INSTALLATION AND OPERATION MANUAL

PA-2120MX/PA-2240MX/PA-2350MX/PA-2500MX
PA-2500RM/PA-2500SV/PA-2500WP

2 Zone Mixer Amplifiers with Mp3/FM/BT

Caution: Please read this manual carefully before operating
Damage caused by misuse is not covered by the warranty

SAFTY WARNINGS!

1. Read and keep these instructions.

2. Heed all warnings and follow all instructions.

3. Do not use this apparatus near water.

4. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

5. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.

6. 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 is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

7. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

8. Only use attachments/accessories specified by the manufacturer.

9. 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.

10. Unplug this apparatus during lightning storms or when unused for long periods of time.

11. 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.

12. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid such as vases shall be placed on the apparatus.

13. Plug this apparatus to the proper wall outlet and make the plug to be disconnected readily operable.

14. Main plug is used as disconnected device and it should remain readily operable during intended use. In order to disconnect the apparatus from the mains completely, the mains plug should be disconnected from the mains socket outlet completely.

15. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

16. An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.

WARNING!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THE PLUG WITH

AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES

CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE

THIS APPLIANCE TO RAIN OR MOISTURE.

TO PREVENT ELECTRICAL SHOC

K, MATCH WIDE BLADE PLUG TO WIDE SLOT, FULLY INSERT.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INTRODUCTIONS

Description:

The PA-2500MX series 2 zone mixer amplifier is designed for 19" rack mount installation or tabletop use both application, it is ideal for both professional sound system and commercial audio solutions, since it is designed with 2 zone speaker outputs support 100V & 8-16Ω. The PA-2500MX series mixer amplifier integrates two 100V & 8 Ω amplifier into one unit, so it could be used as stereo mixer amplifier or 2 zone commercial mixer amplifier. The mixer amplifier is built-in media player of USB/SD/FM/ & Bluetooth, with 3 mic inputs, line input, EMC input, 6 units 2 zone remote paging mic PA-2500RM and 6 units remote panel PA-2500SV and one mute input. 3 Mic/line switchable inputs, 1 aux input and an integral USB/SD/FM audio player with Bluetooth receiver can be matrix switched to any of the 2 zones independently. Mic1 channel with VOX highest priority and each microphone 1-3 inputs have switchable +48V phantom power. A master chime with volume can be used for paging calls and Alerts. The 2 zone mixer amplifier is designed for multi-room commercial audio systems requiring different audio sources & multiple paging microphones, additionally, up to 8 units of remote microphones and 2 units 2 zone remote control panes could be connected to this 2 zone mixer amplifier through CAT6 cable , which could be installed in two separate rooms to select different audio sources locally and adjust the local loudspeaker loudness and input Bluetooth to its own room. The mute input could integrate with fire alarm system or other third party system. The amplifier is designed with complete protection includes short-circuit, clip, overload and high temp.

Feature:

- Desktop or 19" rack mount 2 zone public address 2 zone mixer amplifier
- 2 Zone Mixer Amplifier built-in medial player with USB/SD/FM/ & Bluetooth
- Rate power output at 2×120W, 2×240W, 2×350W to 2×500W
- 2 zone separated speaker output of 100V & 8-16Ω
- Each input with zone 1 or zone 2 output selector on front panel
- Each zone output with volume +, volume- and mono control on front panel
- 3 x Mic/line inputs, 1 x RCA line input, 1 x RCA EMC input and 1 x mute input
- Mic/line inputs1-3 of Combo type with switchable +48V phantom power
- With emergency remote mute input
- Input priority level from high to low: Mute, EMC, Mic1 and remote paging mic to others inputs.
- Each amplifier support 8 units 2 zone remote microphones PA-2500RM through CAT6 cable
- Each amplifier support 2 units 2 zone remote control panels PA-2500SV through CAT6 cable
- With short-circuit, clip, overload and high temp protection

