



Dynamic Audio Solutions

BrainCore™
Technology Inside

L MK2 SERIES

User's Manual

Compact Portable Active Column System



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Thank you for purchasing L MK2 series Compact Portable Active Column System and active subwoofer from Audiocenter. They have integrated technologies of big power digital amplifier and DSP control, as well as speakers made of new materials.

Please finish reading the manual before usage, to make sure the best performance of L MK2 Series. please keep the manual for reference in the future.

Safety precautions

When you set up, install and use the L Series, please follow the following safety measures strictly:

- All purchasers of Audiocenter should be professional people qualified to conduct the work related to such equipments.
- We strongly suggest the users pay full attention to local rules, regulations and laws.
- If any danger or defect is detected, measures should be taken immediately to correct it.
- Please do not place the power cable near heating source. Do not over bend or damage the powercables. Do not place heavy things on it. Please do not place the cables that may be pressed or cause stumbling
- Please do not place the speakers near equipments sensitive to magnet fields, such as CRTdisplayer, TV or data saving materials.
- Only the specified rated voltage should be used for this product. Please refer to the back panel of the product for the specified voltage.
- Only the supplied power cable or plug should be used. (If you need to use the product in a place different from the purchase place, please consult your local Audiocenter distributor.
- Please make sure to connect to proper power socket with protection grounding connection.
- Wrong grounding may cause short circuits. The product inside does not include any component that can be repaired by users. In case of abnormal operation, please stop using immediately, and contact qualified Audiocenter maintenance worker to repair.
- Please do not use the product in the rain, or near water, or in humid environment, to avoid liquidspilling to any opening.
- When any of the following situations occurs, please cut the power immediately, and pull out the power plug from the socket, and ask qualified Audiocenter maintenance worker to repair.
 - This equipment is fell or damaged.
 - Wear or damage of the power cable or plug.
 - Abnormal smell or smoking.
 - Some substance falls into the product.
 - Sound stops suddenly when using the product.
- Regularly check the power cord and plug.
- When pulling out the power plug from the power socket or the product, please make sure to grab the plug instead of the power cable. Pulling the power cable directly may cause damage.
- If the product is not used for long time, or there is thunder storm, please pull out the plug from the socket.
- Please do not place the product in any uneven position. Otherwise, it may cause falling off suddenly.
- If the product is not fixed safely, please do not place it in a position that may cause easy falling.
- Please do not block the air hole vents. The product has air hole vents at the back to avoid internal temperature too high. Bad ventilation may cause damage to the product or even fire.
- Please do not hang or install any other component to the handle of the speaker. It may cause damage or injure. Please do not press the back panel of the product to the wall. Otherwise the plug may touch the wall and separate from the cable, and cause short circuits, malfunction, or even fire.
- Before connecting the product to other equipment, please turn off the power switch of all equipments. Before turning on or off the power switch of all equipments, please turn down the volume to the minimum.
- Please do not use the product in a very high or uncomfortable volume. Otherwise, it may cause permanent damage to your ear.
- In case of sound distortion, please do not use the product. To continue using the product in such status may cause fire.
- Using mobile phones near the speaker may cause noise. In case of noise, please use the mobile phone far from the speaker. If you need service, please contact Audiocenter service center, agent, or distributor in your area.



In order to avoid injury to you or others and loss on equipment or property, please make sure to follow above basic items.

Package accessories:

Power cable

User's manual

Quality Certificate

Please check above items carefully. If any questions, please advise Audiocenter representative, dealers, distributors, or contact by email box: support@ac-pro.net.

