Public Address System

Networked Playing Power Amplifier

MAG6806- Digital Screen
MAG6812- Digital Screen
MAG6825- Digital Screen
MAG6835- Digital Screen
MAG6865- Digital Screen

Operation Instruction

Welcome to use the public address system manufactured by DSPPA Company. For the better application of this equipment, please read the operation instruction carefully prior to use.

Guangzhou DSPPA Acoustic Technology Co., Ltd.

http: //www.DSPPA.com

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About Operation Instruction

This operation instruction shall come into effect on the date on which the development of the networked playing power amplifiers MAG6806/6812/6825/6835/6865 is completed. The operation instruction contains the profile of the networked playing power amplifier, precautions for use, instruction to system connection, operation instruction to product, and technical indicators of the product and so on. The user shall read this operation instruction carefully prior to connection, installation and use, and operate in accordance with the instructions herein.

⚠ The attention must be paid to the instructions with such identification on the back panel of the machine. Please use or operation the machine following such instruction.

Please keep this operation instruction for the checking in the future.

Matters needing attention

Please read the following before operating the product.

⚠ Warning

The following basic requirements must be strictly observed, to avoid potential personal injury and equipment or property damages to you or any person nearby. The basic requirements include without limitation to the following:

Power source/power cable

• Please disconnect the device from power source by pulling the plug other than the power cord. Pulling the power cord may result in damages.

• Please keep the power cord away from heat source. Do not overbend the power cord or place it anywhere it can be stepped on or may cause to trip.

• This is connected to power source via the plug and any failure or danger occurs, the user can disconnect the device from power source by pulling out the plug out from the socket, therefore, it is required that the power socket should be located somewhere with easy access.

• The device is not completely disconnected from power source when it is switched "OFF". For sake of safety, please disconnect the device from the socket if it is not in user.

Positioning

• Please disconnect the device from power source before relocating the device.

• For avoiding deformation of panels and damages to internal components, please do NOT place the device where there is heavy dust or violent vibration, or where it is extremely cold or hot.

• Please keep this device off water drops or splash or vase filled with water or any other articles of similar nature.

Connection

• Please disconnect other equipment from power source before they are connected to this product. Please tune volume to its minimum level before the device is powered ON or OFF.

• All terminals on the device marked with ⚡ are live and dangerous, and should be connected by trained personnel.

When abnormal conditions are realized

• Please disconnect the device from power source immediately in case the power cord is worn or damaged or if the sound is suddenly cut off or any abnormal odor or smoke comes out from the device, and then have the device inspected and repaired by professional personnel.

Precautions in Operation

• Please do NOT insert any finger into any gap or opening of the device.

• Please prevent foreign objects (paper, plastics or metal etc.) from being inserted or falling into any gap or opening of the device. In such case, please cut off power source immediately.

• Please do NOT put the body or any heavy object on the device and do NOT operate the buttons or switches or connections with excessive force.

Do NOT open

• Please do NOT remove the cover of the equipment, otherwise you may get an electric shock.

• Do NOT attempt to remove any internal component from the device, or to modify the equipment in whatever manner. In case of any abnormal condition, please stop using the device immediately and have it inspected and repaired by professional personnel.

Other Precautions

• Our company shall not be responsible for data loss or damages due to improper use of unauthorized modification to the device.

• The images and screen display in this Manual are only for description and may be different from screen images in actual operation. The screen display depends on the product.

1. Description of product

1.1 About MAG68 series networked playing power amplifier

- MAG68 series networked playing power amplifier is a kind of fully networking digital analog-digital signal processor supporting 100/10Mbps self-adaptation TCP/IP network transmission protocol; with the design of double network backup, it is allowed to access to any switch simultaneously. Furthermore, this machine has the functions of network line fault detection and automatic selection in order to improve the reliability.
- The remote audio data stream is able to output the audio signal with this machine, and the host is subject to the intelligent control; in this machine, there is a built-in MP3 player with USB interface and SDC card port, so as to play MP3 program on this machine without playing the internet audio signal; there is a channel of auxiliary audio input interface used for connection of other audio source equipments (e.g. DVD machine); there is a channel of auxiliary audio output interface used for connection of other power amplifiers and extension of the power. There is also a channel of microphone interface used for local paging and so on.

