



All-weather Waterproof Professional Column Speaker
LIP-523
LIP-546

Intellective Control Public Address System



Warning



To avoid electric shock, do not open the case cover by yourself. When the equipment fails, please find agents or manufacturers to provide maintenance services, you can also entrust professional departments with professional certificates of professionals for maintenance. Non-professionals should not disassemble the machine themselves, so as to avoid electric shock accidents and the life safety of the operator. This product is only suitable for safe use in non-tropical weather conditions!



Before installation and use, please read this manual carefully for correct operation and maintenance

CONTENT

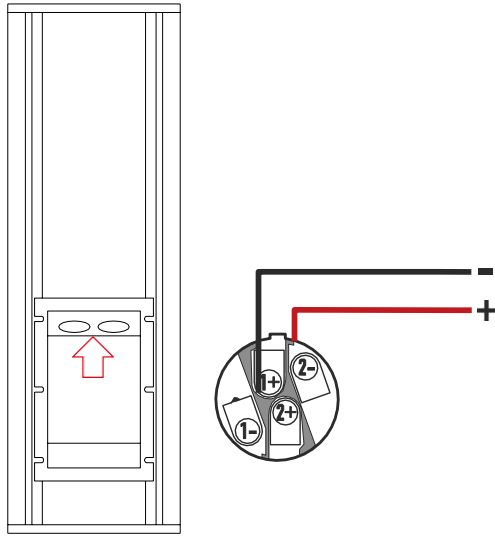
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IV. Common Problems and Solutions

Problems	Causes and Phenomena of the Problem	Suggested Solutions
No Sound	1. The power amplifier has no output (it can be judged by measuring the output end of the power amplifier with	1. Use the troubleshooting method: Use a multimeter to measure the signal input and output of the power amplifier, peripherals and audio sources, find out the problematic wires or equipment, check the corresponding equipment hardware and software settings, or directly replace the equipment.
	There is an error in the wiring of the speaker cable, and there is something wrong with the wire or plug (it can also be judged by replacing the known correct wire).	1. Check whether the connection mode of the speaker plug is correct, and reconnect it if there is any problem; 2. Use a multimeter to check whether the two ends of the wire are connected and whether there is a short circuit between the two wires, and replace the wire with an open circuit or a short circuit or a plug with poor contact.
	The speaker socket has poor contact, and the crossover or speaker unit is damaged.	1. Please follow the below steps to check to determine damaged accessories: Connect the speaker to the power amplifier and input the signal. Use a multimeter to check whether the soldering wire end of the speaker socket is used for output, and whether there is output from the crossover to the speaker unit (with treble protection installed, Please unplug the tweeter cable and measure again). Please replace damaged parts with original parts; 2. If the speaker driver unit is damaged, please find out the cause of the problem carefully to avoid the recurrence of the problem.
The speaker driver unit is easily damaged	Howling caused by improper use of microphone	1. Find the howling frequency and use a parametric filter to reduce the gain at the corresponding frequency point 2. Adjust the microphone gain and select an appropriate feedback suppression mode; use the compression limiting function of the microphone channel if necessary, and adjust it to an appropriate level.
	Shock signals caused by not turning on and off the machine in sequence	1. Turn on the audio source first, then turn on the peripheral equipment, and finally turn on the power amplifier; 2. Turn off the power amplifier first, then turn off the peripheral equipment, and finally turn off the audio source.
	DC signal caused by equipment failure (DC signal will accelerate the aging of the voice coil of the speaker unit and shorten the life of the speaker unit)	Replace the equipment that may have problems, and measure the output of the power amplifier with a multimeter in DC range until the faulty equipment is found and replaced with good equipment.
	The output signal is clipped. The reasons for this type of problem are as follows: 1. The dynamic margin of the equipment is too small; 2. The input and output signals are too large; 3. The gain is increased too much; 4. The power amplifier does not have a LIMIT function	1. Please carefully read the relevant equipment instructions to understand the maximum input and output of the equipment and other relevant parameters. For equipment with too small dynamic margin, it is best to replace it with equipment with larger dynamic margin; 2. Check and control the output level of the sound source to avoid excessive output signal or clipping; 3. Check and control the surrounding system gain and equalizer gain to avoid excessive output signal or clipping; 4. For the power amplifier without limiter (LIMIT) function, please replace it with the power amplifier with limiter (LIMIT) function.
	If the gain of the frequency below 100Hz is increased too much, and the low cut is not made, the voice coil displacement (stroke) of the bass unit will exceed the limit, resulting in cracking of the paper basin or aging and short circuit of the voice coil.	When increasing the gain of frequencies below 100Hz, please try to control the gain increase below 3dB, and be sure to cut it low! Carefully compare and find out the frequency and Q value that need to be improved to achieve the best music effect.
Insufficient sound pressure	There is a problem with the installation angle or position of the speaker.	Adjust the angle or position of the speaker so that the dance floor or performance area and the audience are within the coverage angle of the speaker (please refer to the relevant illustrations).
	The sound pressure in some parts of the room is insufficient due to the acoustic interference caused by the time delay and the position of the sound box.	Adjust the delay of the effector (especially the delay and volume of the auxiliary speaker) and the position of the speaker to reduce the occurrence of acoustic interference.
	Over-temperature protection of power amplifier (some power amplifiers will reduce the heat of the machine by reducing the output power)	Remove dust from the dust-proof net of the power amplifier and improve the ventilation condition of the cabinet. If necessary, please find the power amplifier manufacturer to help solve the problem.
	Direct sound sound pressure is not enough.	Increase the number of speakers