◆ Trouble shooting

Symptom	Possible reasons	Solution
Power LED not light	Cable not connected correctly	Connect the cable correctly
No sound	Cable not connected correctly Or too small gain	Increase the output gain of the speakers
Feedback in the sound	Microphone is toward the speaker Sound is too high	Move the speakers away from the pickup area of the microphone to reduce output gain and make the microphone closer to the sound source
Sound discrepancy from different speakers	Different preset for different speakers Subwoofers are out phase	Put the same gain for different speakers
Sound distortion	Input volume is too big Output volume is too big	Reduce the input volume of the equipments. Reduce the output gain of the speakers, make the Limiter LED lighted a bit. If the sound still distorted while the volume is set to minimum, make the MIC/LINE switch to be LINE
Microphone volume is too small	MIC/LINE switch is set at LINE	Set the MIC/LINE at MIC
No bass	SUB volume is small	Give more volume to the sub
The light signal is on and there is signal output, but no sound from the speaker	The volume knob is set to the minimum and the indicator is off.	Press "FRONT LED" button on the rear panel
Can't search to the speaker Speaker Bluetooth	Speaker Bluetooth not in pairing Bluetooth mode	Press "BLUETOOTH PAIR" 3 seconds, into pairing mode, the Bluetooth light will be on in the pairing mode

★ Please consult distributor if there are still problems.

◆ Technical Features



L65 MK2+L65S MK2
Sound column system
Bluetooth

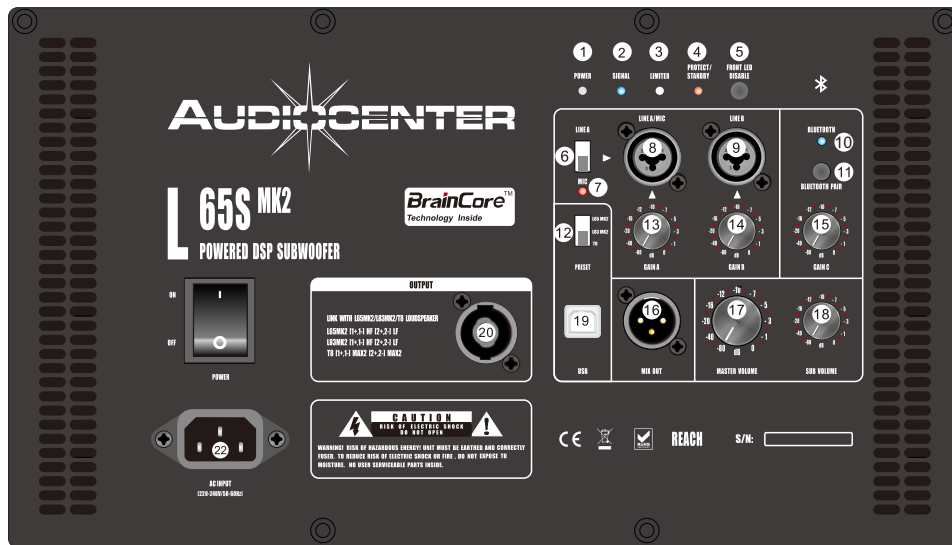


L83 MK2+L83S MK2
Sound column system
Bluetooth

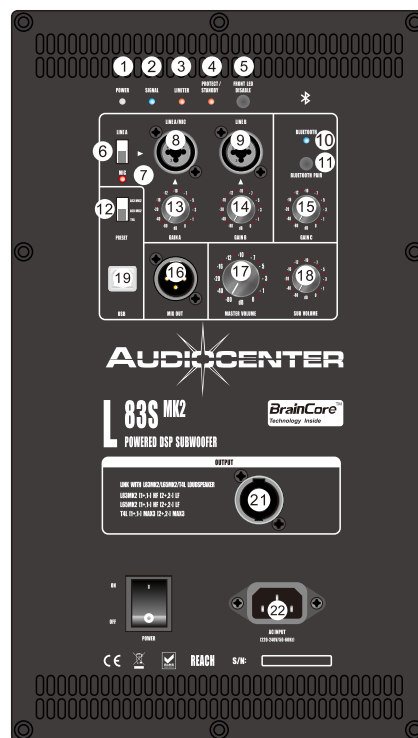
● Features:

1. Integrate high power digital amplifier, switching power supply and DSP digital control
2. With built-in DSP audio specialization technology, all functions such as EQ, phase correction, delay and limiter are intuitively designed for ease of usage.
3. Class D power amplifiers are utilized for high efficiency, light weight and compact circuit structure.
4. Strong protection are implemented with built-in DSP processing circuit to ensure system integrity to the HF & LF components separately.
5. Advanced AD/DA converter, 96 KHz sampling frequency and 24 bit precision along with optimized DSP algorithm to ensure the crisp and clean sound output.
6. L MK2 series speakers play music through bluetooth audio devices and have the ability to connect two speakers at the same time.