FRONT PANEL
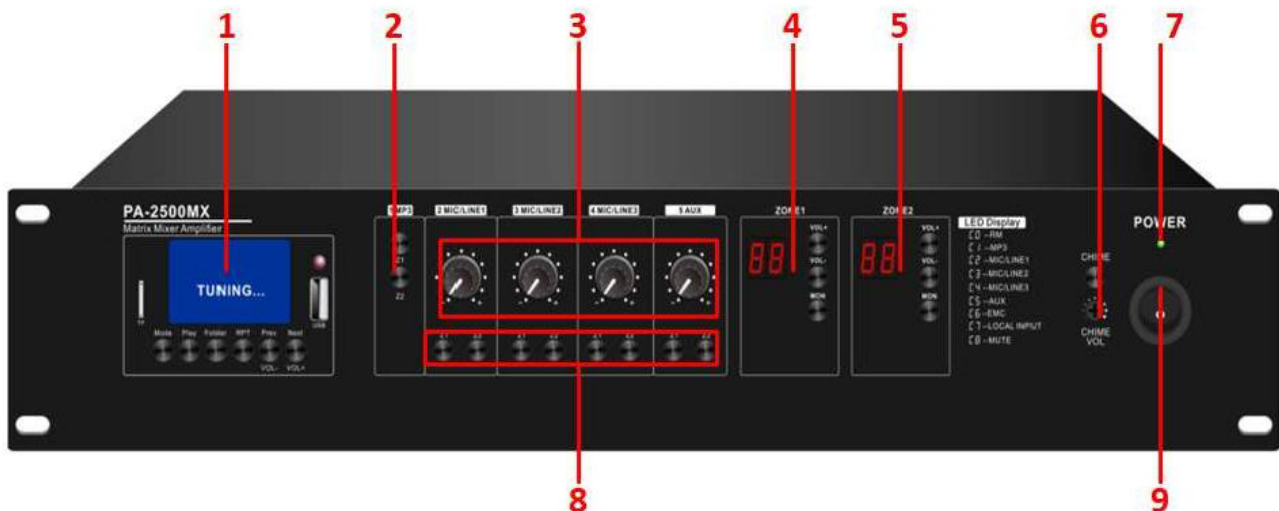
1. Mp3/FM/Blue tooth media player module.
2. MP3 output zone 1-2 selector
3. Mic2-4 & Aux output attenuator
4. Zone 1 output volume attenuator and Mono selector
5. Zone 2 output volume attenuator and Mono selector
6. Chime button and chime volume attenuator
7. Power supply on/off indicator
8. Mic2-4 & Aux output selector to Zone1-2
9. Power switch

REAR PANEL
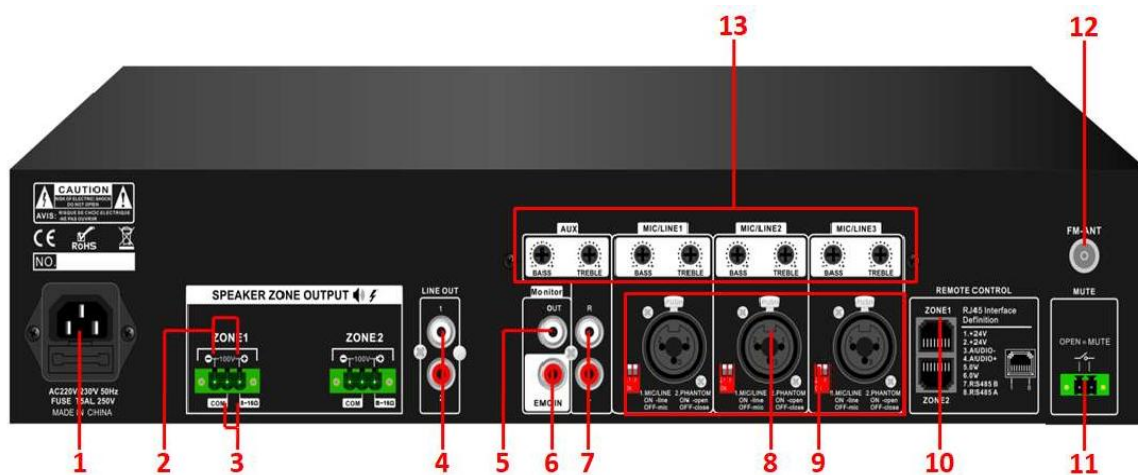
1. AC Power Socket with removable fuse
2. Zone1-2 output-100V (- & + terminals)
3. Zone1-2 output-8-16 Ohm (COM & 8-16 Ohm terminals)
4. Line output
5. Monitor output
6. EMC input from fire alarm system with priority except MUTE input (11)
7. Stereo line or Aux input
8. Mic/line input of COMBO input for both XLR and 6.3mm jack.
9. Dipswitch of 2 PIN. Mic/line selector and +48V phantom power on/off selector.
10. RJ45 ports for remote microphone and remote control panel.
11. Mute input, open circuit to activate mute of highest priority and closed circuit back to amplifier normal working status.
12. FM antenna
13. Mic2-4 & Aux input bass & treble gain control
14. build in).

