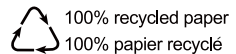




# DAM-124

12 CHANNEL DIGITAL AUTOMATIC MIXER

Installation and Operation



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Thank you for choosing a RELACART digital automatic mixer system. You have joined thousands of other satisfied customers. Our years of professional experience of design and manufacturing to ensure our products' quality, performance and reliability.

## 01 Safety Operation and Notice

1. Please read instructions for safety operation carefully before installation and operation. Please save your safety operation guide for future reference.
2. Do not scratch, bend, twist, stretch or heat the power cord as this may cause damage to the power cord, resulting in a fire or electric shock.
3. Do not open the device shell, otherwise it may cause electric shock. If you need to repair, maintain or repair, please contact your local agent.
4. Do not touch the power plug with wet hands as this may cause a fire or electric shock.
5. Do not attempt to modify this device. Failure to do so may result in personal injury or product malfunction.
6. Do not use this equipment near water.
7. If the power cord is damaged (such as a broken wire or bare core), obtain replacement parts from your dealer. Continued use of the equipment with a damaged power cord may result in fire or electric shock.
8. To move the device he power, unplug the power cord, and unplug all connecting cables as this may damage the cable, resulting in a fire or electric shock.
9. Before cleaning the device, unplug the power cord and unplug all connecting cables. Please clean it with a dry soft cloth.
10. If the device is not in use for a long time, turn off the power, it is best to unplug the socket.
11. With the power plug and appliance coupler as the disconnecting device, it should be kept easy to operate.
12. For the safe use of the equipment and adequate ventilation, the minimum clearance around the equipment should be maintained at a distance of 5 cm or more.
13. DO NOT cover the Ventilation holes, such as: newspaper / fabric / curtains and other items.
14. Equipment should not be placed on a bare flame source, such as: lit candles.
15. Battery should not be exposed to sunshine, roasted or other high temperature overheating environment.
16. Do not throw the waste battery, please put in the designated bins.
17. Water protection rating: IPX0
18. The device can be used normally in tropical / temperate climates.
19. This product is only suitable for safe use at the altitude of 2000m and below.
20. This symbol “⚡” indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
21. All Relacart products will be afforded one year free maintenance except for man-made damage, such as:
  - the device is damaged by man-made factors.
  - the device is damaged by improper operation.
  - some components are damaged or loss after the self-disassembly.

## 02 System Performance Feature

DAM-124 12-channel digital automatic mixer is the perfect combination of digital control technology and digital signal processing, high-performance DSP as the core design, fully automatic work, without human intervention. With automatic opening only the signal input channel, the sound gate action level can be automatically adjusted, this function is only in the microphone when the working state will be activated, can try to avoid multiple open microphone sound' quality falling down. Easy to install, just set the session on the spot, that can play an automatic function, do not worry about the setting work. And can be selected according to the needs of automatic processing or forced to close the microphone manual processing function, under the auspices of the host, can make the meeting smoothly. All intelligent conference management, can easily form a set of powerful, easy to operate digital intelligent conference system. It is applicable to the high demand of court, business center, conference center, hotel and TV station.

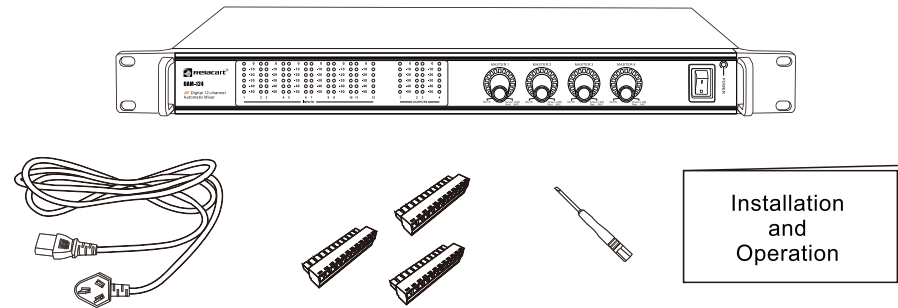
### Key Features:

- Using TCP/IP connection, can be connected to special software to achieve the remote control of the conference system, remote diagnosis and upgrade.
- Through the use of TCP/IP connection to achieve computer PC software control and iPad software remote control settings of the parameters.
- Each channel can be set to priority, limiter adjustment.
- 4 - band parametric equalizer, frequency, Q value, amplitude adjustable.
- Shed filter set, to eliminate unnecessary noise in the band.