◆ Back panel control and functions



L65S MK2 back panel



L83S MK2 back panel

1 POWER Indicator

When speaker connected to power, the LED is on.

2 SIGNAL Indicator

When input signal is detected, the LED will turn on.

3 LIMITER Indicator

The LED will turn on when output limiter is activated. If the output of amplifier exceeds the maximum value, the output limiter will be activated and become active, thus damping the output signal.

4 PROTECT /STANDBY Indicator

The front panel LED light won't illuminate when pressing the switch. (This setting is recommended when the LED is to blinding) Pop-up switch, the front panel LED light will be on. (working state: blue light; Standby: red light)

5 FRONT LED button switch

Press the switch and the LED indicator light on the front panel is not bright (this setting is recommended when the LED indicator light on the front panel is dazzling). Switch on and off, LED indicator light on the front panel is bright (Working: blue light; Standby: red.)

6 LINEA/MIC switch

Set the LINEA/MIC switch to LINEA or MIC based on the level of the input signal. For low level signals (such as microphone), pull the switch to the MIC position; For high level signals (such as acoustic instruments and audio equipment), unplug the switch to the LINEA position.

7 MIC Indicator

The indicator lights up when the LINEA/MIC switch is pulled to the MIC position. (Remind users that they are currently in MIC mode, the gain is very large) INPUTS jack (LINE A/ MIC)

8 INPUTS socket(LINE A/ MIC)

Balance the XLR and PHONE type multi-purpose input pin. (LINE A/MIC))

9 INPUTS socket(LINE B)

Balanced 1/4 Phone plug-in input pin. (LINE B)

10 BLUETOOTH Indicator light

When the light is off, no connection between speaker and bluetooth devices (such as mobilephone); When the light is on, means connecting that indicates successfully the connection between speakers and bluetooth devices are established (such as mobile phones, tablets); When the lights shine flash at reoccurrence rate of 1 time per second, speaker bluetooth is in pairing mode, and can be match the connection with Bluetooth enabled devices; The lights flashing flash at reoccurrence rate of 3 times per second, speaker Bluetooth is in "pair-box" mode. Note: "pair-box" means one blue tooth devices (such as mobile phones) can connect two L Series speakers at the same time to play music.

11 BLUETOOTH PAIR

If you want to connect the BLUETOOTH to play music for audio input, press and hold the "BLUETOOTH PAIR" 3 seconds (BLUETOOTH indicator light flashing 1 second 1 time), then select "AC-L" in the Bluetooth enabled devices to pair. If you want to play "pair-box" mode, the first is to pair between two speakers, press and hold the "BLUETOOTH PAIR" for 5 seconds when pairing for the first time (BLUETOOTH indicator light flashing 3 times 1 second), then the two speakers will pair automatically.

12 Presets for L Series

There are 3 presets in L MK2 Series speakers for users to recall for usage in different applications.

13 GAIN A (GAIN control knob)

Use GAIN A knob to control Gain of input signal on LINE A/MIC. This control can adjust the sensitivity and thus to control the amount of semaphore sent to the amplifier and then to the speakers.

14 GAIN B (GAIN control knob)

Use GAIN B knob to control Gain of input signal on LINE B/AUX. This control can adjust the sensitivity and thus to control the amount of semaphore sent to the amplifier and then to the speakers.

15 GAIN C (GAIN control knob)

Use GAIN C knob to control Gain of input signal on AUX (or BLUETOOTH). This control can adjust the sensitivity and thus to control the amount of semaphore sent to the amplifier and then to the speakers.

16 OUTPUTS pins(MIX OUT)

Balance XLR output pin. Equilibrium output mixing signal (Mixed the signal of all channels as a whole).

17 MASTER VOLUME control knob

MASTER VOLUME knob controls the gain input signal of all the channels. This control can adjust the sensitivity, so as to control the amount of semaphore sent to the power amplifier and then to the speakers.

18 SUB VOLUME Subwoofer volume control knob

Use the SUB VOLUME knob to individually control the gain of the subwoofer input signal.

19 USB port

USB interface is not open to end-user. It is just for DSP debugging from factory.

