CMX6208SP
Integrated Active Subwoofer

User Manual

IMPORTANT SAFETY INFORMATION

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Use the mains plug to disconnect the apparatus from the mains.
15. WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
16. DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ARE PLACED ON THE EQUIPMENT.
17. THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.
18. Base stand must be used when CMX6903 is installed on top of the CMX6208SP. Base stand is purchased separately. Please contact your local dealer.

⚡ DO NOT DISASSEMBLE THE MODULE TO PREVENT ELECTRIC SHOCK. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WATCH FOR THESE SYMBOLS:

The lightning bolt triangle is used to alert the user to the risk of electric shock.

The exclamation point triangle is used to alert the user to important operating or maintenance instructions.

The symbol signifies that the product contains certain hazardous substances and can be used safely during its environmental protection use period (EPUP), as indicated by the number of years in the center.

This device is designed and evaluated under the condition of non-tropical climate; it can only be used in locations in non-tropical climate areas. Using the device in tropical climate areas could result in a potential safety hazard.

This device is designed and evaluated under the condition of altitude below 2000 meters above sea level; it can only be used in locations below 2000 meters above sea level. Using the device above 2000 meters could result in a potential safety hazard.

1. Overview

CMX6208SP is an integrated active subwoofer. It has built-in DSP audio processor and 3- channel amplifier. The 800W channel powers the internal subwoofer and the other two 300W channels can power external speakers such as CMX6903, CMX6403 or CMX6203 as system solution. The built-in DSP processor includes compressor, limiter, noise gate, parameter equalizer, matrix routing, delay and preset. CMX6208SP allows central multiple device management networking through USB, TCP/IP and RJ45, as well as audio transmission through Dante. System with CMX6903, CMX6403 and CMX6203, it provides flexible configurations for different applications. For example, conference rooms, multi-function halls, rental PA sound reinforcement.

2. Use scenarios

● Performing arts centers   ● Theatres   ● Gymnasiums   ● Hotels
● Convention centers   ● Shopping centers   ● Retail stores   ● Restaurants

3. Packing list

Integrated active subwoofer speaker   x1
Power cable   x1
Specification   x1
USB cable (Type-B)   x1

*The CMX6208SP base is excluded and needs to be purchased separately. Please inquire it from the local dealer.

4. Features of the power amplifier module

Functional features:

• 800W internal subwoofer amplifier and two additional 300W high-efficient digital amplifier.
• Supporting 220-240V and 50/60Hz.
• Supporting a variety of connection methods: USB, Dante, and TCP/IP network ports, which can achieve management of multiple devices and Dante network audio transmission.
• Having 30 DSP presets, which are easy to operate.
• Two channel XLR balanced inputs, two channel XLR balanced mono outputs and one output for CMX6903.
• 1.5-inch LCD colorful display screen.
• Noise gate, gain, phase, mute, and delay can be independently set for each channel of an input.
• High and low pass filters, delay, phase, mute, a compressor, and a 5-band parameter equalizer can be independently set for each channel of the output.
• A compressor can be separately set for each channel of output, and attack time, release time, and threshold can be adjusted.
• For the high and low pass filters, different decibels, -6dB, -12dB, -18dB, -24dB, can be selected for the slopes and types (Butterworth, Linkwitz-Riley, Bessel), and frequency division can be adjusted at any frequency within audio range.
• Each output channel has independent delay with max 10ms at 48 kHz sampling rate.

5. Panel Function Descriptions

1. Display screen: 1.5-inch LCD colorful display screen, 240*240 pixels.

2. Function navigation: rotate to the left to decrease the volume of INPUT A/B, and rotate to the right to increase the volume of INPUT A/B. Press: enter the function menu and confirm; rotate: select and change a value.

3. Protection indicator (red): when a module temperature exceeds 75°, the LED is turned on.

4. Clipping indicator (yellow): the indicator is turned on when the input level is ≥8dBu (the volume knob is at the maximum volume position).

5. Signal indicator (green): the indicator is turned on when the input level is ≥-52dBu.

6. RJ45 port: this RJ-45 connector is used to connect the product to a network or PC. Then the product can be configured and controlled, and you can also update the module to the latest firmware from the PC. Dual network port control, DANTE input ports, regardless of primary and secondary ports, and supporting LINK (this Dante interface has a receiving function only, with no transmission function).