1.2 Function features:

- This machine is made of high-grade aluminum-alloy drawn panel.
- It is allowed to suspend the machine any place accessible to the network. The network transmission protocol developed independently by DSPPA network team to achieve the dynamic audio data transmission. With the double network interface redundancy design, it is possible to work crossing the network segments.
- There is the built-in high-efficiency digital power amplifier with 100V constant voltage output, resulting in the efficiency higher than 90%.
- There are the MP3 player, USB port and SD port, which are used to play the local programs.
- The maximum output power of the amplifier shall be 60W, 120W, 250W, 350W, and 650W respectively.
- The eye-catching design of the digital display screen is able to display not only the time of the clock, but also the time of the playing progress.
- With the time frame synchronization mechanism, it achieves the real-time synchronization of the clock of the machine and the clock of the networked host.
- This is the built-in infrared receiving module under the control of the infrared remote controller, so it is easy for use.
- The panel integrates five status indicator lamps to show the working conditions clearly.
- On the panel, there are eight shortcut buttons, facilitating the daily use of the local user.
- It has the built-in offline local timing-point playing function, so as to back up and store the timing programs into the SD card, and back up the timing-point programs automatically.
- Outside the machine, there is a channel of AUX line input, a channel of microphone input, and a channel of AUX line output, in order to facilitate the expansion of the other local sound source broadcasting and expansion of local power.
- It has the priority management function at the level 8 or above; the local microphone is equipped with

the mute adjustment potentiometer to adjust the volume of the mute level.

- Outside the machine, there are the two kinds of powerful broadcasting output interfaces including EMC 24V and short-circuit dry contact, which are used to connect the audio controller of the loudspeaker, or to connect the intelligent power supply.

- It is equipped with the peripheral equipment expansion interface, which is used to connect 86-box on-demand playing color screen, connect the double 86-box help intercom panel and dual-purpose intercom panel, or connect the bluetooth audio receiver.

  Function of playing on demand**:** After connecting the 86-box on-demand playing color screen, it is possible to achieve the local on-demand playing of the mass program library of the host.

  Function of paging**:** After connecting the 86-box on-demand playing color screen, it is possible to implement the real-time paging for the selected zone.

  Function of intercom: After connecting the help intercom panel, it is possible to achieve the function of help intercom.

  Function of bluetooth audio receiving: After connecting the bluetooth expander, it is possible to receive the blue-tooth audio, so as to enable the school and marketplace to achieve the local wireless loudspeaker sound amplification with the bluetooth wireless microphone.

- There is a mixed relation between the external line input and the program source for network playing. The local microphone and AUX input will turn on the power amplifier by detecting the size of the input signal.

- It is allowed to tailor the linkage trigger function and 100V local emergency line input, in order to facilitate the access to the local firefighting address system.

- It has the networking playing function, so that it is possible to play the program source distributed by the networked host or audio stream of the networked audio collector.

- It is possible to play the background music, emergency paging, and alarm signal from the system host.

  The network program source has the priority management function at the level 7 or above, and it is classified into the background broadcasting, business broadcasting, and emergency broadcasting.

- The decoding chip with high-definition CD tone is used to support 16-bit MP3/WMA/WAV/PCM audio stream data decoding with sampling rate at 48KHZ to the maximum extent.

- Fully digital design with advantages such as high performance, high definition, and high audio transmission indicator.

- There is the built-in watchdog function to guarantee the normal operation of the equipment effectively.

- Due to wide range of the working ambient temperature, the industrial-level chip design is adopted to adapt to the outdoor installation and use.

- There is the built-in DSP sound effect processing chip to achieve the function of high and low pitch adjustment, so it is applicable to compensation in different environments so as to further improve the broadcasting indicator.

- The high-performance network processing chip and independently developed real-time processing system are used, so that the startup time is less than 0.1S, and the time for connection with networked host is less than 2S, resulting in the high real-time capacity; the time delay for broadcasting of real-time program is less than 0.2S.

- The independently developed real-time operation system has the strong real-time capacity, so it is possible to achieve the real-time synchronization of the sounds of the programs broadcasted by several network players without any difference in the time basically.

- The independently developed network data stream decoding algorithm, microphone paging, and

external line broadcasting are used to realize the strong real-time capacity. The time delay after keeping the paging state for more than 24 hours will be less than 0.5S.

● The independently developed network data correction algorithm is used to guarantee the accuracy of the received data while guaranteeing the real-time of the data transmission, so that the operation is stable and reliable.

● The local output volume and local playing status are controllable.

