Please read this instruction manual
before installation and use

GB9221 series fire alarm broadcast amplifier

Instruction manual

【suitable for 150W/300W/500W】

2017/1.0

1 Overview

1） GB9221 series fire alarm broadcast amplifiers are an extension device for

emergency broadcast at fire or other accident scenes. In the field of fire broadcast, GB9221 must be used with the GB9242(Fire Broadcasting Host)to complete the fire broadcast. Background music broadcast can be directly played by external input source signals (such as CD/MP3 player, tuner, etc.) when there's no accident event.

2) The display of GB9221 series fire alarm broadcast amplifiers is built-in LED indicator lights. These built-in LED indicator lights can indicate various operating conditions and fault conditions. All the functions can be set up with light touch buttons.

3) GB9221 series fire alarm broadcast amplifiers only contain the power amplification section of the GB9242(Fire Broadcasting Host). The output power could be 150W/300W/500W.

4) GB9221 series fire alarm broadcast amplifiers assemble high quality power transformers internally. The static power consumption is low and the overload capability is high. GB9221 series have overload and over-temperature protection circuit, buzzer alarm when a fault occurs.

2 Main Specifications

1) Power supply: AC220V(+10%,-15%,50Hz)
   DC: see table1-1
2) Line input sensitivity: 300mV ～775mV (line1、line2)
3) Line output level: 500mV ± 100mV
4) Effective frequency range
   for distortion limitation: 80Hz ～ 8kHz
5) Total harmonic distortion: < 5%
6) SNR: > 70dB
7) Monitor power: 3W
8) Fixed output voltage: 120V (fixed voltage mode)
9) Rated output power: 150W/300W/500W
10) Working environment: a) temperature 0℃-40℃
    b) humidity <92%
11) Insulation resistance: a) backup power input&the chassis
    ＞20MΩ (DC500V)
    b) AC input voltage&the chassis
    ＞50MΩ(DC500V)
    c) fixed output voltage&the chassis
    ＞50MΩ(DC500V)

12) Electrical strength: no breakdown between AC input&the chassis
leakage current＜5mA (AC2000V)

3 Function buttons and Indicator LEDs

1) Front panel (figure 4-1) :

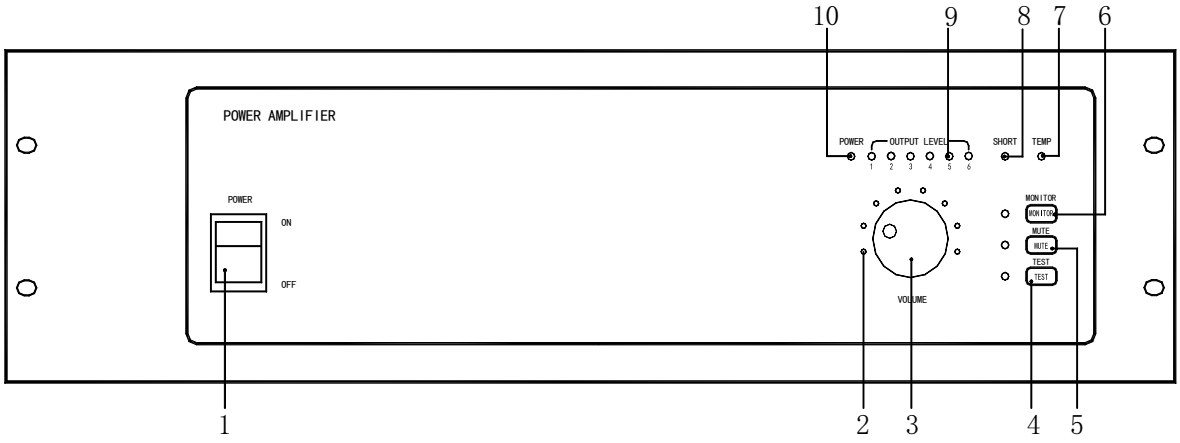


figure 4-1 front panel diagram (take 500W as an example)

1. power on/off
2. volume adjustment LED indicator
3. volume adjustment knob
4. button【self test】
5. button【silence】
6. button【monitor】
7. over temperature fault LED indicator
8. overload fault LED indicator
9. output level LED indicator
10. power LED indicator

2) back panel(figure 4-2):