7. USB port: Type-B, for PC control and firmware upgrade.

8. LINK OUT A/B output interface: balanced XLR-Male.

9. INPUT A/B input interface: balanced XLR-female "Phone Jack, with the input impedance of 20KΩ.

10. Volume knob A/B: control the gain of the input preamp, rotate the button to the left to control the gain of the INPUT A/B preamp to decrease until -∞; and rotate the button to the right to control the gain of the INPUT A/B preamp to increase until 0dB, and in this case, the maximum input level is 8dBu. When the knob is at the middle position, the gain of the INPUT A/B preamp drops by 8dB, and in this case, the maximum input level is 16dBu.

11. Power input connector: PowerCON connector, with the input voltage of 220-240V ~ 50/60Hz.

12. Power switch

13. Fan and air inlet: do not block or cover them.

14. Air outlet: do not block or cover it.

15. EXT CH1 output: 2-wire Speakon®output connector.

    Note: when the CMX6903 is plugged into the top of the CMX6208SP, the CMX6903 will be automatically connected to the EXT CH1. In this case, if you intend to extend the connection to other CMX series passive speakers, they cannot be connected to the EXT Ch1.

16. EXT CH2 output: 2-wire Speakon®output connector.

    Note: when the top of CMX6208SP is not connected to the CMX6903, the EXT CH1 and EXT CH2 can be connected to a CMX series sound column simultaneously.

6. Description of the display panel

Main interface

Device name — **CMX6000 1. Defa** — Current default
Device temperature — **35°C VOL-60.0dB** — Master volume
Input muting status — Channel gain
M Unmute
M Mute

CMX6000 1. Defa / **PC Control** — Controlled by PC

Level display | Clipping indicator | Compression indicator

Content

Press the navigation button to enter the setting menu, and rotate the navigation button to control the highlight bar to move up and down. When the highlight bar is moved to a setting option or view option, press the navigation button to enter a sub menu, and press "QUIT" to return to the previous menu.

Volume setting:
QUIT / INA +3dB M / INB -31dB M / OUT1 -17dB M / OUT2 +0dB M / OUT3 +0dB M / QUIT

Recall presets:
QUIT / 1 Default / 2 899 / 3 892

Input source settings:
QUIT / INA ANA DNT / INB ANA DNT / QUIT

Return to the previous menu / Volume setting / Recall Settings / Input source selection / Device rename / Device locking status / Device information / Screen-off time setting / Native IP

QUIT / 1 VOLUME / 2 PRESETS / 3 SOURCE / 4 RENAME / 5 LOCK: OFF / 6 INFO / 7 SCREEN / 8 IP / QUIT

Device name:
QUIT / CMX6000--- / QUIT

Device information:
MFRS:CMX6000 / SW V:V2.0.24 / HW V:V1.2.02

Screen-off time setting:
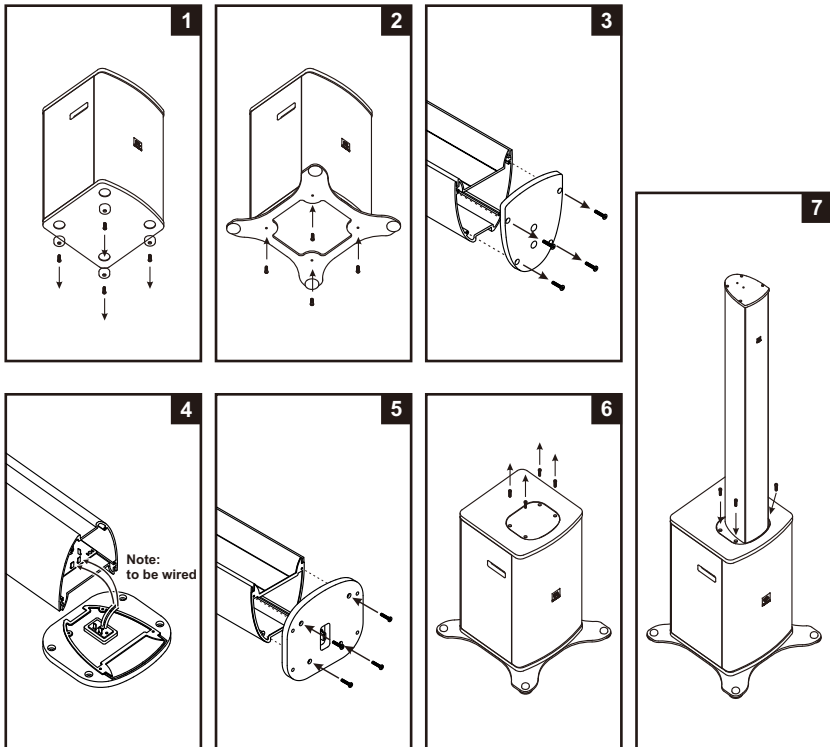QUIT / B/L time:10min / QUIT