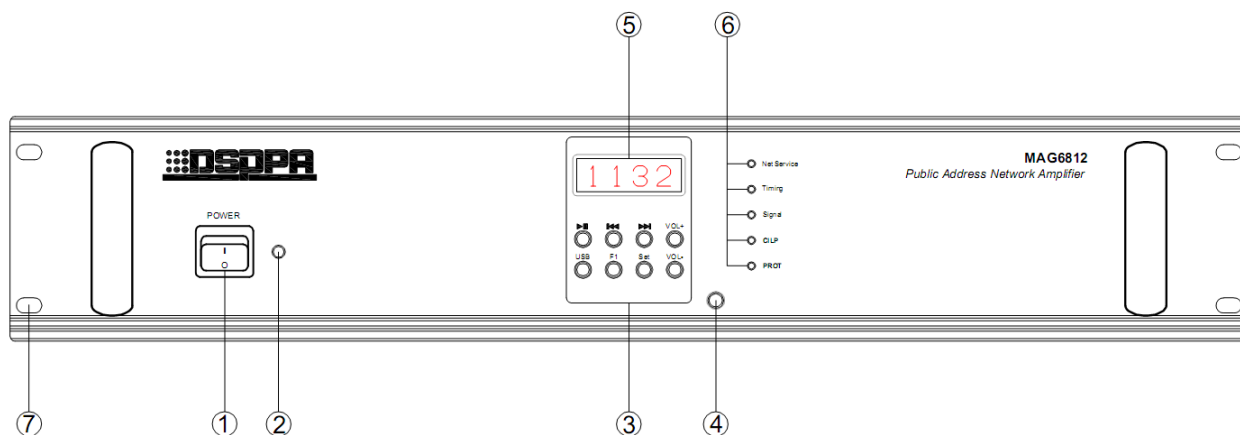# 2. Description of structure

2.1 Profile of front panel

Figure (1) Panel

1   Power switch

2   Power indicator lamp

3   Buttons for setting of operation

◆   ▶‖Button: Button of play/pause; when playing the local MP3 program, this button is used to carry out the operation of play/pause; when setting the address, this button is used to save the setting result.

◆   ◀◀Button: In the mode of playing, this button is used to select the last song program; in the mode of setting IP, this button is used to carry out the operation of left shift of one screen/one place, to

select the parameter to be checked/set.

◆   ▶▶ Button: In the mode of playing, this button is used to select the next song program; in the mode of setting IP, this button is used to carry out the operation of right shift of one screen/one place, to select the parameter to be checked/set.

◆   **"VOL+"** Button: In the mode of playing, this button is used to increase the volume; in the mode of checking IP, this button is used to switch over the parameter selected for checking; in the mode of setting IP, this button is used to add or subtract the parameter.

◆   **"USB"**   Button: Button   of   U-disk

play/stop; when setting the address, this button is used to exit the setting status.

◆ **"F1"** Button: When adjusting the volume, this button is used to switch over among three sound sources including auxiliary input, microphone input, and MP3.

◆ **"Set"** Button: This is the local setting button. Long press this button to enter the IP address checking status; press again to enter the IP setting status.

◆ **"VOL-"** Button: In the mode of playing, this button is used to decrease the volume; in the mode of checking IP, this button is used to switch over the parameters selected for checking; in the mode of IP setting, this button is used to add or subtract the parameter.

4   Infrared remote control receiving window

5   Digital display screen

◆ The digital display screen is used to display the local working condition and network information status and to display the time.

6   Signal indicator lamp

◆ Net Service: Network indicator lamp. If the machine is connected successfully to the host with the network, this indicator lamp is on.

◆ Timing: Timing-point indicator lamp. This power amplifier may execute the off-host timing point edited on the host. When this terminal is able to execute the timing point off the host, this indicator lamp is on.

◆ Signal: Power amplifier output level indicator lamp. In case of the signal output from this power amplifier, this indicator lamp is on; when the volume of the power amplifier increases gradually, this indicator lamp is lightened gradually; when the volume decreases gradually, this indicator lamp is darkened gradually.

◆ CILP: Voltage limiting function indicator lamp; if the voltage limiting function indicator lamp is on, it indicates the excessively large output signal, and the voltage limiting circuit is activated.

◆ PROT: Power amplifier indicator lamp. In case of the protection against the faults such as over-current, overheat, short circuit of the power circuit, this indicator lamp is on.

Remark: No indication function is opened on the CLIP indicator lamp and PROT indicator lamp in MAG6806.

