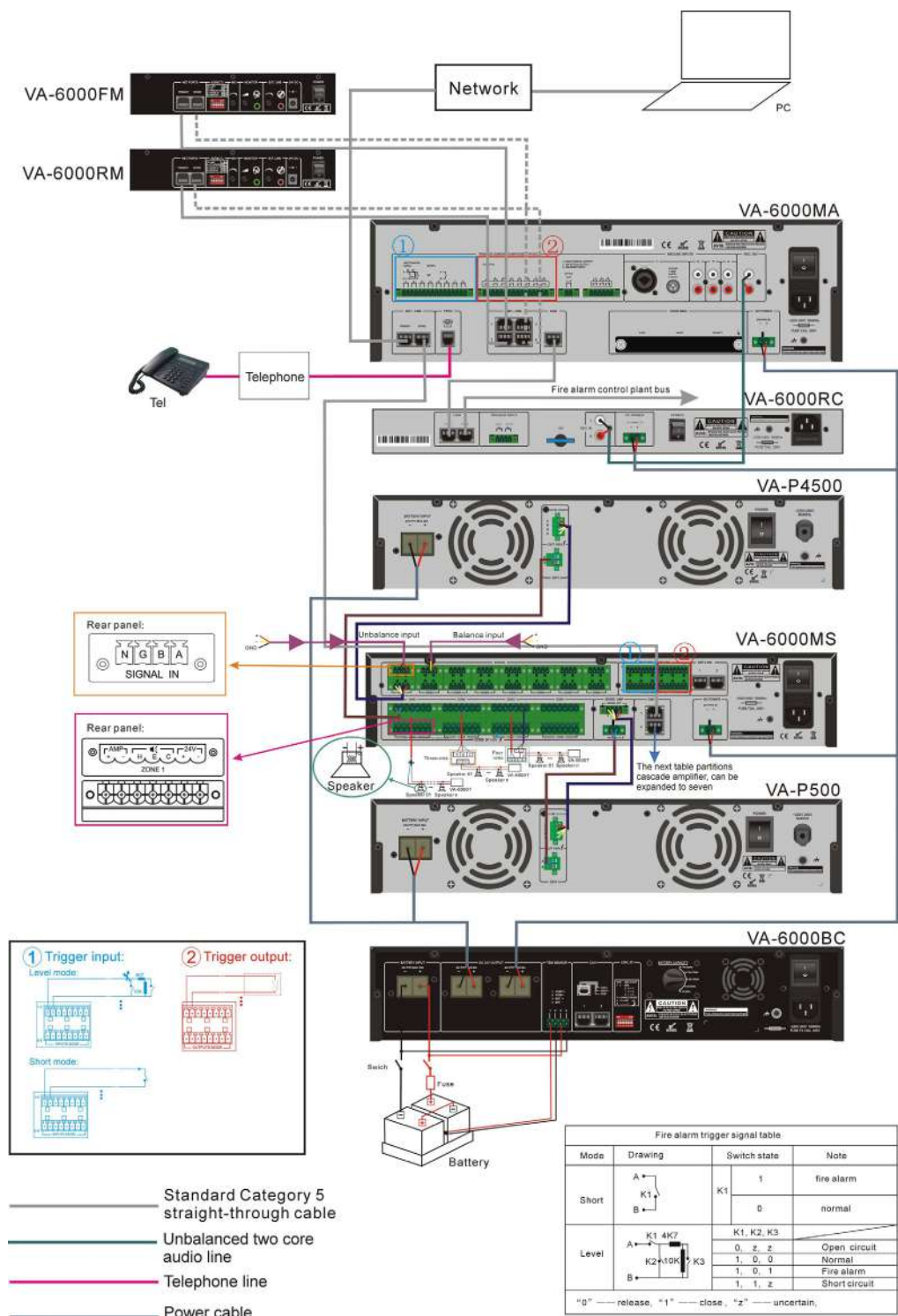
Digital Network Public Address & Voice Alarm System

With backup function Signal partition, power partition (can extend to 255 zones, power partition can expand to 56 zones)