20 OUTPUT output wiring connection terminal

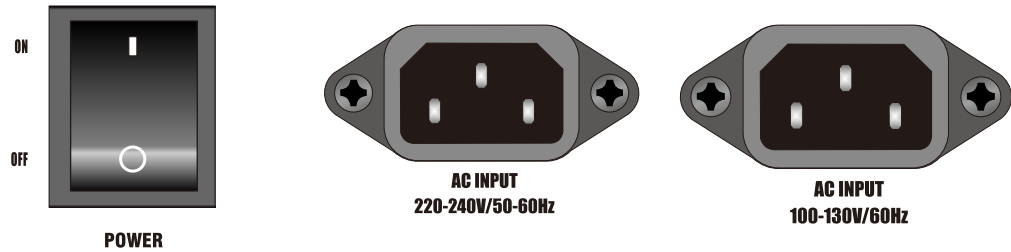
This is the output end of the built-in power amplifier, which is connected to L65 MK2 through the specially equipped speaker cable of the accessories, and to drive L65 MK2. (Note: This output terminal can only be connected to L65 MK2 and cannot be used with other models.)

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22 AC INPUT socket

Connect the cable to the slot. Connect the power wire to the device first and then connect the cable to the AC socket.



Power-on sequence :

1. Adjust the input voltage of the mixer (or other audio source) to the lowest value.
2. Open all sound source devices (CD player, mixer, instrument).