7   Cabinet fixing screw hole for installation of machine
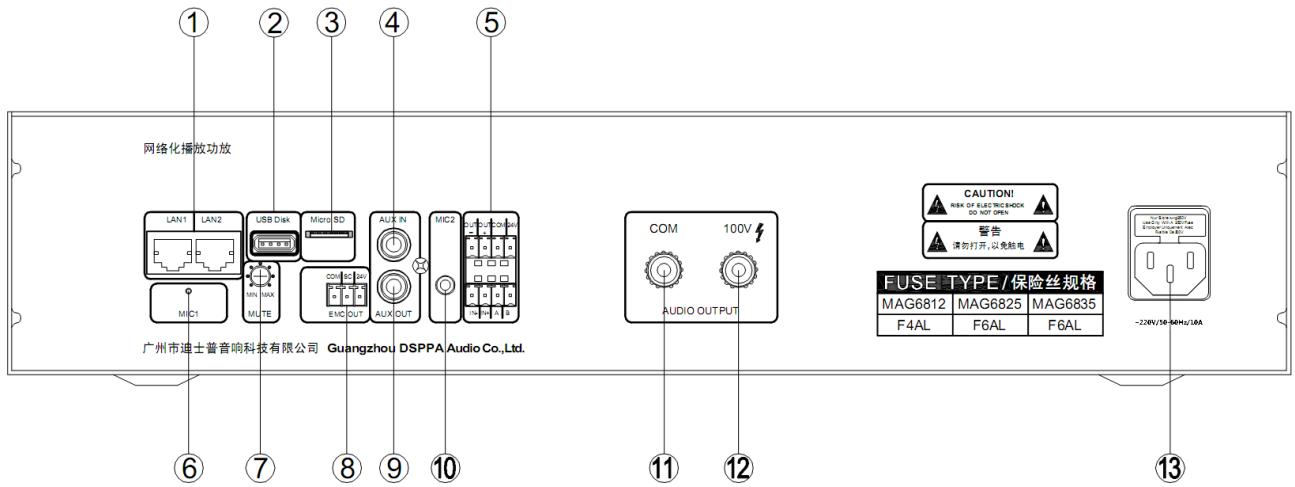
2.2 Profile of back panel

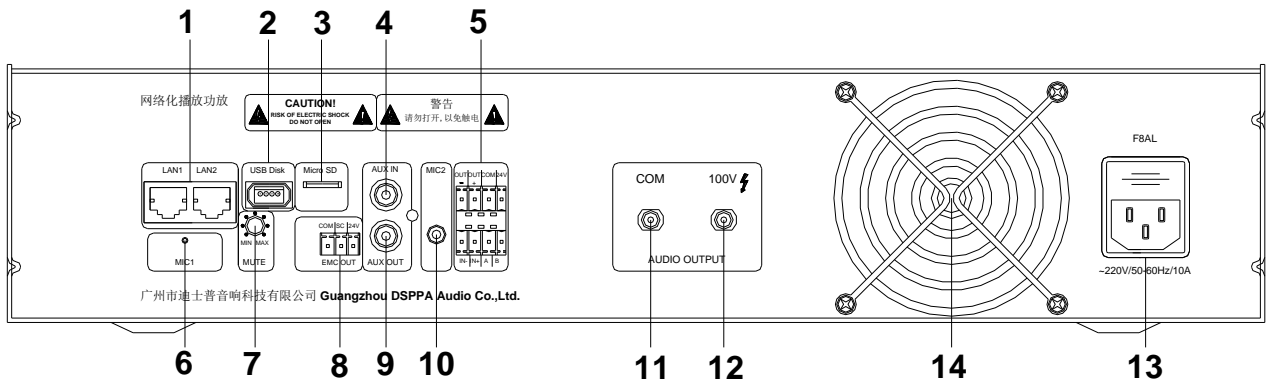Figure (2) Back Panel of MAG6806/12/25/35

Figure (3) Back Panel of MAG6865

1   Network interface (LAN1/LAN2)

With the design of double network interfaces, this machine can connect network switch.

2   USB interface (USB Disk)

It is allowed to insert U-disk or the mobile HDD in which the MP3 programs are saved and other memory devices into this interface, in order to provide the built-in MPS player with program source.

3   SD card slot (Micro SD)

It is allowed to insert the SD card in which the timing point of the host is saved into this slot, in order to provide the timing point with the sound

source in case of the lost connection of terminal.

4   Auxiliary input interface (AUX IN)

It is used to connect the sound source equipment (e.g. DVD player) in order to expand the program source for this machine.