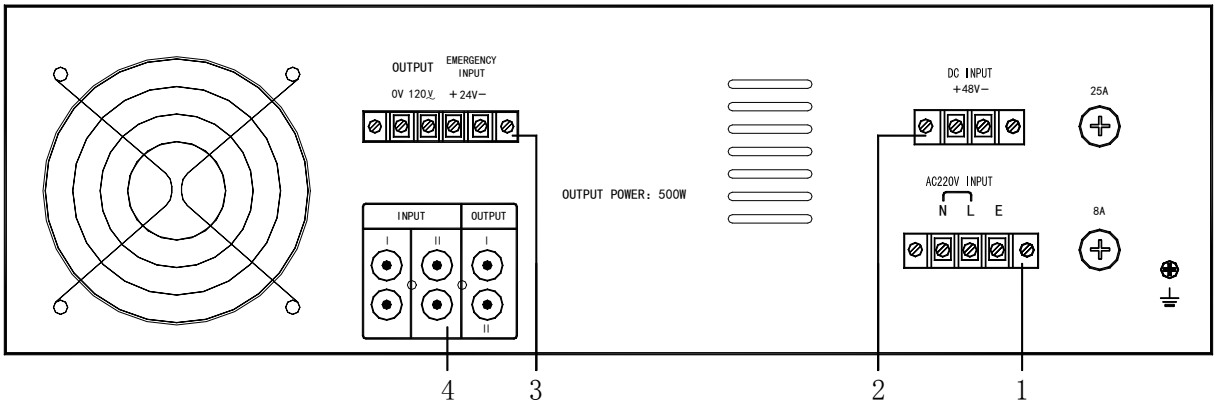


figure 4-2 back panel diagram (take 500W as an example)

1. AC power input terminal
2. Backup power input terminal
3. Power amplifier fixed voltage output & external fire alarm trigger input terminal

4.Music source input/output terminal

4 Appearance Mounting dimensions&Weight

1) Appearance and mounting dimensions (figure5-1) : 482.6mm * 345mm * 132.5mm (length*width*height)

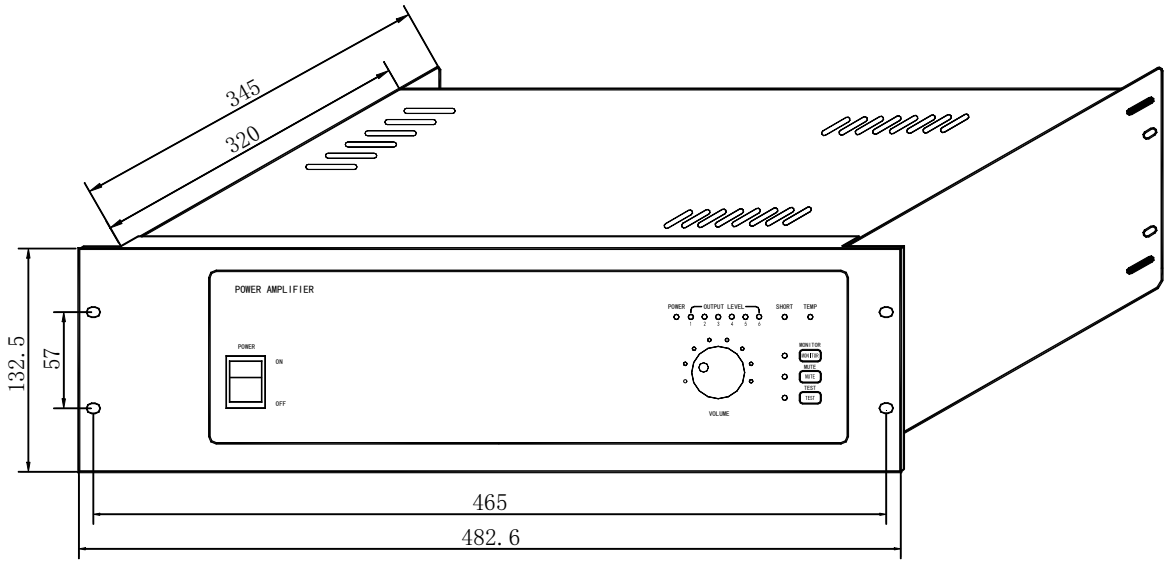


Figure 5-1 Appearance and mounting dimensions

2) weight: <18kg

5 Wiring instructions

1) power cable connection:

a) Connect from 220V terminal to ～220V terminal using one 3-cores sheathed cable.Pay attention to the order of N/L/E.

b) Connect the backup power supply that meets the nominal requirements to the "Standby Power" terminal.Pay attention to positive and negative polarity.

c) Power cable diameter requirement

	150W	300W	500W
AC power cables	1mm^2	1mm^2	1.5mm^2
DC power cables	1.5mm^2	1.5mm^2	2.5mm^2

2) input cables connection:

a) Connect the external source signal cable to the “Line input I” on the rear panel. Please use high quality shielded cable.

b) Connection of fire trigger signal: connect the 24V level signal given by the controller to the "fire trigger" terminal. Please note the positive and negative polarity of this signal. Generally, this signal should be directly output

by the alarm controller or provided by the output module.