Native IP:
169.254.72.55

7. Installation

Before installing the subwoofer, please inspect whether all hardware, hangers, cabinets, sensors, brackets, and associated components are damaged or not. Any missed, corroded, deformed, or unloaded rated components may greatly reduce the safety of the location. Any such situation can seriously reduce installation safety and should be corrected immediately. The limitation of hardware or devices shall never be exceeded. For installation of physical devices, please consult licensed professional engineers. Please ensure all local and national regulations are known and followed for safety and operation of the speaker and related devices.

8. Recommended connection diagram

Note: when the CMX6903 is to be stood on the CMX6208SP, a base cover of the column array speaker needs to be replaced. (Packing list of the CMX6903)

Note: when the CMX6903 is installed on the top of the CMX6208SP, a base must be used at the bottom of the CMX6208SP. The base needs to be purchased separately, please contact your local dealer.
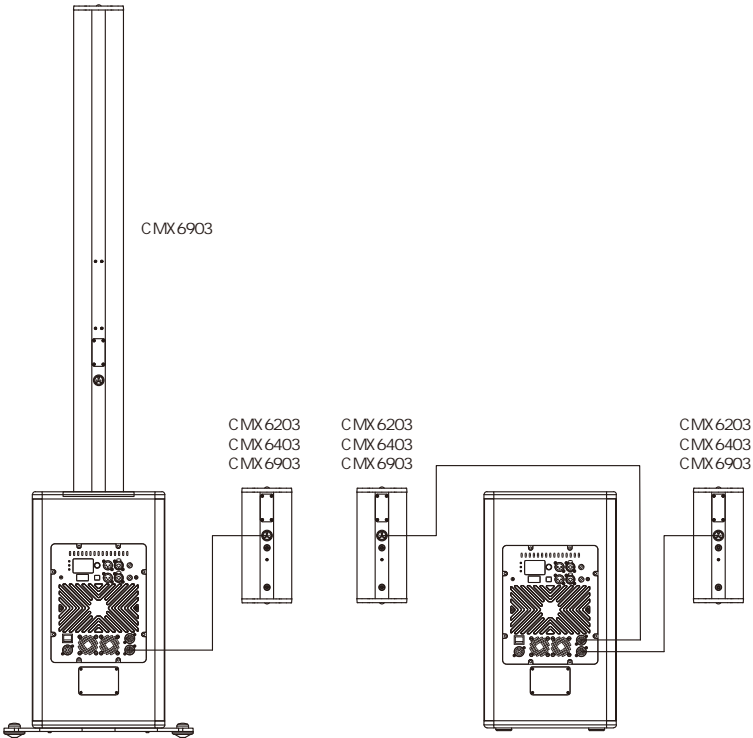
Note: all connection wiring should be carried out when the power supply is disconnected.