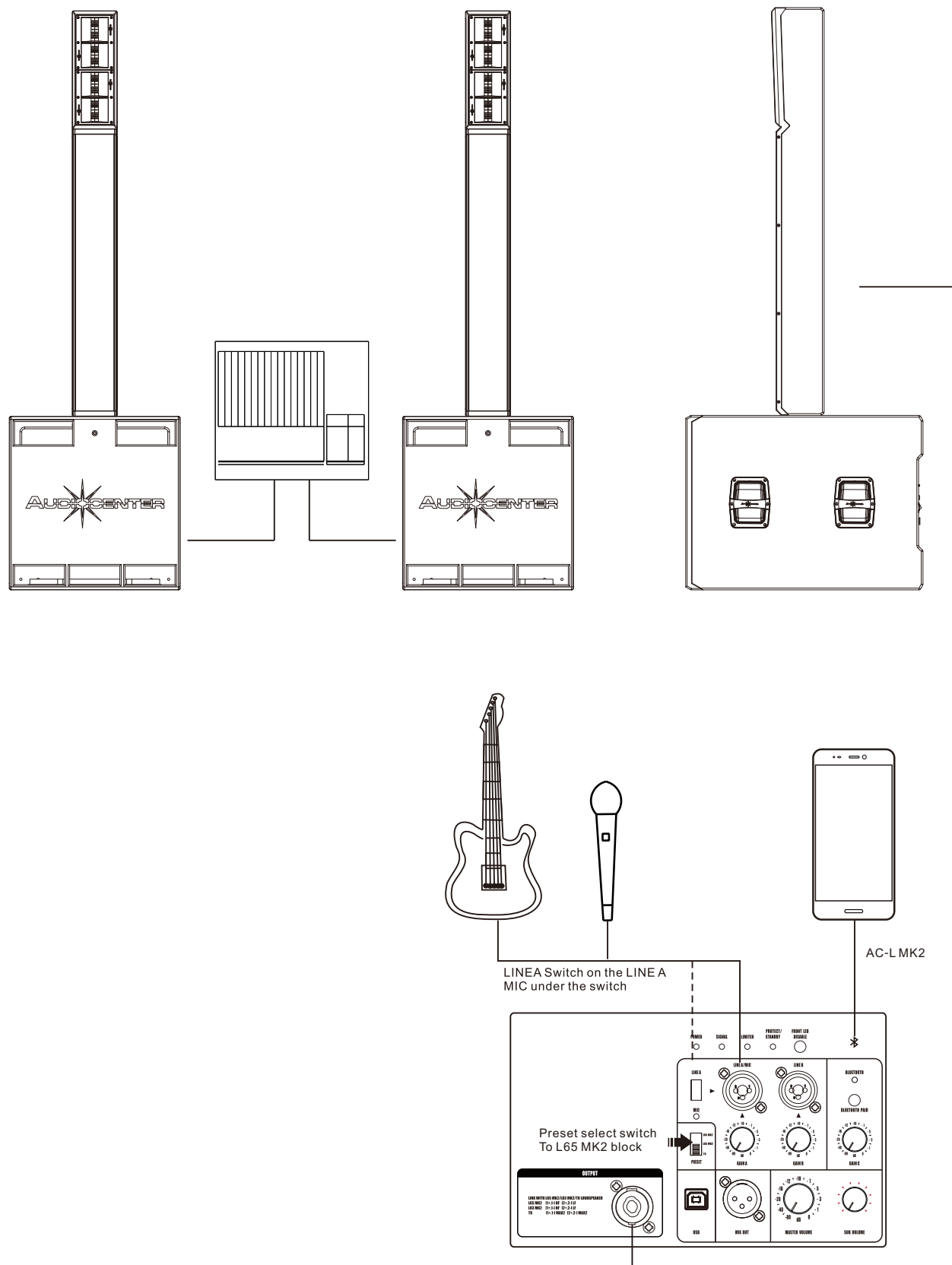


Note: L MK2 series speakers have two different power inputs for customers in different regions, 100-130Vac (60Hz), 220-240Vac (50/60Hz), Please only use the products corresponding to the power supply applicable to your region.

◆ Product Application

1. Basic system application

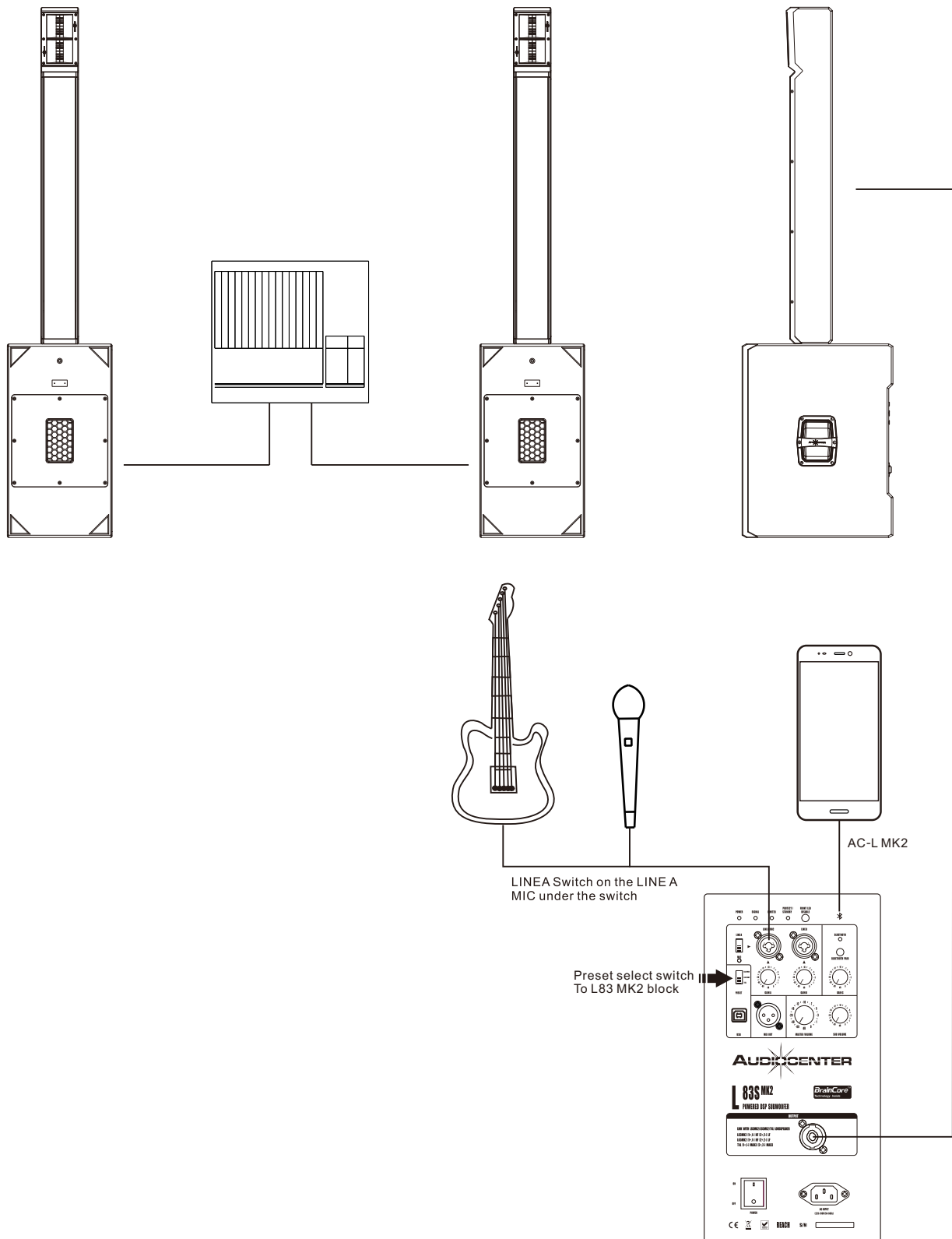
Below is the basic system with 2pcs L65 MK2 passive full-frequency column speaker and 2 pcs of L65S MK2 active DSP compact subwoofer. This system is ideal for small size touring performance, church and small stadium, etc..