2. Wiring Method

The connection of the speaker plug is +1/-1.



III. Specifications

Model	LIP-523	LIP-546
Rated Power	230W	460W
Suggested Amplifier Power	300W	600W
Instantaneous Power IEC 268-5	300W	600W
Impedance	4Ω	8Ω
Frequency Response@-6dB	100Hz - 20KHz	100Hz - 20KHz
Full Range Unit	2 x 5.5" - 1" Voice Coil/Ferrite	4 x 5.5" - 1" Voice Coil/Ferrite
Treble Unit	8 x 1" - 0.75" Voice Coil / Neodymium Magnet	16 x 1" - 0.75" Voice Coil / Neodymium Magnet
Sensitivity @1W/1m	95dB	98dB
Max/ Peak Sound Pressure	120dB / 123dB	126dB / 129dB
Diffusion Angle HxV	150°x 40°	150°x 20°
Suggested High-pass Filtering	100Hz/24dB Frequency Doubling	100Hz/24dB Frequency Doubling
Input Connection	2x Euroblock	2 x Euroblock
Dimension (WxHxD)	160mmx360mmx180mm	160mmx600mmx180mm
Net Weight	4.55kg	9.14kg

I. Product Description

1. Product Appearance



Birch plywood box, environmentally friendly water-based paint used on the surface, waterproof treatment.

Improve SPL and reduce vertical radiation lobe width.

Due to the excellent improvement in the ratio of direct sound to reflected sound, it is suitable for music and vocal processing in fixed installation places with large reverberation, and can be used in outdoor performances, multifunctional halls, stadiums, banquet halls, conference rooms and other places. All can show excellent speech clarity and sound field sound effects.

The box body is made of high-strength multi-layer birch plywood. The surface adopts black wear-resistant sprinkle spraying process and is equipped with a dust-proof steel protective iron mesh.

2. Packing List

Name	QTY	Unit
Waterproof Column Speaker	1	1 PC
User Manual	1	1 COPY
Professional long-tail plug	1	1 PC

3. Product Dimension



II. Installation Method

1. Installation Method

Bracket accessories 2: First fix the wall-mounted accessories on the wall with screws, then install the box accessories on the back panel of the box with screws, and finally use screws and nuts to fix the two accessories together.