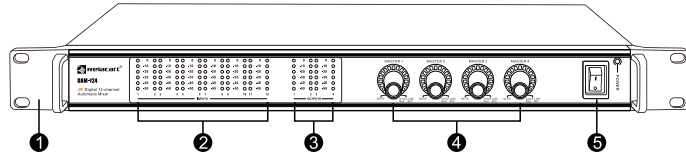
## 03 Packing List

- Multi-stage frequency adjustable slope of the high and low pass filter, can show a better transient response.
- Support 8 microphone input channel with 48V phantom power supply independently, 4 MASTER analog output.
- The RS-232 interface can be used to connect central control equipment and camera tracking system.
- With 12 independent working channels, each channel output can be independently adjusted gain, do not interfere with each other, multi-functional intelligent meeting digital automatic mixer.
- Independent configuration FBK, NOMA function.
- All-digital signal processing, built-in high, low-pass filter, limiter, 12x4 matrix and so on. The basic use of the operation connected to the computer with proprietary control software, each channel can be detailed settings and adjustments.
- The automatic sound valve adjustment can automatically calculate the appropriate valve level by using the powerful computing system of DSP digital algorithm according to the on-site environmental noise, which is suitable for any harsh conference environment; Finally, keep the time adjustable to ensure that your meeting is more smooth.
- 12-channel input and 4-channel output analog and digital mixing matrix control, suitable for a wider range of application.

- ◆ Mixer \* 1
- ◆ Phoenix plug \* 3
- ◆ External power adapter \* 1
- ◆ 2.5mm screwdriver \* 1
- ◆ Rack mount kit (screw) \* 1 set
- ◆ Installation and operation \* 1



## 04 Front Panel Function Introduction

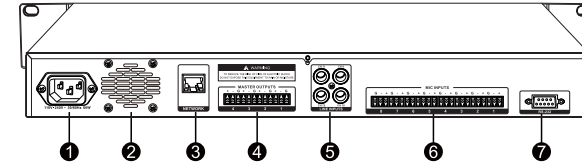


- ❶ Rack mount kit: Fixed installation.
- ❷ Input audio indicator: Display input level value in real time.
- ❸ Output audio indicator: Display output level value in real time.
- ❹ Output encoder: Adjusts the level and function of the analog output channel.
- ❺ POWER switch. (with indicator light)

Indicator light	Audio signal level	State
red	(6) 0 dBFS	Overload peak
yellow	(5) -10 dBFS	Near overload
green	(4) -20 dBFS	Preset signal
	(3) -30 dBFS	
	(2) -40 dBFS	
	(1) -50 dBFS	

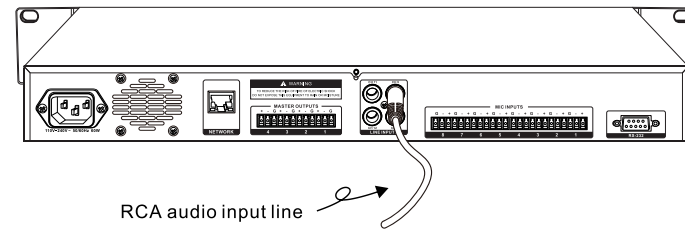
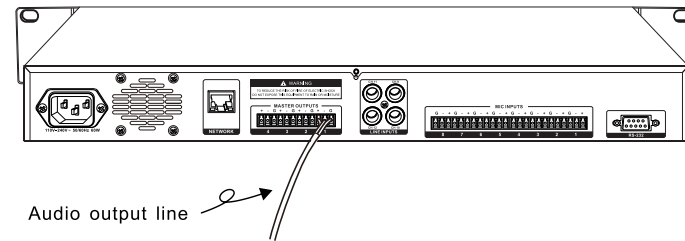
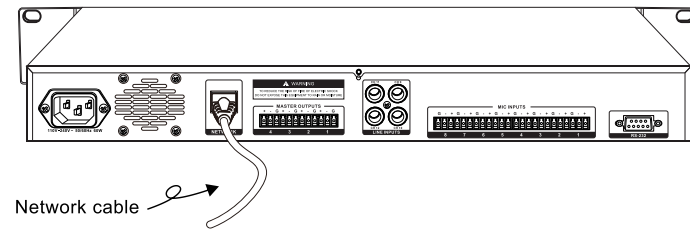
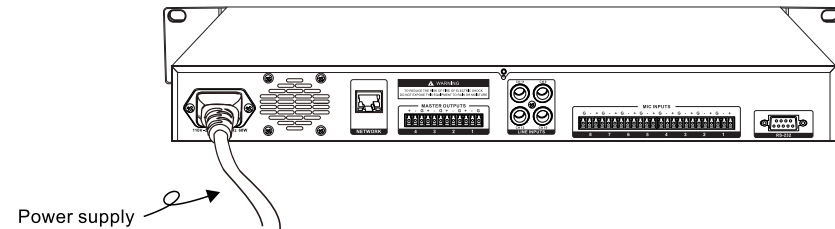
( Input and output audio signal level)