AMPLIFIER OPERATION GUIDANCE

Connection and setup

With the PA-2500MX power switched off (20), connect the rear IEC inlet (21) to the mains using the supplied mains lead (or an equivalent approved type). Ensure that the voltage is correct and the speaker connect is correct then power on

The PA-2500MX has 5 input channels and an integral multi-source audio player.

Microphone input 1, 2 and 3 are designed for either microphones or line level sources (such as a CD/mp3 player or output from a mixer) via combo connectors on the rear panel, it is switch able by DIP switch.

These can accept either XLR or 6.3mm plugs for balanced or unbalanced signals.

DIP switches

Mic/Line inputs 1, 2 and 3 each have 2 DIP switches on the rear panel to set the input level and/or activate +48V phantom power for use with condenser microphones.

Set the level correctly for the type of input source connected (Mic or Line)

If the source connected is a condenser microphone which requires phantom power, make sure that the phantom is switched on for that channel.

Be sure to make these DIP switch settings when the amplifier is switched off. Making any changes when the amplifier is powered up may cause loud bangs through the system which can damage the speakers.

Priority and Emergency Activation

1. Mute input, open circuit to activate mute of highest priority and closed circuit back to amplifier normal working status.
2. EMC input- this one is EMC audio input of secondary priority
3. Mic1 input
4. Remote microphone PA-2500RM

Signal Inputs and Outputs

Connect microphones or line signals to Mic/Line 1, 2 and 3 inputs using good quality signal leads. A stereo or mono line level source can be connected to the Auxiliary channel 4 input on 2 RCA connectors.

For checking the output of any zone, an assignable Monitor output can be connected to headphones from the front panel 6.3mm jack or as a line output (e.g. to active speakers) from RCA connectors at the rear.

Each zone output has a dedicated RCA signal output on the rear panel, which can be connected to the line inputs of active speakers or amplifiers. These are in addition to the speaker outputs detailed below.

An antenna input   is provided on the rear panel for connection to an external aerial for FM tuning

There are Bass and Treble volume control on rear panel to adjust the sound of MIC and Line input signal

Speaker outputs

The PA-2500MX has a separate speaker output for each zone, connected via 3 large modular terminal plugs. Each plug can be

removed from the rear panel for convenient connection of speaker outputs to 2 zones.

Each zone output can be used to power either 100V line speakers or standard low impedance speakers. These 2 configurations cannot be used together, so it is important to decide which will be used at the start.

100V line systems

For 100V speakers, connect the selected zone output to the first speaker in the zone using double-insulated speaker wire which has adequate current rating to handle the total output of the amplifier.