5   Color screen on-demand playing terminal connection interface

The 8-core network cable is used to connect the color screen on-demand playing terminal; please refer to the operation instruction to the on-demand playing terminal for the connection in detail.

6   MIC1 pickup window

With the microphone pickup window built in

this machine, it is possible to publish the voice broadcasting directly to this window.

7   Microphone mute adjustment

MIC1 mute depth adjustment button.

8   EMC break-in playing output

The signal output from this interface is under the control of the host.

9   Auxiliary output interface (AUX OUT)

It is used to connect the other power amplifiers in order to expand the power.

10   MIC2 interface

This interface is used to connect the microphone in order to achieve the local paging or field speaking.

11. 100V output common port

100V constant voltage output cold end.

12   100V output port

100V constant voltage output hot end.

13   Power input socket and fuse holder

It is used to provide this machine with the working power supply. If the fuse is blown, please replace with the fuse in the same specification; if the fuse is blown continuously, it indicates the short circuit in the machine; please replace the fuse after the troubleshooting.

14   Fan port

2.3 Description of structure of remote controller

The structure of the remote controller is shown in the figure on the right side:

1. Button of mute.

2. Numeric keys:

Used for setting of IP address and setting of parameter value.

3. F5:

When inserting U-disk, press F5 button to play/stop.

4. Button of selecting last song:

CH+ is used to select the previous program of the music played currently.

5. Volume decrease:

V- is used to decrease the output volume of the terminal.

6. F7: Button of play/pause:

Repeat to press this button to switch over between playing on demand and

7. Enter key:

In the idle state, press the Enter key to adjust the output of bass (Cycling from 0 to 15).

8. Button of selecting next song:

CH- is used to select the next program of the music played currently.

9. Cancel key:

In the idle state, press the Cancel key to adjust the output of treble (cycling from 0 to 15);

In the other states, press the Cancel key to cancel.
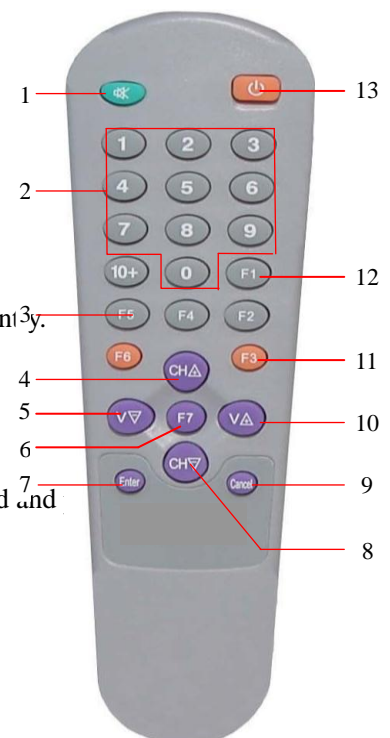
10. Volume increase:

Figure (3)

V+ is used to increase the output volume of the terminal.

