DIGITAL NETWORK PUBLIC ADDRESS & VOICE ALARM SYSTEM

VA-6000MS

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

1. Dear Readers

Thank you for using ITC 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 diferent 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.

◆ 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 VA-6000MA / MS / BC, VA-P8500S 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 (VA-6000FM / RM) 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.

2. Introduction

➢ 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.

➢ VA-6000 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, VA-6000 is your best choice. It is widely used for five-star hotel, office building, super market and stadium. Compared to VA-2000 System, it is more stable with better audio output which could bring you perfect feeling.

# 3. 8 channel amplifier changeover - VA-6000MS

VA-6000MS changeover integrated the function of main and stand by amplifiers switching, speaker circuit grounding detection, open circuit and short circuit detection, compatible with 3 wired, 4 wired volume controller wiring, combining 8 programmable stem node or wet node trigger inputs and 8 programmable on-line output signal. It also works with Class D amplifiers, traditional amplifiers to provide a safe, affordable solution to audio amplifier system.

3.1 Features

1. Use 2U height design, high integration and modularization.

2. Support speaker circuit ground connection, open circuit and short circuit detection.

3. Support 3 wired/4 wired speaker circuit wiring.

4. 8 programmable trigger input online interface.

5. 8 programmable trigger output online interface.

6. Allow the users to configure the priority of audio output.

7. Support 8 local audio signal output when the main power supply and stand by power supply cut off at the same time.

8. Support automatic electricity saving mode when the amplifier have no signals, to save more energy.

9. Support the redundant wiring.

3.2 Front Panel
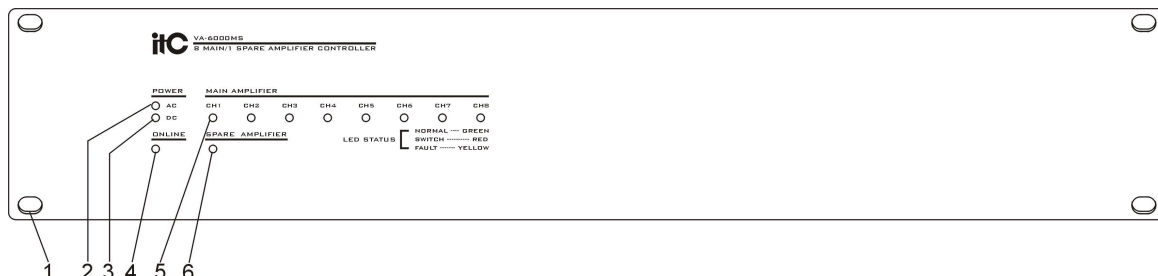
1. 19inch rack location hole and machine feet.

2. Power LED

➢ OFF: The power supply is not connected.

➢ GREEN: The power supply is working.

➢ YELLOW: Power supply breakdown.

3. DC 24V Power LED

➢ OFF: No configuration of power supply.

➢ YELLOW: Power supply breakdown.

➢ GREEN: Power supply is working.

4. Changeover controller network status instruction:

➢ YELLOW: Amplifier changeover controller offline.

➢ GREEN Twinkle: Connect into internet.

5. 1-8 channels main amplifiers working status instruction

➢ GREEN: Amplifier is working.

➢ YELLOW: Amplifiers breakdown.

➢ RED: Main amplifiers breakdown, and the mission of breakdown main amplifier has switched to the standby amplifier.

6. Standby amplifier working status instruction:

➢ GREEN: Standby amplifier is working.

➢ YELLOW: Standby amplifier breakdown.

➢ RED: Main amplifier has broken down, and the mission of breakdown main amplifier has switched to the standby amplifier.

3.3 Rear Panel
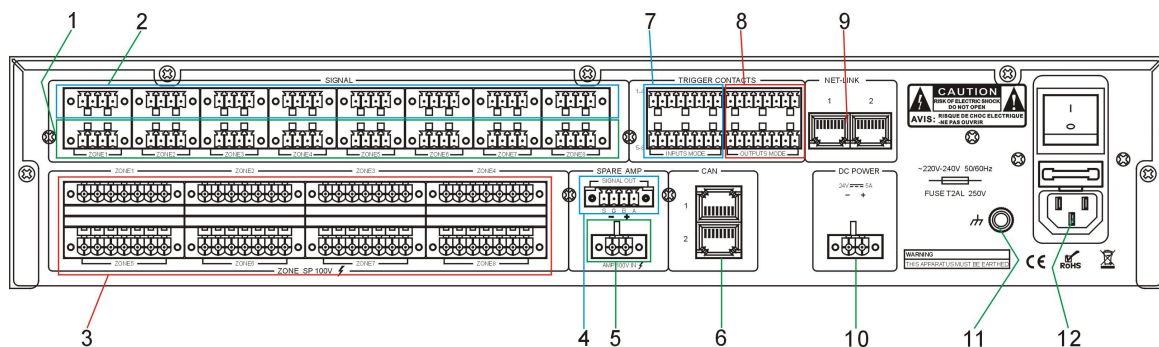
1. 8 balanced audio signal and amplifier standby signal output interface, is used for connecting with signal input of main amplifier.

