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# **ITC VOICE ALARM AND EVACUATION SYSTEM**

## **VA-6000BC USER MANUAL**

Thank you for purchasing EVAC System.

Please carefully follow the instructions in this manual to ensure long,  
trouble-free use of your equipment.

# 1. Worship reader

Thank you for use ITC EVAC System, for your better understanding please follow the below information:

## 1.1 Voice messages referred in the User manual include:

- Build-in EVAC, ALERT Messages
- Build-in Paging and PSTN chime
- Build-in BGM, AUDIO INPUT and Paging Audio

**Notice: The voice message storage of the 4 SD cards EVAC/ ALERT/ BGM/ PROMPT should not be more than 100.**

## 1.2 Control Priority

- Audio configuration : manual operation has priority over automation, LAN has priority over remote;
- Suggest to configure PTT MIC and EVAC voice alarm as priority:

System includes 39 kinds of audio signal, for considering network bandwidth, only 24 audio channels could be input in system zones at the same time, audio priority could be configured via PC ( when comes to the backup PC, audio is allowed the same in the same PC and not allowed the same priority in the different PC).

## 1.3 Icon introduction



— Cycle play.



— Single cycle.



— Order playback.



— Single playback.



— Random play.



— Click to adjust the output volume of the current zone (But it is invalid to EVAC voice and paging).



— It means the current zone is mute (volume output at 0).



— Click to monitor the current zone output audio.



— It means monitoring the current zone output audio.



—There is fault from the equipment or module detected by the system.



—It means the system is working in the emergency mode.



—It means the controller is off-line.



—It means the network is connected.



—It means the current controller is starting PSTN paging function.



—It means there is mic paging.



—green means the module is working.



—yellow means the module has fault.



—Grey means the module is normal.

#### 1.4 LED status introduction

- yellow — Fault, machine or module is not working right, which is not good for system to work;
- No light — System could not detect any machine when work follow the current configuration, the module is abnormal. ( when the module is not configured it is on the same status).
- green: ① Keep on light — working properly; ② Twinkle — change to the priority audio output.
- Red: ① Keep on light — alarm; ② short circuit twinkle — waiting.

#### 1.5 Zone status introduction

Zone status shows the working status of zone speakers, it includes open circuit, short circuit, earthed circuit , normal and working audio. System would cut the zone output audio once short circuit was detected. System would not cut the zone output audio but been to alarm user to record the fault zone and the fault time, once earthed circuit or open circuit was detected. Details could check from below.

#### 1.6 Notes

- Keep the machine away from sunshine or heating element, prevent the machine from deformation , colour fading or stopping working because of high temperature.
- Keep the machine away from dust and moist environment, prevent the machine from unstable working and continuous fault.
- Keep the machine away from strong magnetic field.
- VA-6000MA/ MS/ BC,VA-P8500S are designed for the cabinet, more space are need between

two machine for heat dissipation.

- Make sure all the machines are earthed.
- Parallel connection are not allowed between amplifiers, prevent the amplifiers from terminal fault.
- Remote MIC VA-6000FM/ RM offer phantom power and real-time detection. Do not turn off switch when system is working, in case of the wrong detection.
- The system has backup copy,configure as actual demand. If serious fault cause the abnormal working.Check with the engineer. Do not open the machine casually, in case of the permanent damage or electrical accident.
- Grade I machine should connect to the socket with grounding device, make sure it is completely earthed.
- Pull the power plug and make sure the all the machine is not connected to the power when the system is not used.
- The system appearance and function is keeping upgrade, but it is Compatible, 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. DC Power Supply and Battery Charger——VA-6000BC

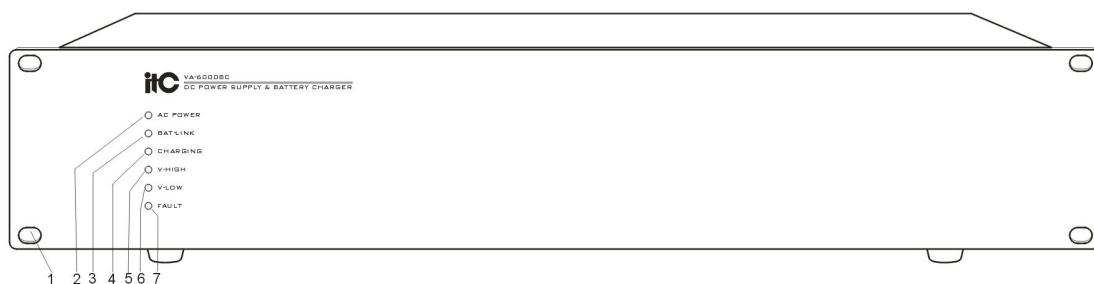
VA-6000BC is mainly used in VA-6000 system to provide stable and reliable spare DC power when there is no AC power supply. Electrical is in Storage battery with maintenance –free which adopts two DC 24V lead-acid batteries or one DC 24V lead-acid battery, Build-in battery charge management and monitoring circuit. When connected to AC power, DC 24V will be off automatically.