◆ Product Application

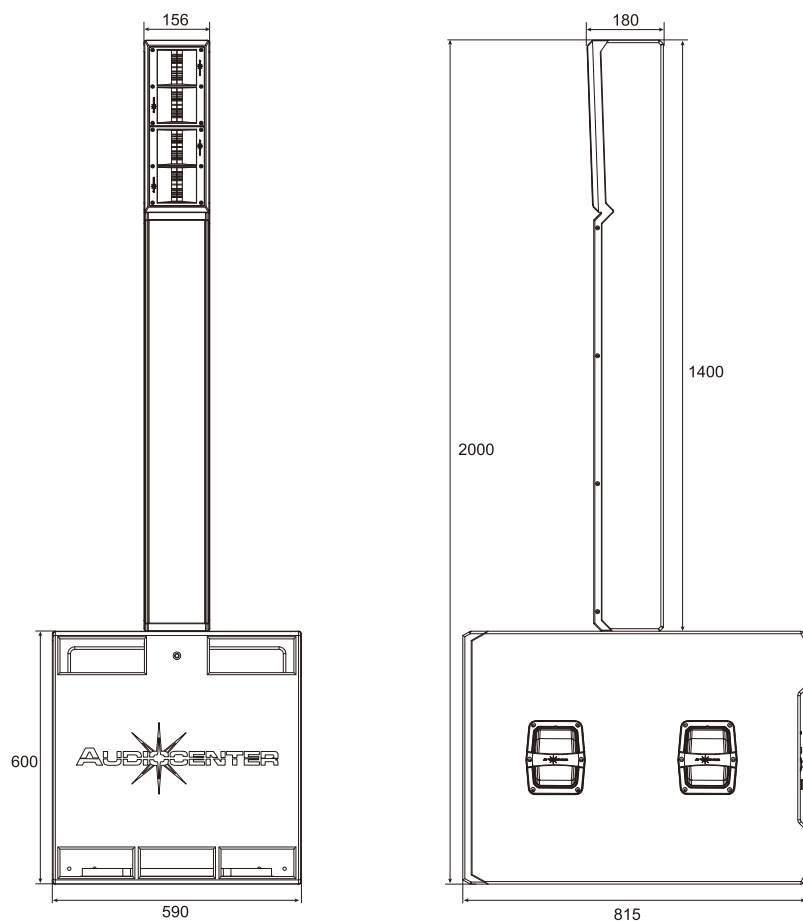
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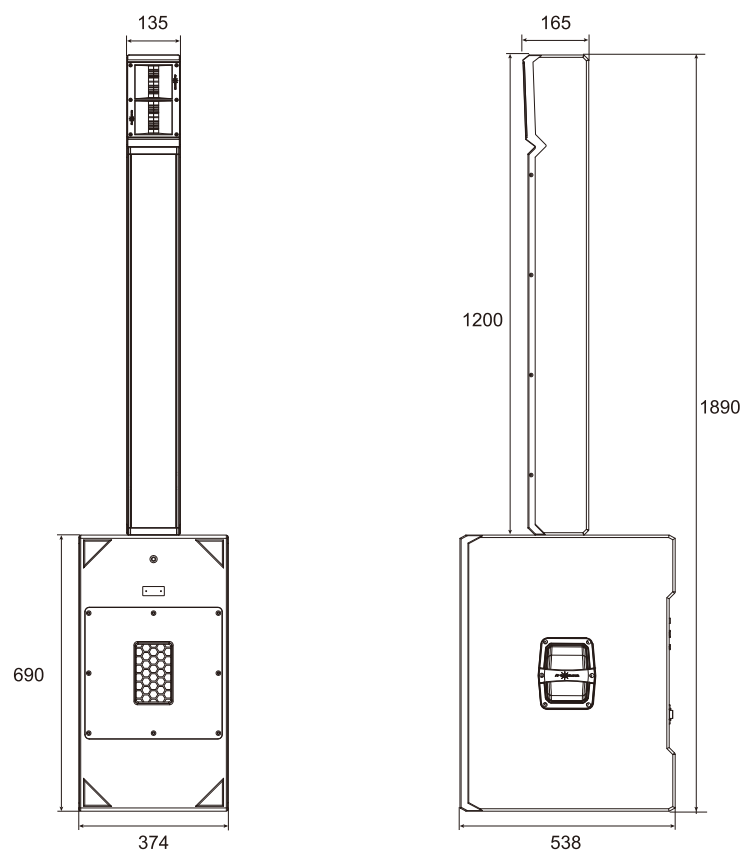