11. F3:

Button of IP address checking/modification; press this button to enter the state of checking, and then press the button of CH+/CH- to select the parameter to be checked, and press F3 to enter the state of setting; after the modification, press the Enter key to save it; otherwise, the modification is null. Press the Cancel key to exit without saving.
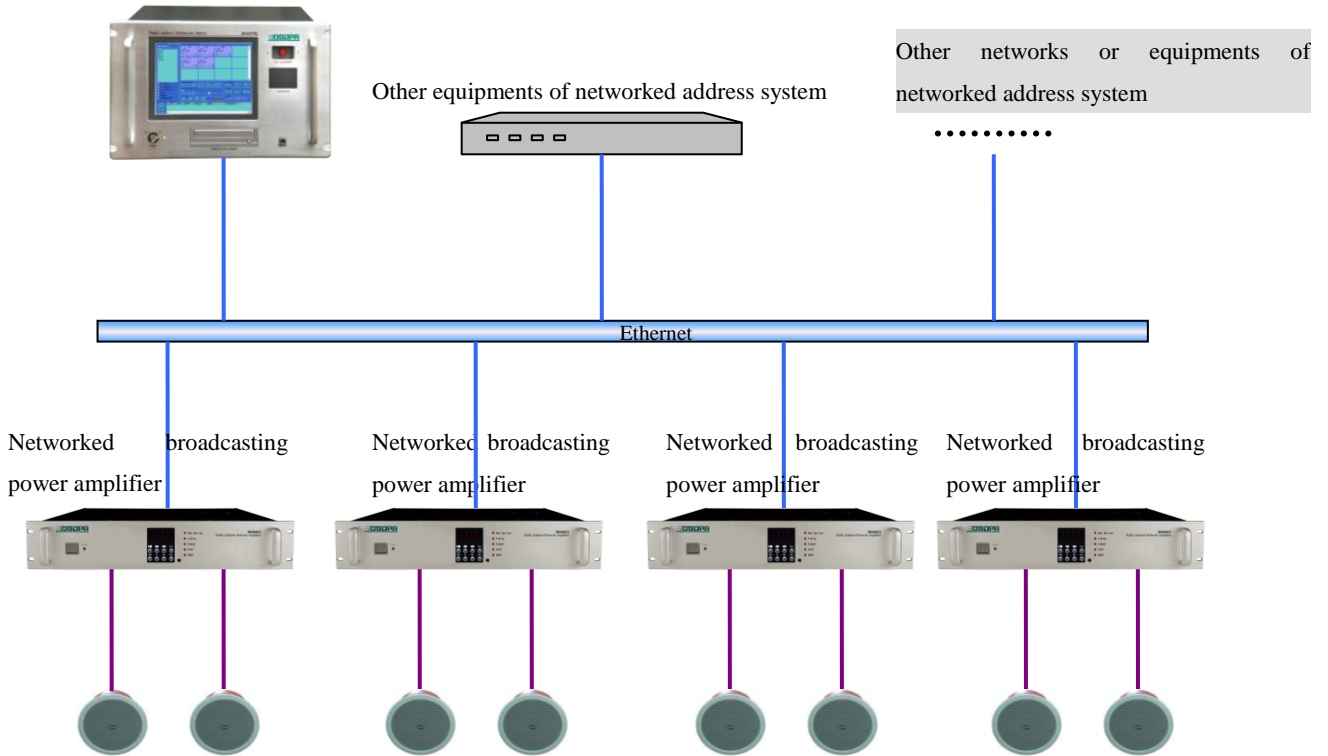
12. F1: Button of volume setting:

Select the sound source to be modified. After selecting, press V+ and V- to modify the volume. (AUXI indicates auxiliary input, MIC1 indicates microphone input, and MP3 indicates network sound source or U-disk)

13. Button of standby

3. Example of connection diagram

3.1 Schematic diagram of application of MAG6812 terminal in system

Control host of networked address system

Other equipments of networked address system

Other networks or equipments of networked address system
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Ethernet