Connect the "100V" output terminal for the selected zone to the positive (+) connection of the speaker and "COM" output to the negative (-) connection of the speaker. Connect further speakers in parallel to the first speaker with all positive terminals and connected together and all negative terminals connected together as shown below.
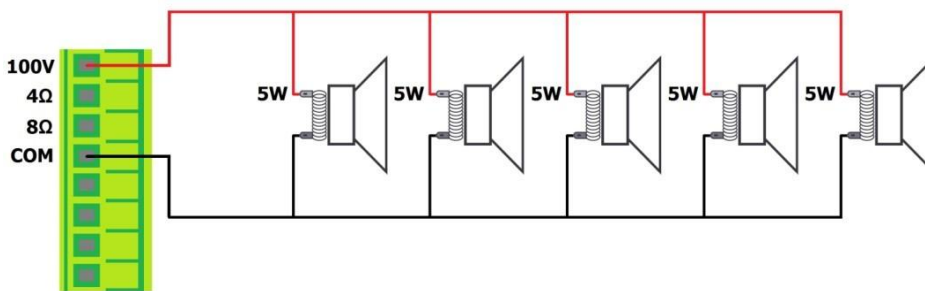
A 100V line speaker system can comprise of many speakers connected together. The determining factor for how many speakers can be used on a single amplifier is the power rating. For most purposes, it is advised to connect as many speakers as needed with a combined wattage of no more than 80% of the amplifier's output power rating (in the case of the PA-2500MX, this is 500W per zone output)

The terminals of a 100V speaker are connected via a transformer and if necessary, this transformer may be "tapped" for different power ratings. These tappings can be used to adjust the wattage (and output volume) of each speaker in a zone to help achieve the ideal total power of the system for the relevant zone output.

Low impedance systems

Alternatively, each zone output of the amplifier is capable of powering one or more low impedance speakers. There is an option on each zone for either a 8-16Ω speaker output to determine the minimum impedance. It is essential to select the correct output terminal when opting for low impedance speakers.

For a single 8Ω speaker, connect the positive ("+" 8-16Ω) wire to the (+) of speaker terminal and the speaker negative (-) wire to "COM" of the amplifier terminals.

In either case, the connected load should have a combined impedance no lower than stated on the terminal. Lower impedance may cause irreparable damage to the amplifier.
The connected speaker(s) must also have a power handling to accept up to RMS loading from the zone output. Lower power handling may risk damage to the speakers.

LED Display meaning:

● C0-PA-2500RM

- C1-MP3 Module
- C2-MIC1/Line1
- C3-MIC2/Line2
- C4-MIC3/Line3
- C5-AUX
- C6-EMC
- C7-Local input
- C8-Mute

Operation

When all connections to the amplifier are made, turn all rotary controls down and switch on the power
and the power LED will illuminate.

To check for correct operation of the system, select an input source and output zone for testing. In the following example, Mic/Line 1 input and Zone 1 output have been selected.

Press Z1 button on the line of MIC/Line1, if zone1 display C2, that means MIC/Line1 output to zone 1
If you playing MP3, press zone1 on the line of MP3, then zone 1 will have MP3 music and display on Zone1 will show C1

If Zone 1 cannot be heard from the location of the PA-2500MX, use the monitoring feature as follows
Press the button of Monitor and connect headphones to the Monitor output
Make sure that the Monitor button for Mic/Line 1 is pressed in and listen through the headphones
Gradually turn up the Monitor level control and check for the output to Zone 1

Onboard Multi-Source Audio Player

The PA-2500MX is fitted with a built-in audio player, operated via a backlit LCD display and transport buttons. This section provides access to a Bluetooth™ receiver, FM radio tuner and USB/SD audio player
In order to play audio to one of the zones, it is necessary to press in one of the "Play" buttons (4).
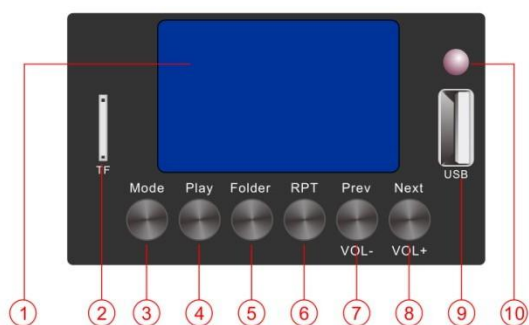
Mode: Select between Bluetooth, FM tuning, USB or SD playback
Play: play music
Folder: hold on the music   **RPT:** repeat the music
Prev: Back to last music   **Next:** go to next Music
Vol+: Increase volume   **Vol-**: Reduce Volume
Short press: Prev& Next   **Long Press**: Vol+&Vol-