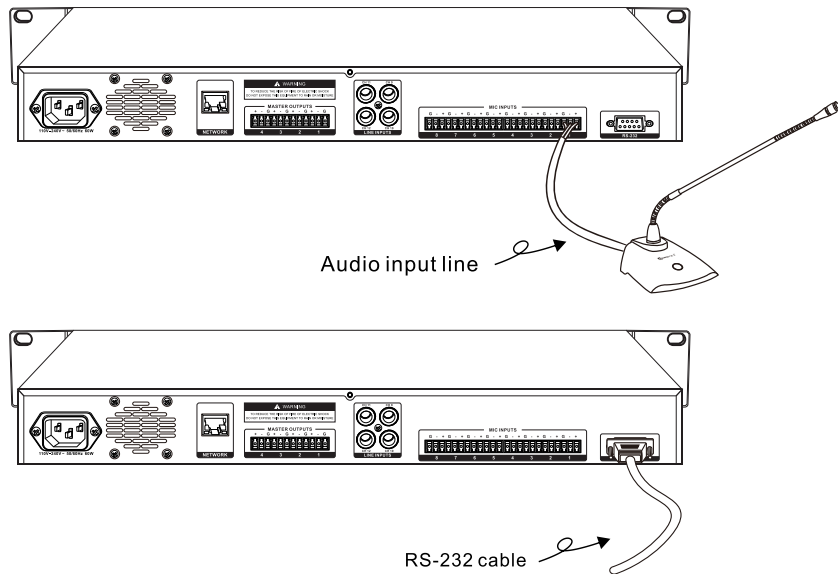
## 05 Rear Panel Function Introduction



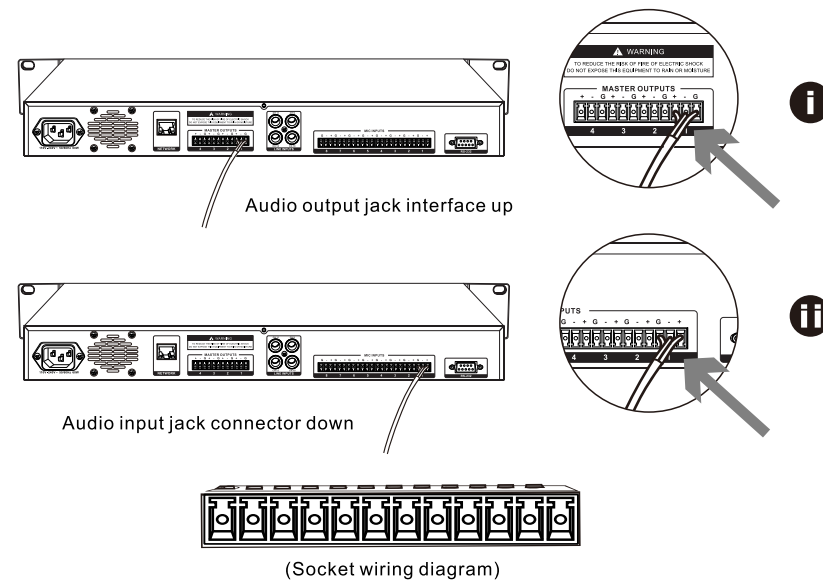
- ❶ Power input socket: Standard IEC socket, which can adapt to work in 100-240V 50/60Hz AC power supply.
- ❷ Cooling fan: It can dissipate heat for internal components, making the whole machine work more stable.
- ❸ Ethernet network port: Connect to Ethernet to enable remote device control via DAM-124 software.
- ❹ Main analog audio output port: 3P fast connector balanced output, can be set to microphone or line level output, 4 channels optional.
- ❺ RCA audio line input port: Can input line signals, such as: DVD, CD and other audio.
- ❻ Channel 1-8 audio input: 3P quick connector balanced input, with 48V phantom power.
- ❼ Cascade connection port (RS-232): Can be connected to video tracking or central control equipment.