#### 3.1 Features

- The charging process is fully automatic. The scientific charging modes: Pre-charging →constant current →constant voltage →trickle charging.
- It has the warning functions of accumulator failure, over-high/over-low voltage, as well as the detection functions of over-high/over-low temperature and charging overtime.
- It is applicable for various accumulators, with the capacity range from 10Ah-200Ah.
- Automatic temperature-controlled fan.

#### 3.2 Front Panel



1. Location hole and undercarriage of 19"equipment cabinet.
2. AC power indicator light:
  - Off - Charger is not connected to the main power supply.
  - Green - AC supply normal.
3. Storage battery connection status indicator light:
  - Off - Storage battery connection normal.
  - Yellow - Storage battery connection off or battery failure.

4. Charging status indicator light:
  - Off - Battery has been filled.
  - Green - Charger is charging the storage battery.
5. Charging status indicator light:
  - Off - Voltage normal.

Yellow - Over voltage, charging will be stopped automatically to protect the storage battery. (When the voltage reaches for 30V in the charging process, the charger will stop to work and the V-high lights up.)

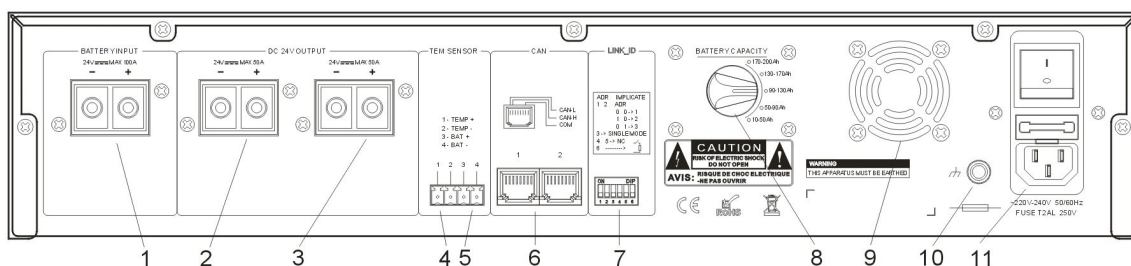
6. Storage battery output under voltage indicator light:
  - Off - Voltage normal:

Yellow - Under voltage. This case happens when using dead storage battery for the first time, user need to change a new storage battery. (When the voltage reaches for 14V, V-low lights up and the charger will give an under-voltage warning. The charger will change the electric current to a lower level to activate the battery, until it returns to normal work.)

7. General working status indicator light of charger:
  - Off - Charger working normal.

Yellow - Charger fault, other failure state will happen at the same time, such as, storage battery is not connected, temperature sensor is not connected and etc. (Temperature measurement: the charger can conduct real-time detection of the temperature of the external battery. The charger can work normally in the default temperature range from 0°C to +80°C. If higher than this, the charger will fail to work. The default temperature can be changed with PC software, ranging from -25°C to +80°C.)

### 3.3 Back Panel



1. Storage battery connector, please note positive pole and negative pole.
- 2&3. DC24V output connector, please note positive pole and negative pole.
4. Temperature sensor input interface.
5. Storage battery voltage test input interface. Please note, it need to connect to reliable output end of storage battery, otherwise bad connection shall lead to being unable to charge, because the intelligent management basis reference input from this interface. Please note positive pole and negative pole
6. Connection interface, connect to external controller and zone amplifier.

7. Communication address,"1, 2" is communication address bit, the largest address is 3, if there is only one charger, pull off "1,2" address bit "3" means standalone working mode, please make it on when charger is not used in VA-6000 system, otherwise the charger cannot work normally; address bits "4, 5" are for reservation, no function; address bit "6" is terminal matched resistance, mainly used in abnormal communication case when many charger work online with hand in hand connection, and the "6" address bit of last charger should be on, please note only the last charger in the hand in hand connection.
8. Current accumulator capacity of tap selection switch, please select according to the current accumulator capacity.
9. Fan, when the temperature in the machine reaches some level, the fan will work automatically to lower the inner temperature of the machine. (When the temperature of the cooling fin inside the case is 35-45°C, the cooling fan come into operation. The higher the temperature is, the faster the rotate speed will be.)
10. Ground point, Please note the reliable ground connection.
11. Power switch and input socket of main power with fuse.