Networked broadcasting power amplifier

Networked broadcasting power amplifier

Networked broadcasting power amplifier

Networked broadcasting power amplifier

Notes: ① In the above diagram, only the schematic description is given to the connection for the probable application of MAG68 series power amplifier; please refer to the operation instruction to the networked control host for the connection of the whole system.
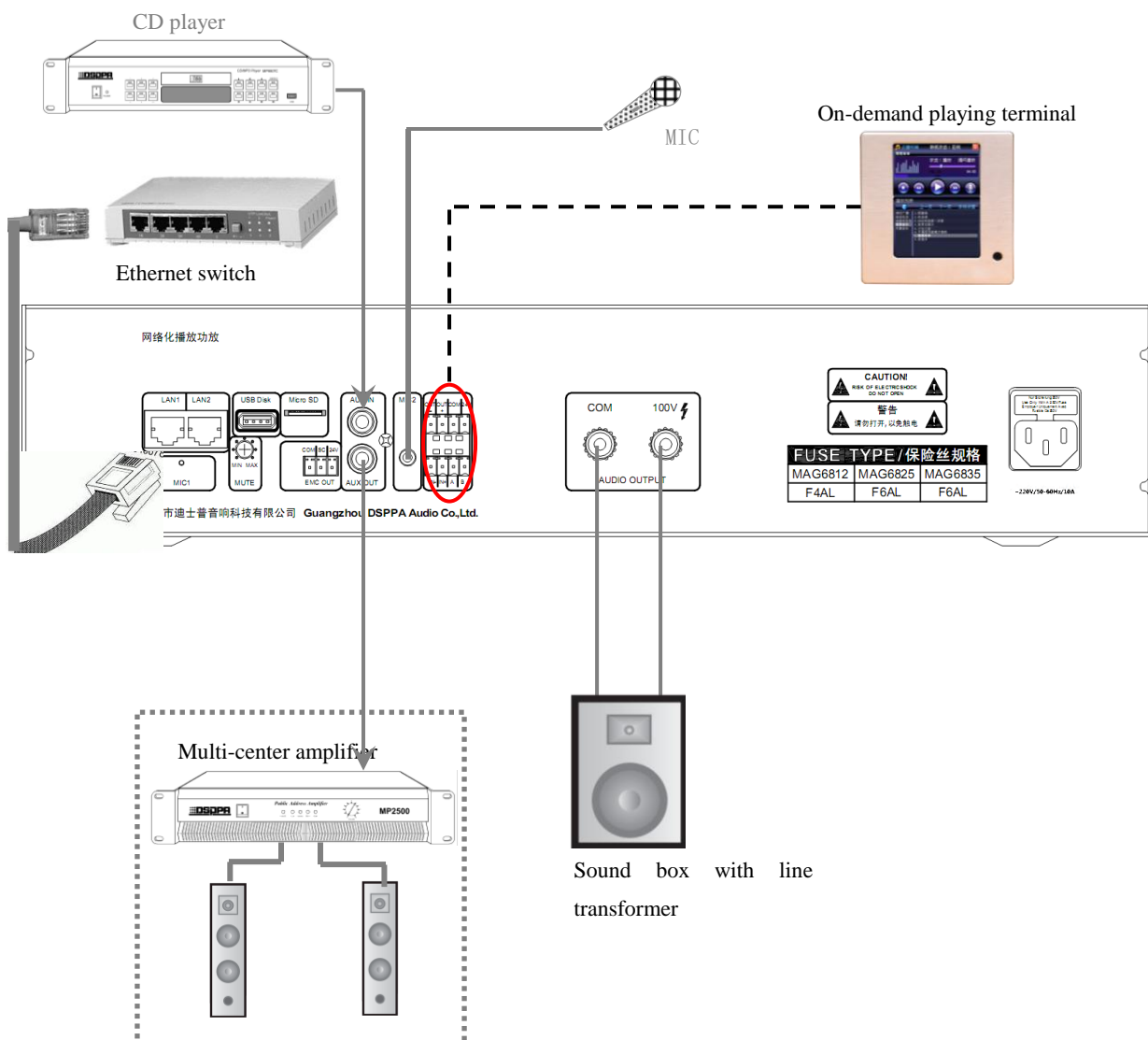
② The above diagram is only used as example; please refer to the schematic diagram of connection for the specific connection.

③ The connection of MAG68 series power amplifier in the system must be implemented through the network switch, and the setting of the relevant address is necessary.

3.2 Schematic diagram of connection of interface on MAG6812 terminal

In addition to the self-contained MP3 player and network sound source, this machine is also equipped with one channel of auxiliary input, one channel of auxiliary output used to connect the other sound sources and power amplifiers. The personalized design of this machine can meet the needs of the terminal for large power and multiple sound sources at the site. In the application without such personalized needs, it is allowed not to connect the external sound source and other power amplifiers. The MP3 player and network audio stream in this machine can meet the requirement for sound amplification in most of the public places.

The schematic diagram of connection of the interface on this machine is shown as follows:

4. Instruction to operation:

1. Modification of volume:

     a)   Press the button of "VOL+" of "VOL-" to directly adjust the playing volume; press the button of "F1" to switch over among the volumes; when switching over to the current sound source, it is possible to adjust the volume of such sound source. The sound sources to be switched over include AUX.1, MIC.2, and MP3.3 ("AUX.1" represents input volume, "MIC.2" represents microphone collecting volume, and "MP3.3" represents the volume output from AUX OUT).

     b)   After completing the operation of setting, it will automatically jump to the timing state.

2. Modification of IP address:

     a)   Long press the "Set" key to enter the state of IP address check.

     b)   Press "VOL+" or "VOL-" to select the parameter to be modified (Local IP, slave IP, gateway, and subnet mask); after selecting, it will automatically jump to display the corresponding parameter value.

     c)   At this moment, press the "Set" again to enter the IP address modification state. When the parameter is flashing, press the button of ◀◀ or button of ▶▶ to shift the parameter bit, and press "VOL+" or "VOL-" to add/subtract the parameter; after the modification, press the button of "play/pause" to save the parameter; if not, the modified parameter will be invalid.

3.   The nixie tube displays "IP" representing the local IP address, "SIP.1"/"SIP.2" representing slave IP address, "GATE" representing gateway (recommending not to modify), and "MASK" representing the subnet mask (recommending not to modify).

4.   If the host is in the playing state, insert the U-disk, and press USB, it will display the "err" (error), indicating that it is unable to play the songs in U-disk, because the priority of the host is higher than that o the U-disk.