## 06 Device Installation



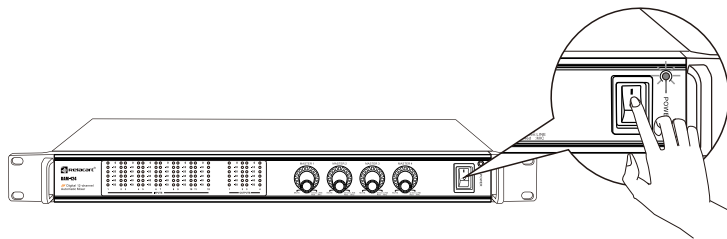


Note: Phoenix output plugs and input plugs are reversed (see figure):

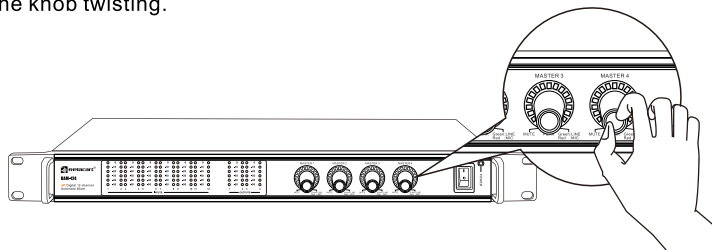


## 07 User-friendly steps

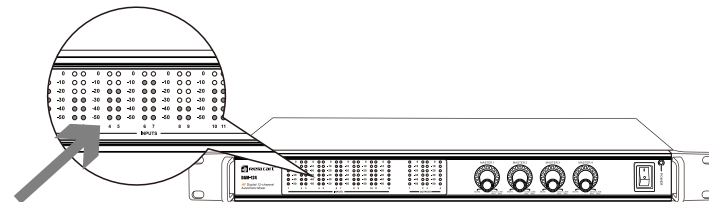
1. After connecting the power adapter, turn on the receiver by pressing the power button ("I" symbol), the display and power indicator are all on.



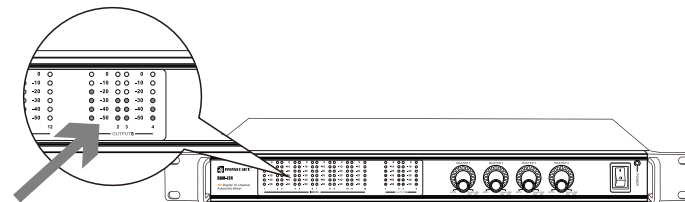
2. Debug the output channel volume. When the volume is adjusted, the knob indicator changes with the knob twisting.



3. When the input microphone speaks, the corresponding input indicator jumps.

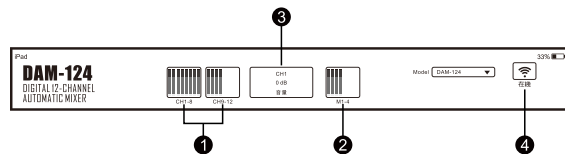


4. Adjust the volume of output channel, when input microphone speech the output level value of the indicator shows the current channel's output.