### **3.4 Specification**

Electric Index

#### **Alternating Current power supply**

Voltage: AC 220V, 50/60Hz

Maximum current: 2A

Fuse Specification: 250V/3.15A, Low speed type

#### **Charging Parameter**

Maximum charging voltage: 28.9V

Floating charge voltage: 27.6V

Maximum charging current: 13.7A

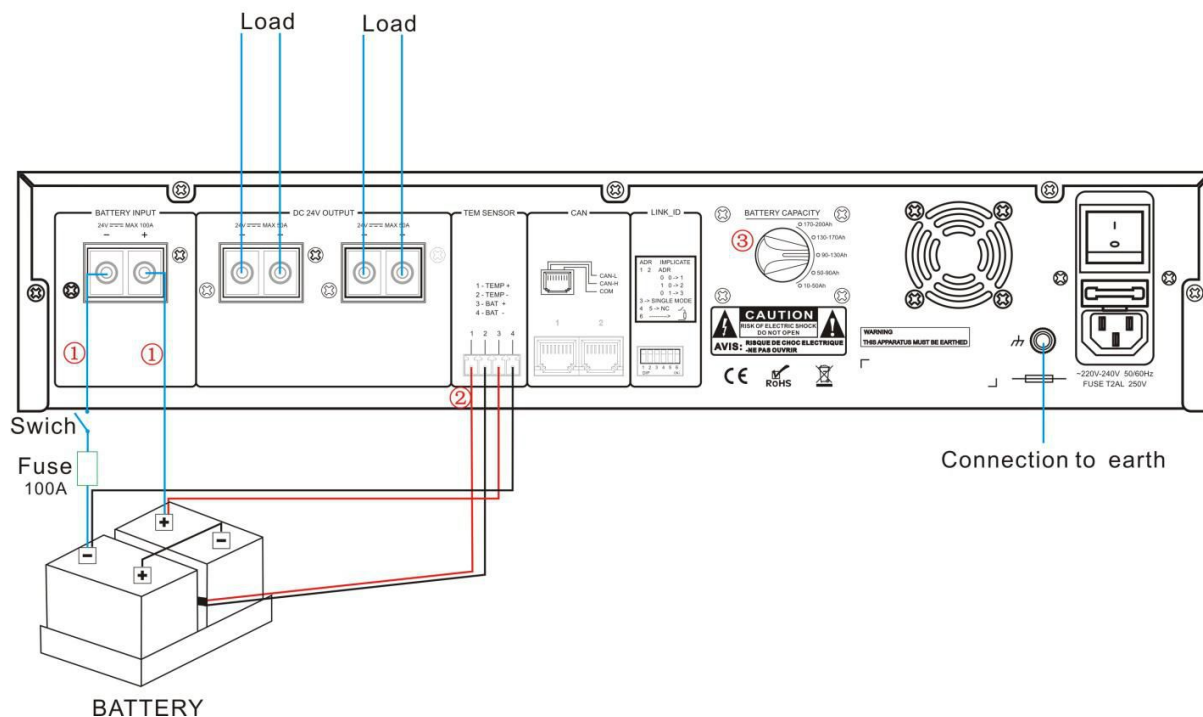
Rated power: 400W

Heat dissipation: temperature-controlled fan

## 4. Operating instructions

4.1 Connection diagram of DC electrical source & Battery charger is as following:

$$\text{MAX } 50\text{A} + \text{MAX } 50\text{A} \leq 100\text{A}$$



### Remarks:

① The reference list of wire selection.

Wire Gage AWG	CSA( Cross-secti onal area) of Conductor mm <sup>2</sup>	Max conductor resistance Ω/KM at 20°C	Environment temperature of maximum current (A) 40°C	Environment temperature of maximum current (A) 50°C	Environment temperature of maximum current (A) 60°C
12	3.332	5.31	28.4	26.2	23.7
10	5.26	3.36	37.9	34.9	31.6
8	8.37	2.11	49.8	45.9	41.5
6	13.30	1.33	66.1	60.8	55.0
4	21.15	0.84	88.4	81.3	73.5
2	33.62	0.53	121.1	111.4	100.7

② Voltage/ Temperature Sensor: The first, second, third, fourth position is representative of Temperature”+” Temperature”—“, Voltage”+”, Voltage”—“. Pay highly attention to distinguish between positive and negative, which is can’t mix connection. Otherwise the equipment is failed to charge or be damaged.