3) Output line connection:

a) Line output This interface is used to extend power amplifier or transfer audio signal to other audio equipment. When the machine cannot meet the needs of field application, power amplifier can be extended through this interface. The connection line with the power amplifier should adopt high-quality shielded wire.

b) Fixed voltage output Fixed voltage output is power amplifier output, which can be directly connected with fixed voltage speaker or broadcast circuit through GB9231/GB9232 broadcast divider. RVS double twisted copper core wire above 1mm² should be used for fixed voltage output line. The line diameter should be increased when long distance.

6 Installation and Debug

1) Correct connection shall be made according to the wiring instructions before debugging.

2) The power LED(green) is on when power on.

3) Please do not connect any external circuit to the power amplifier before troubleshooting. Please test if there's short between the circuit and the chassis using a multimeter or other test equipment to check the insulation resistance. It is easy to damage machine when the power is turned on under short conditions.

4) When the circuit debug finished, preset volume should be set after the fire alarm is triggered. After the preset volume is set, the machine can be used normally.

7 Instructions for use

1) Make sure the line connection is correct before use.

2) **Output volume adjustment:** The output volume can be changed by turning the front panel "Volume Adjustment" knob. There are corresponding instructions. **Note:** It is not allowed to change the volume in the emergency broadcast state.

3) **Preset emergency broadcast volume:** The emergency broadcast volume refers to the volume under the emergency broadcast state. This volume should be manually preset before use. It is effective after the fire alarm is triggered and cannot be manually adjusted. The way to preset is as follows:

In non-emergency state, adjust the volume to the appropriate position, press on the [volume adjustment]knob for more than 2 seconds, the alarm buzzer will keep ringing. Then release the knob.

4) Fault alarm, noise elimination and reset:

◆ Overtemperature: when the internal transistor temperature exceeds the set temperature limit (90℃), over temperature fault occurs. The indicator LED (yellow) is always on. Cut off the power supply of the main circuit and send an alarm buzzer. When the temperature is lower than the set value, system will automatically cancel the alarm and restore.

◆ Overload: When the output power is more than 120% of the rated power and lasts for 2s, the "overload"LED (yellow) will light up, and the "overload" fault occurs. The main circuit will be cut off. Then the alarm sounded.

◆ Short: After the output short lasts for more than 0.5s, the "overload" LED flashes. The main power supply will be cut off and alarm occurs.

◆ Mute: After the failure, the sound signal could be manually eliminated by the mute button.

5) Monitor: The monitor speaker can be turned on/off by the [Monitor] button, and a LED(green) indicates the monitor status.

6) Self-test:Press the [Self-test] button to start checking the indicator device and the alarm device. After the check complete, it will automatically exit.

8 Common trouble shooting

fault	reason	solution
No response when power on	① Main&backup power connected OK?	① Check main power supply voltage and standby power supply polarity
	② AC fuse OK?	② Replace the same fuse
Over temperature	Over temperature because running under heavy load	Reduce the output power, or use after the temperature drops
Over voltage	Over voltage because light load.	Reduce the output amplitude appropriately and adjust the volume knob
Overload or short circuit	① Output load shorted ② External load exceeds the rated capacity	① Check the fixed voltage output circuit ② Reduce load

9 Points for attention

1) When in use, the casing of the machine should be grounded reliably and away from strong interference sources, otherwise interference noise may be introduced.

2) When connecting the cable, pay attention to the positive and negative polarity of the power supply and use the high quality copper core wire with the recommended wire diameter.

3) The continuous on/off time interval should be greater than 10 seconds.

4) Please use the same specification fuse when replacing.Please tighten the seat to prevent bad contact.

5) Parrallel connection is strictly prohibited on the output terminal.

10 Equipment models and parameter comparison table (table 1-1)

model	Rated power	Backup power input voltage	AC fuse	DC fuse	note
GB9221/500W	500W	48V	8A	25A	fuse : Φ

GB9221/300W	300W	48V	5A	15A	6mm*30mm
GB9221/150W	150W	24V	3A	15A	

Table 1-1 Equipment model and parameter comparison table

11 Attached parts and components

No.	Project	Notes
1	Instruction manual 1	
2	2 AC fuses 2 DC fuses	See table1-1
3	Audio cable 1	
4	Certificate 1	Attached to the chassis