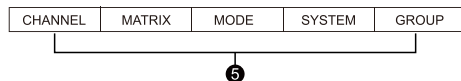




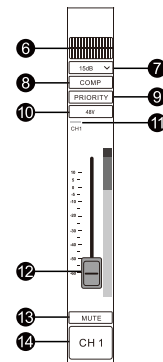
## 08 Software Function Introduction



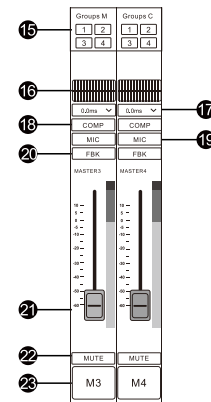
- ❶ 12 channels display: Click CH 1-8, the main screen displays 1-8 audio input channels, click CH9-12, the main screen switches to 9-12 audio input channels.
- ❷ Output channels: Display 4 main output channels.
- ❸ Parameter display: You can enter the currently parameters by manual.
- ❹ Wi-Fi connection display: After the software and device are successfully connected, the Wi-Fi icon lights up, and the Wi-Fi icon is dark after offline.



- ❺ Navigation bar:  
 Channel: Displays input and output channels.  
 Matrix: Input channels can be selected from any channel output without affecting each other.  
 Mode: Set the mixing parameters.  
 System: Device communication, scene saving, firmware upgrade, factory reset, etc.;  
 Group: Mute group and control group settings.



Input channel 1-12



Output channel

- ❻ EQ: Adjust the compensation of the speaker and sound field defects, compensate and modify various input sound sources.
- ❼ Gain: Adjust channel input gain.
- ❽ Compressor: Amplifier with reduced gain as the input signal level increases.
- ❾ Priority: Not limited by the number of microphones, long-term open.

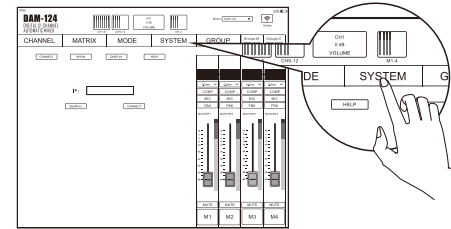
## 09 Software Connection Steps

- ⑩ 48V: 48V phantom power switch.
- ⑪ Channel switch status indicators: Channel indicator light shows green when it is open, channel indicator light shows gray when it is close.
- ⑫ Input volume adjustment fader: Adjust channel output level.
- ⑬ Input mute: turn off the volume output of the channel.
- ⑭ Input channel name: Editable input channel name.
- ⑮ Group display: There are 4 mute groups and 4 control groups.
- ⑯ EQ: Adjust the compensation of the speaker and sound field defects, compensate and modify various output sound sources.
- ⑰ Delay: Set according to the distance of the sound reinforcement equipment.
- ⑱ Compressor: Amplifier with reduced gain as the input signal level increases.
- ⑲ Attenuation switch: LINE switches to MIC output attenuation switch.
- ⑳ FBK: can automatically and effectively prevent howling.
- ㉑ Output volume adjustment fader: Adjust the channel output level.
- ㉒ Output mute: Turn off the volume output of the channel.
- ㉓ Output channel name: Editable output channel name.

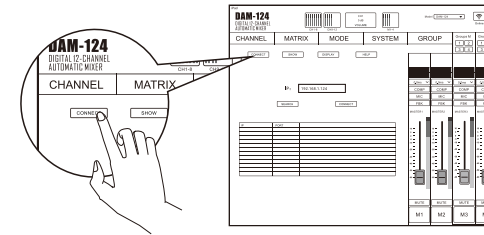
### Software download

- ◆ Apple IPAD download: Open APP STORE, search for DAM-124 to download and install.
- ◆ Computer version software download: go to the official website [www.relacart.com](http://www.relacart.com) and search DAM-124 in the download area Software can be downloaded and installed.

1. Connect the Wi-Fi of the IPAD to the wireless Wi-Fi router used by the user (DAM-124 must also be connected to This router).
2. Open the DAM-124 software and select the “ **SYSTEM** ” page in the navigation bar.