2. 8 local balanced audio signal input interface, to connect with audio source equipment.

3. 1-8 partition audio power signal output, connect to speaker or 3 wired, 4 wired volume controller.

4. Standby amplifier balanced audio signal and standby signal output, it is used for connecting with signal input of standby amplifier.

5. Standby amplifier 100V power signal input (connect with 100V output of standby amplifier)

6. CAN bus interface, connect to external VA-6000BC or DC 24V UPS power supply.

7. 8 programmable trigger signal input (can be level signal or short-circuit signal, it is according to the parameter configuration of machine).

8. 8 programmable relay output signal.

9. Online communication interface.

10. Backup power supply input interface, connecting with external VA-6000BC DC power output.

11. Rack earth point (Note: please make sure the reliable grounding).

12. Power supply switch.

3.4 Technical Specifications

| Electric specifications	
AC power	
Voltage	~220V,50/60Hz
Max electricity	0.3 A(Not include the 4 wired trigger output)
Fuse specification	250V/1A, the slow type
DC power	
Voltage	24V DC, ±20%
Maximum current	2A(Not include the 4 wired trigger output)
Consumption	48W
Performance index	
Balanced signal input/output	
THD	<1% (rated power output),1kHz
Frequency response	80Hz~20kHz
Sensitivity	385mV
Impedance	10kΩ
SNR	>70dB
Contact output	
8 programmable reply output	Short circuit, no voltage
8 programmable trigger input	
Electrical level mode	3.3V the highest
Short circuit mode	Short circuit, no voltage
Cooling mode	Air-cooled
Protection	Delay/over temperature/short circuit/overload
Mechanical specifications	
Dimension: (L*W*D)	484* 88*446 mm (19inch, 2U)
Net weight	7.8KG
Installation	desktop or in 19inch rack
Color	Black
Environmental requirement	
Operating Temperature	+5℃~ +40℃
Storage Temperature	-20℃~ +70℃
Relative Temperature	<95% (No condensation)

4. Changeover local broadcast

➢ 8-way local input audio operation.

Step 1: input balanced audio from the 8 local audio inputs interface.