When the CMX6903 is plugged into the top of the CMX6208SP, the CMX6903 will be automatically connected to the EXT CH1. In this case, if you intend to extend the connection to other CMX series sound columns, they should connect to EXT CH2 instead.
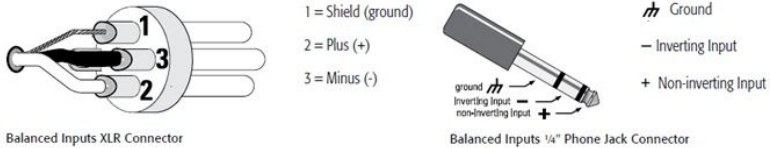When the CMX6903 is not connected to the CMX6208SP, the EXT CH1 and EXT CH2 can be connected to the CMX series sound columns simultaneously.
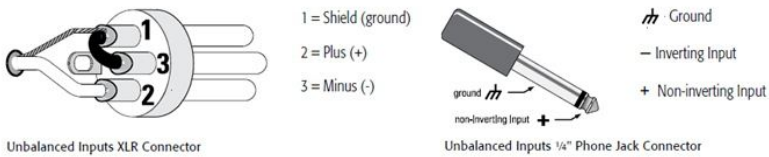
CMX6903

CMX6203
CMX6403
CMX6903

CMX6203
CMX6403
CMX6903

CMX6203
CMX6403
CMX6903

Display comparison table of default parameters of a display screen of the power amplifier module	
Display code of the display screen	Configuration of speaker combination
822	CMX6208SP + CMX6203 + CMX6203
844	CMX6208SP + CMX6403 + CMX6403
899	CMX6208SP + CMX6903 + CMX6903
892	CMX6208SP + CMX6903 + CMX6203
894	CMX6208SP + CMX6903 + CMX6403
842	CMX6208SP + CMX6403 + CMX6203
800	CMX6208SP + other speakers

8.2 Input port wiring

Balanced input: connect to a plug as shown

1 = Shield (ground)
2 = Plus (+)
3 = Minus (-)

Balanced Inputs XLR Connector

Ground
— Inverting Input
+ Non-inverting Input

ground
Inverting Input
non-inverting Input

Balanced Inputs ¼" Phone Jack Connector

Unbalanced input: connect to a plug as shown. If a 3-core (XLR) plug is used to connect an unbalanced sound source, pin 3 and pin 1 must be connected to jumpers as shown.

1 = Shield (ground)
2 = Plus (+)
3 = Minus (-)

Unbalanced Inputs XLR Connector

Ground
— Inverting Input
+ Non-inverting Input

ground
non-inverting Input

Unbalanced Inputs ¼" Phone Jack Connector

8.3 Output port wiring

Before output connection is established, please ensure that the product's power cable is completely disconnected and inspect the total impedance of all speakers at all output. If multiple speakers are connected to the output (that is, in series, in parallel, or in series-parallel), in a low impedance mode, please ensure that the total system impedance is within the channel specification.
Cable specifications are determined according to the following wiring guidelines, depending on a distance between the power amplifier and the speaker.

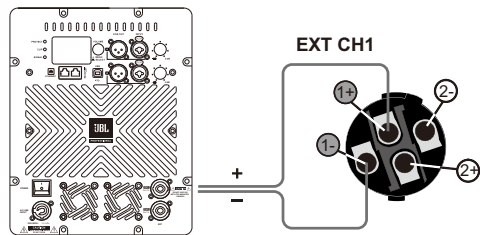| Distance:	Cable specification:
Within 25 ft.	16 AWG
26-40 ft.	14 AWG
41-60 ft.	12 AWG
61-100 ft.	10 AWG
101-150 ft.	8 AWG
151-250 ft.	6 AWG

Note: never use shielding cables for output wiring.

Use the following method to connect a stereo speaker to the Speakon® connector:

Insert CMX6403/CMX6203 into the Speakon® interface of the EXT CH1 (upper), and CMX6403/CMX6203 into the Speakon® interface of the EXT CH2 (lower).

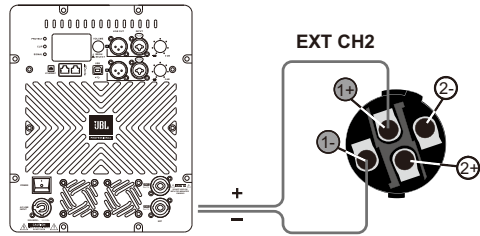EXT CH1 Speakon® output connector:

PIN	1+	1−
EXT CH1	POS: +	NEG: −

EXT CH1

EXT CH2 Speakon® output connector:

PIN	1+	1−
EXT CH2	POS: +	NEG: −

EXT CH2

- Please make input connection before powering up the device.
- Connect the output of the sending device to the XLR input. Ensure that the signal source is muted.
- Turn on the module power supply and ensure that the volume is turned down completely.
- Connect output to the speaker.