◆ Dimension

L65 MK2+L65S MK2



L83 MK2+L83S MK2



◆ Specification

SPECIFICATIONS		L65 MK2+L65S MK2 Column System	L83 MK2+L83S MK2 Column System
Type		Active DSP-controlled Column Speaker System	
Frequency Response (-6dB anechoic chamber)		35Hz-19kHz	40Hz-19kHz
Horizontal Coverage Angle (Symmetrical)		110°	110°
Vertical Coverage Angle (Symmetrical)		10°	10°
Maximum Calculated SPL/1M	Continuous	131dB	129dB
	Program	134dB	132dB
	Peak	137dB	135dB
Drivers	HF	Customized driver, 4pcs 1" drivers	Customized driver, 2pcs 1" drivers
	LF	Customized driver, 6pcs 5" drivers	Customized full-range driver, 8pcs 3" drivers
	Subwoofer	Customized driver, 1pcs 18" drivers	Customized driver, 2pcs 12" drivers
Signal Input Connector		2×Combo (female XLR & Mono jack 6.35), 1×Stereo Bluetooth	
Signal Output Connector		1× male XLR	
Power Input Connector		3 pin power socket	
Power Output Connector		/	
AC Power Operating Range		100V~130V or 220V~240V (±10%, 50/60Hz)	

DSP

Processor	96kHz signal sampling frequency, 24bit precision
Crossover and Slope	Controlled by DSP

AMPLIFIER

Amplifier	Class D
Peak Power	4000W
Frequency Response (1W 8Ω 1ch)	20Hz-20kHz(±0.5dB)
Intermodulation Distortion	<0.05%
Total Harmonic Distortion (20Hz-20KHz, half power)	<0.05%
Cooling	Fans + air convection
Protection	DC protection / Short circuit protection / Overheat protection / Output overload protection / Soft startup protection / Overvoltage protection / Undervoltage protection

CABINET

Cabinet		CNC made of excellent wood	
Pole Mount		Column speaker with Φ35 mm,subwoofer with M20 pole mount Φ35 mm	
Optional Accessories		Hand bag,Protection bag,Wheel	
Dimensions (W×H×D)	Column speaker	156×1400×180mm	135×1200×165mm
	Subwoofer	590×600×815mm	374x690x538mm
	Height for whole system set up	2000mm	1896mm
Net Weight		L65 MK2 21.0Kg / L65S MK2 54.0Kg	L83 MK2 10.5Kg / L83S MK2 34.0Kg
Technical Support and After-sales Service		Global application support team	

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