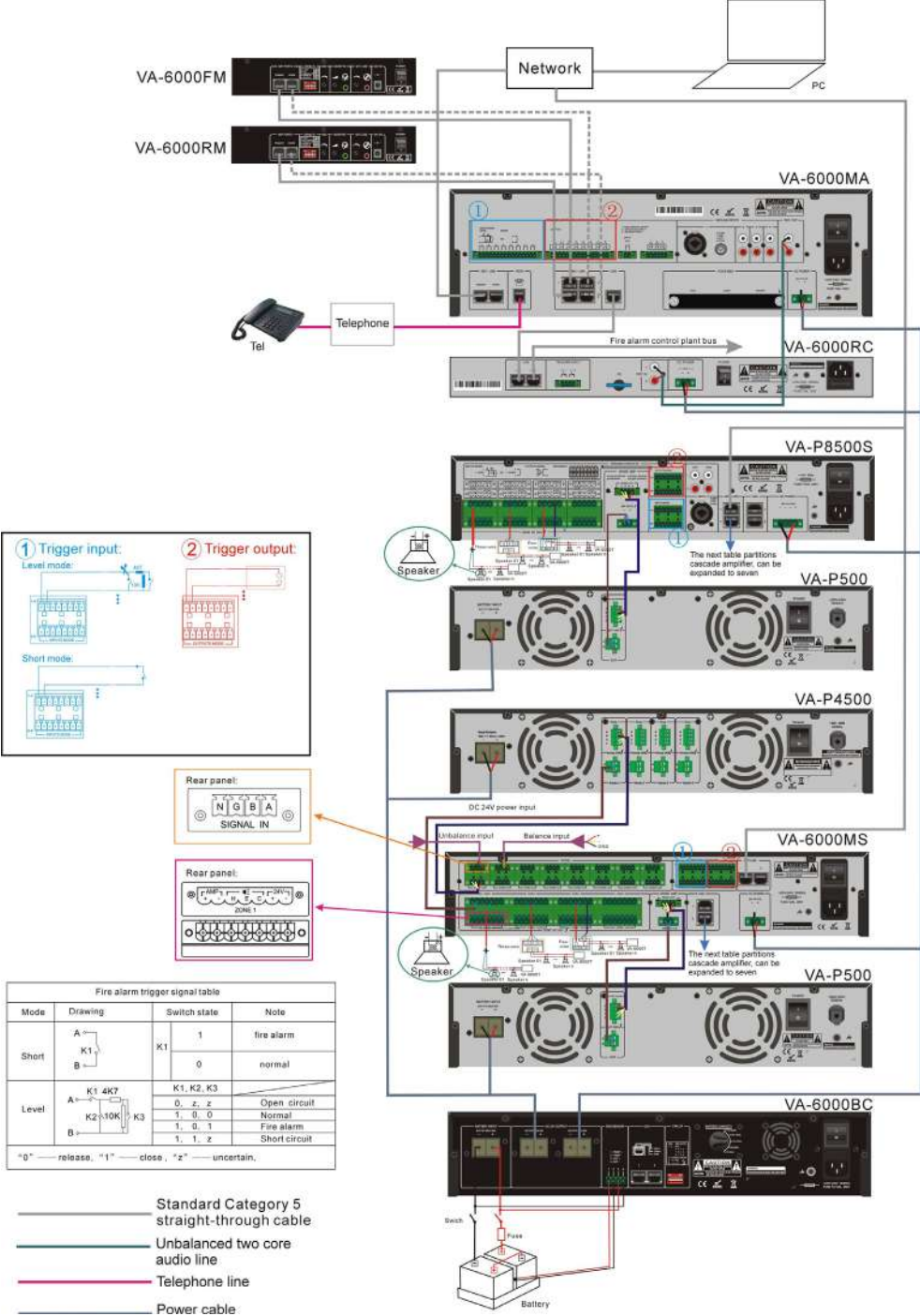
Digital Network Public Address & Voice Alarm System

Signal partition (which can extend to 255 signal zones)



Digital Network Public Address & Voice Alarm System

Signal partition , power partition (can extend to 255 zones, power partition can expand to 56 zones)



Digital Network Public Address & Voice Alarm System

Power partition (power partition can expand to 56 zones)