③ Tap-position selective switch of accumulator capacity: 10-50Ah,50-90Ah,90-130Ah,130-170Ah and 170-200Ah are available to selection. Please choose the tap-position according to connected accumulator capacity.

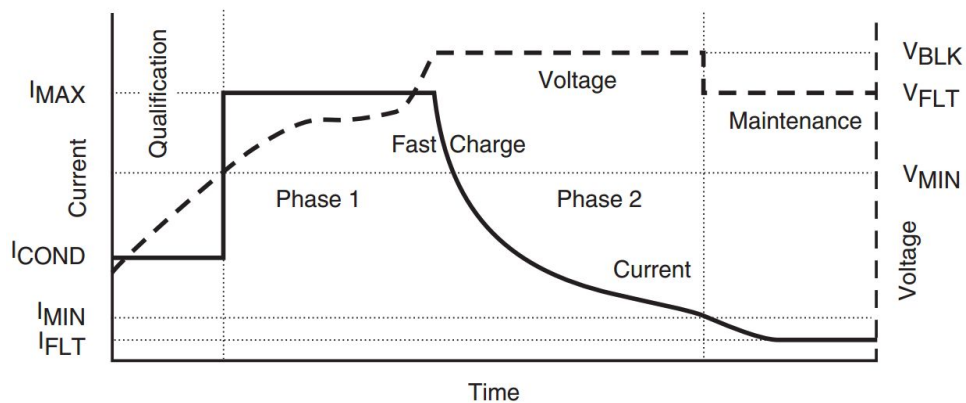
## 4.2 Charging graph of the charger

In order to protect the accumulator, select the appropriate electric current with the position selective switch on the rear panel, based on the capacity of the accumulator. In the pre-charging status, when the voltage reaches for 21.5V or above in 3 minutes, the charger will get into constant-current charging status. If not, the charger will get into pre-charging status, until the voltage reaches 21.5V and above. If the voltage in constant current status reaches for 28.5V±2%, the charger will get into constant-voltage charging status, and the voltage remains 28.5V± 2%;

Among them:  $V_{BLK}=28.5V\pm 2\%$

$V_{FLT}=27.6V\pm 2\%$

$I_{MIN}=I_{MAX}/20$



Position and electric current are as follows:

Capacity stalls (Ah)	10-50	50-90	90-130	130-170	170-200
$I_{COND}(A)$	0.3~0.6	0.5~0.8	1.1~1.5	1.6~1.8	2.0~2.4
$I_{MAX}(A)$	1.8~2.5	3~3.7	6.9~7.8	9.8~11	13-14

**Annotation:**  $I_{COND}$  for pre-charging electric current,  $I_{MAX}$  for maximum changing current.

## 5. Common problems and solutions

Symptom of failure	Solutions
The indicator of connection status of storage battery lights in yellow color.	① Check if the battery cable is well connected.
	② Check if the voltage detection cable linked to storage battery is well connected.
	③ Check if temperature sensor cable is well connected or if the temperature sensor fails to work.
	④ Check if the storage battery fails to work.
	⑤ Check if the temperature range set by machine is higher or lower than the actual temperature.
The indicator of Charge Status is Off.	① Check if the storage battery is well connected.
	② Check if the storage battery fails to work.
	③ Check if the AC power supply is well connected.
When the output of the battery voltage is too high, the indicator lights in Yellow color.	① Check if the voltage of storage battery is too high.
When the output of the battery voltage is too low, the indicator lights in Yellow color.	① Check if the storage battery cable is well connected.
	② Check if the storage battery fails to work.
	③ Check if the storage battery voltage is too low.
The indicator of Working status of Chargers always lights in yellow color.	① Check if the storage battery cable is well connected.
	② Check if the voltage detection cable linked to storage battery is well connected.
	③ Check if temperature sensor cable is well connected or if the temperature sensor fails to work.
	④ Check if the battery cable is well connected.
	⑤ Check if the storage battery fails to work.
	⑥ Check if the AC power supply is well connected.
	⑦ Check if the voltage of storage battery is too high.
	⑧ Check if the temperature range set by machine is higher or lower than the actual temperature.

Note: Due to development of the product, there is no notification even the content has been changed.



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