9. Technical parameters

System Specification

System Type:	Integrated Active Subwoofer
Maximum SPL Output:	133dB
Frequency Range (-10dB):	40Hz - 250Hz
Frequency Response (-3dB):	48Hz - 200Hz
Working temperature:	-10°C - +45°C
Storage temperature:	-20°C - +60°C
Relative humidity:	20% - 90%

Amplification

System Power Rating:	Low-frequency 800W, EXT 300Wx2 Continuous
Input Impedance:	20KΩ balanced, 10KΩ unbalanced
Line Input Gain:	Subwoofer: 40dB, EXT: 36dB
Maximum Input Level:	8dBu
LED Indicators:	Signal LED (Green), Clip LED (Yellow) Protect LED (Red)
EXT. speaker:	Nominal impedance: 4/8Ω
Cooling:	On-Demand variable speed fan cooling
AC Power Input:	220-240V~ 50/60Hz

Speaker Specification

LF Driver:	2x8 inch paper basin woofer Nominal impedance: 8Ω Frequency range: 35Hz~160Hz

Enclosure

Material:	18mm plywood
Handles:	2
Finish:	Black semi-matte paint
Grille:	Powder coated, 6x6mm iron mesh perforated, Acoustic transmission netcloth
Dimensions: (W x D x H):	335mm x 345mm x 605mm
Weight:	26kg (57.3 lbs)
Shipping Weight:	29kg (63.9 lbs)

WARRANTY INFORMATION

The JBL Limited Warranty on professional loudspeaker products (except for enclosures) remains in effect for five years from the date of the first consumer purchase. JBL amplifiers are warranted for three years from the date of original purchase. Enclosures and all other JBL products are warranted for two years from the date of original purchase.

Who Is Protected By This Warranty?
Your JBL Warranty protects the original owner and all subsequent owners so long as: A.) Your JBL product has been purchased in the Continental United States, Hawaii or Alaska. (This Warranty does not apply to JBL products purchased elsewhere except for purchases by military outlets. Other purchasers should contact the local JBL distributor for warranty information.); and B.) The original dated bill of sale is presented whenever warranty service is required.

What Does The JBL Warranty Cover?
Except as specified below, your JBL Warranty covers all defects in material and workmanship. The following are not covered: Damage caused by accident, misuse, abuse, product modification or neglect; damage occurring during shipment; damage resulting from failure to follow instructions contained in your Instruction Manual; damage resulting from the performance of repairs by some CMX6000 not authorized by JBL; claims based upon any misrepresentations by the seller; any JBL product on which the serial number has been defaced, modified or removed.

Who Pays For What?
JBL will pay all labor and material expenses for all repairs covered by this warranty. Please be sure to save the original shipping cartons because a charge will be made if replacement cartons are requested. Payment of shipping charges is discussed in the next section of this warranty.

How To Obtain Warranty Performance
If your JBL product ever needs service, write or telephone us at JBL Incorporated (Attn: Customer Service Department), 8500 Balboa Boulevard, PO. Box 2200, Northridge, California 91329 (818/893-8411). We may direct you to an authorized JBL Service Agency or ask you to send your unit to the factory for repair. Either way, you'll need to present the original bill of sale to establish the date of purchase. Please do not ship your JBL product to the factory without prior authorization. If transportation of your JBL product presents any unusual difficulties, please advise us and we may make special arrangements with you. Otherwise, you are responsible for transporting your product for repair or arranging for its transportation and for payment of any initial shipping charges. However, we will pay the return shipping charges if repairs are covered by the warranty.

Limitation of Implied Warranties
ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARELIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.

EXCLUSION OF CERTAIN DAMAGES
JBL'S LIABILITY IS LIMITED TO THE REPAIR OR REPLACEMENT, AT OUR OPTION, OF ANY DEFECTIVE PRODUCT AND SHALLNOT INCLUDE INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY, FROM STATE TO STATE.

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CMX6000

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