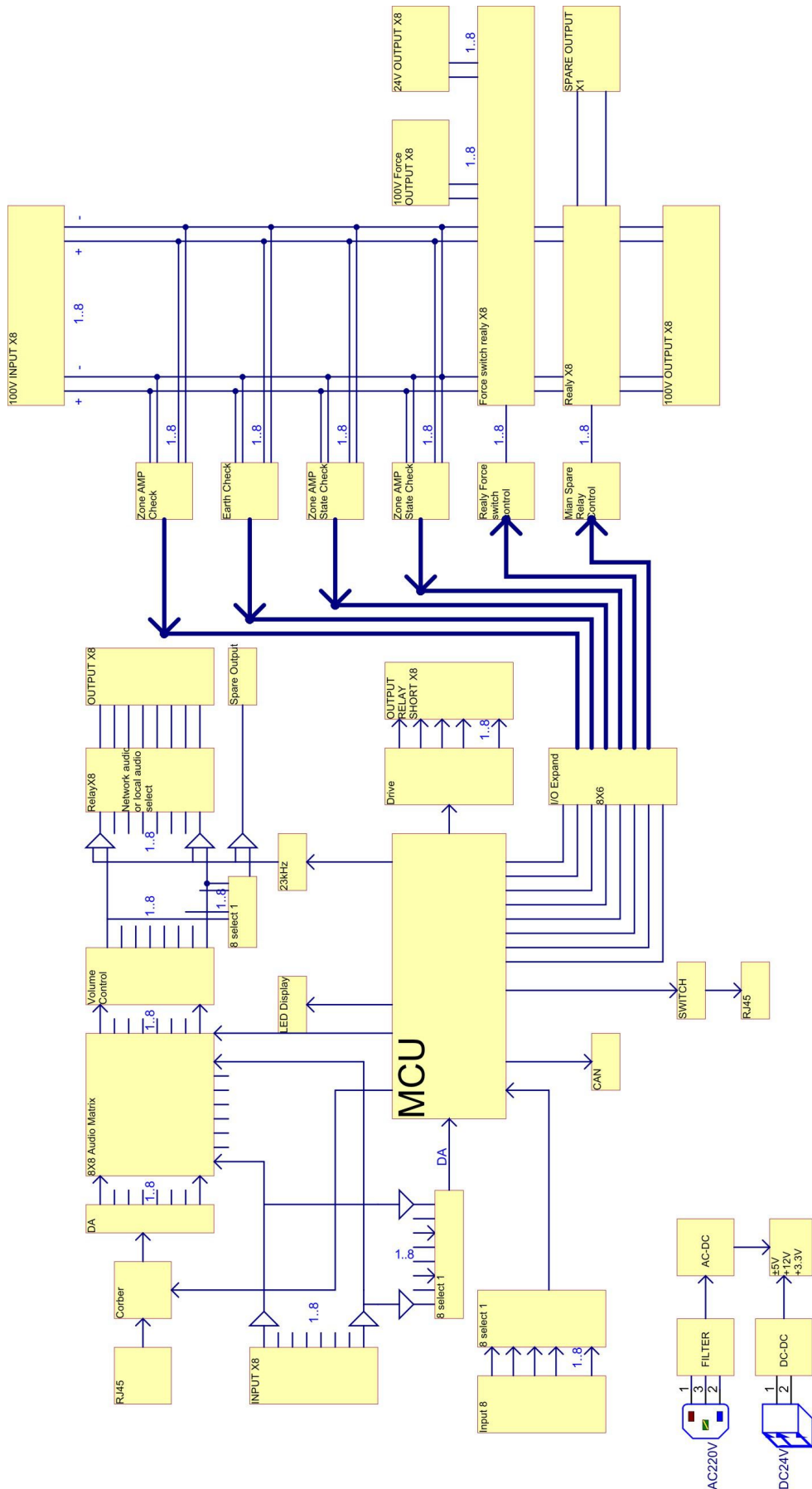Step 2: connect the speakers from the audio amplifier output interface.

Step 3: Open the local audio input signal, the speaker can output sound.
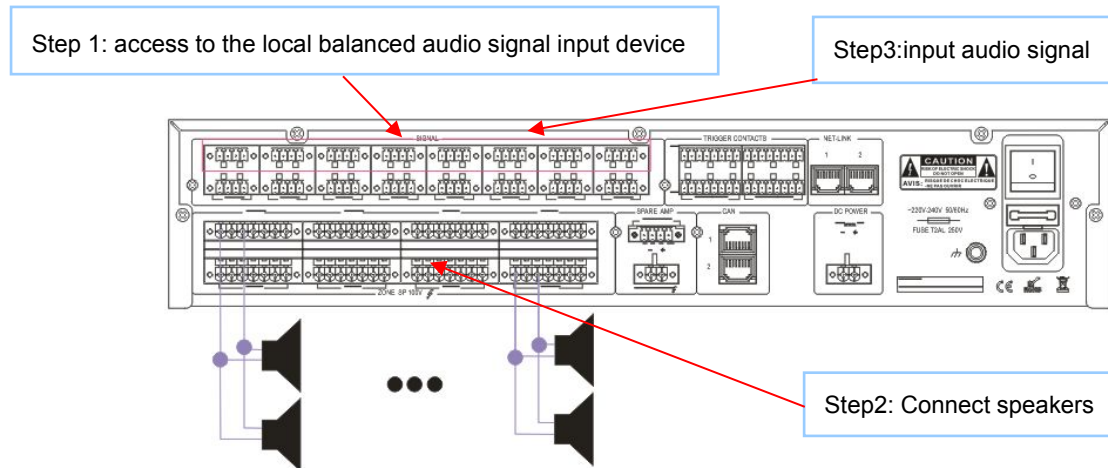
➢ Note: 8 local inputs and 8 balanced audio output need to be correspondence with and 1 to 8 zone audio amplifier output signal, that is, 1 channel audio input to one channel balanced audio output, or 1 zone amplifier signal output.

➢ For the detailed link, please refer to system connection diagram.

5. Block Diagram