  Attention: When plugging in and out the SD card, the power supply shall be turned off to prevent the damage to SD card; if the nixie tube displays "err", it indicates that the operation is invalid.

Precautions for Use

1. Precautions for safety in use

- Before connecting the system line properly, do not insert the power plug of this equipment into the grid.
- Ensure the voltage input to the equipment shall be fully consistent with the voltage of this equipment to prevent the risk in the burning of the equipment.
- There is the hazardous voltage in the machine, which is sufficient to cause the electric shock to the person. Please do not open the machine housing without authorization to prevent the hazard of electric shock.
- In the event that the power supply to this equipment is turned off, the machine is not fully disconnected with the power supply of the grid. For the purpose of safety, please pull the power plug out of the socket when the equipment is not in service.
- Please do not put the equipment in the extremely cold or hot place.
- Ensure the good ventilation in the working environment of the equipment, to prevent the damage to the equipment due to the heating in working and excessively high temperature.
- In the rainy and humid days or if the machine is not in service for a long term, please pull out the power plug.
- Before removing or reassembling any part of the equipment, disconnecting or reconnecting any electrical plug or other connections of the equipment, be sure to pull out the power plug to ensure the full disconnection of the equipment with the grid.
- In case of any fault in the equipment, the non-professional person shall not disassemble the housing for repair without the approval, in order to prevent accident or aggravate the damage to the equipment.
- Do not put any corrosive chemicals nearby or on the equipment.

2. Precautions for after-sales service

- In case of the installation and operation according to this instruction, the company will provide the free warranty service (Including replacement of parts free of charge) for any problem in the normal operation for three years since the date of purchase.
- In case of the warranty, the user shall show the user's voucher of warranty card and the invoice as the certificate.
- In any of the following cases, the free warranty shall not be applicable:
  1.In any of the following cases, the free warranty shall not be applicable:
  2.The damage to the product due to the abnormal conditions (e.g. excessively high power voltage or ambient humidity);
  3.The damage to the product due to natural and man-made disaster and other accidents;
  4.The number on the product body is changed, altered or removed;
  5.The product has been repaired or refitted by the person other than those authorized by the company;
- Please keep the operation instruction and warranty card properly.
- For the issue or matter not covered herein, please contact the distributor or visit http://www.DSPPA.com.
- In case of any fault occurred during the period of warranty, please contact the service personnel of our company (or distributor); our company will not take responsibility for the damage due to the unauthorized disassembly or the repair by the person other than the technicians of our company.

Packing List

No.	List	Quantity
1	1.5m double-audio line	1 piece
2	3m 8-core network cable	1 piece
3	Crystal head	2 pieces
4	10A national standard MP-P power line	1 piece
5	3P green socket (3.81MM socket)	1 piece
6	4P green socket (3.81MM socket)	2 pieces
7	M5×19 half-countersunk cross-head screw (silver)	4 pieces
8	Operation instruction	1 copy
9	Certificate / warranty card	1 copy respectively
10	White packing washer	4 pieces

Performance specification

Indicator item		Indicator parameter
Model		MAG6806/6812/6825/6835/6865
AUX IN	Input sensitivity	1000 **mV**
	Frequency response	20Hz-20kHz
	Distortion	≤0. 1%
	Signal to noise ratio	≥75 **dB**
AUX OUT	Rated output	1000m**V**
	Frequency response	20Hz-20kHz
	Distortion	≤0. 1%
	Signal to noise ratio	≥75 **dB**
MIC microphone input	Input sensitivity	10 **mV**
	Frequency response	20Hz-20kHz
	Distortion	≤0. 5%
	Signal to noise ratio	≥70 **dB**
USB/SD /NET Playing MP3	Frequency response	20Hz-20kHz
	Distortion	≤0. 5%
	Signal to noise ratio	≥75**dB**
100V constant voltage output	Rated output power	60W/120W/250W/350W/650W
	Frequency response	100Hz-15kHz
	Distortion	≤1%
	Signal to noise ratio	≥70**dB**
Capacity supporting SD card		32GB
Capacity supporting U-disk		32GB
Power supply		AC220V/50Hz-60Hz
Over-current, overheat, over-voltage protection		Satisfied
Display screen		Digital screen
Weight		7.0kg/7.3kg/7.39kg/8.92kg/9.92kg
Dimension of outer packing (L×W×H mm)		520×485×145
Dimension of machine(L×W×H mm)		483×410×88

Guangzhou DSPPA Audio Co., Ltd.