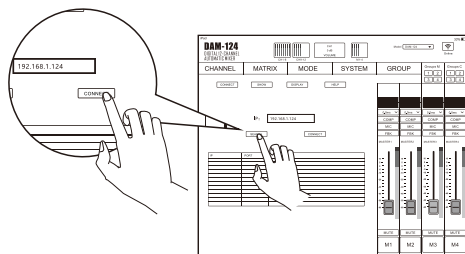



3. Press “ **CONNECT** ” to set the IP address.

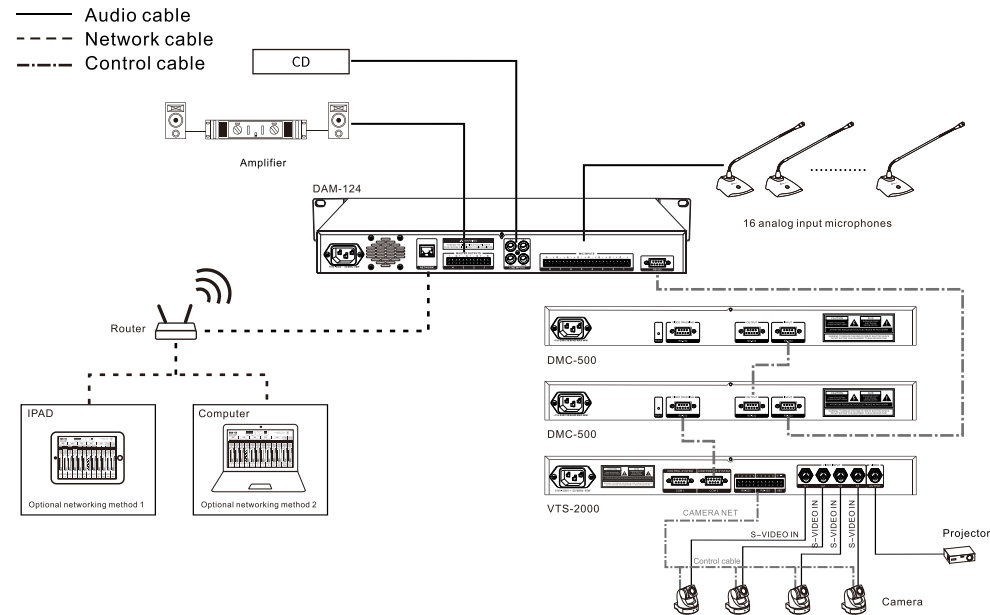
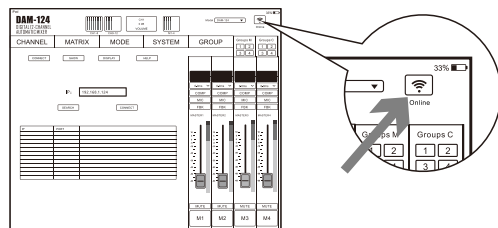


## 10 System Applications Connection Diagram

Press “ **SEARCH** ” after searching the device IP address, click the IP address and press “ **CONNECT** ” .



If the Wi-Fi icon “” is on, the connection is successful.



# 11 Technical Specification

Main Frame Size:	EIA standard 1U
Dynamic Range:	100dB
THD+N Distortion:	<0.05%
S/N Ratio:	118dB
Common Mode Rejection Ratio:	>60dB
Number of Input Channels:	MIC x 8, Line x 4
Maximum Input Level:	Channel input, MIC Input: +6dBu; Line Input (Lotus): +25dBu
Total Amplification Gain:	MIC: +65dB; LINE: +20dB
Number of Output Channels:	Analog x 4
Maximum Output Level:	Line (+0): +21dBu; MIC (-20): +1dBu
AD/DA Converter:	24bit, 48KHz
Internal Processing:	40-bit, floating point DSP
DSP Functions:	Input/output equalization, limiter, FBK, matrix control, threshold control, high and low pass filter
Audio Frequency response:	20Hz — 20KHz
Phantom Power Supply:	+48V/12mA
Network Interface:	10/100 Mbps Ethernet
Power Requirements:	~110V — 240V 50/60Hz 60W
Dimension (mm) :	410 (W) x 206 (D) x 43 (H)
Weight:	Approximately 2.7 kg