Bluetooth Operation

In order to play back audio from a smartphone, tablet or other Bluetooth device, the built-in Bluetooth receiver will need to be paired with a device which is within range."

To pair a device with the PA-2500MX Bluetooth receiver, it is necessary to scan for devices in the Bluetooth menu of the sending device and select to pair with "**BT66078**". Once paired, the PA-2500MX display will show it is connect, **Password: 1234**

Select to connect as an audio device and play audio tracks on the smartphone or tablet (or other) and the audio should be heard on the selected zone.

The buttons labelled "Prev" and "Next" can adjust the audio player output volume.
Press and hold "Prev" to increase volume or press and hold "Next" to decrease volume.

If the sending device goes out of range or the Mode of the audio player is changed, the connection will stop. Returning to within range or to Bluetooth mode will restore the pairing.
It may be necessary to re-select connection as an audio device on the sending device.

FM Tuner

Press the Mode button to switch to the FM tuner function. For good FM reception, it will be necessary to connect an external aerial to the Antenna connector on the rear panel using good quality coaxial RF cable terminated .

If no channels are tuned in, press the Play button to begin auto tuning, which scans available stations and stores them as channels within the PA-2500MX FM tuner. To step through pre-set stations, press the Previous or Next buttons.

USB/SD Player

The PA-2500MX audio player has inputs for a USB pen drive or SD card with standard compressed digital audio files on them. Inserting either or both of these will switch the player to read from these sources and the display will show "MP3 Mode".

After you Insert the USB it will play automatically, you can use "Prev" or "NEXT" to choose last or next song, "REPT" is for one song or all song repeat.

PA-2500RM 2 ZONE REMOTE PAGING MICOPHONE
(For 2 Zone Matrix Amplifier)

- Communication through CAT6 cable up to 200 m
- Direct power supply from matrix controller
- 2 speaker zone individual, group or all zone paging
- Up to 8 Mics working simultaneously loop connection


PA-2500WP / PA-2500SV REMOTE CONTROL PANEL

- Communication through CAT6 cable up to 999 m
- Direct power supply from matrix controller
- Audio sources selection and volume control
- 2 units capacity for each matrix controller
- **PA-2500SV Bluetooth Name: BK3254, Password: no password**

PA-2500WP Feature:
1. Line input
2. Mic input
3. Local panel switch/Bluetooth switch
4. Local panel/Bluetooth volume selection knob
5. Volume +
6. Volume -
7. Output source Next
8. Output source Prev
9. Display for audio source selection
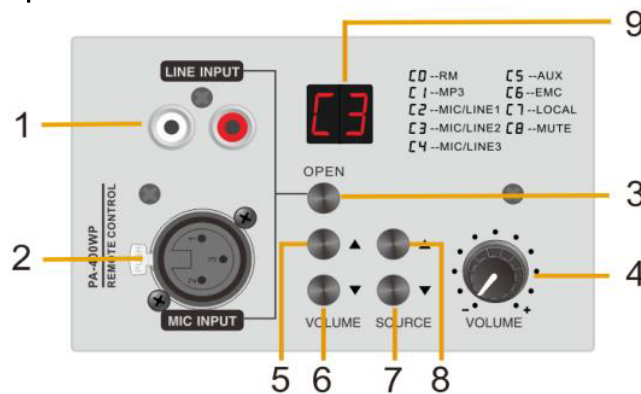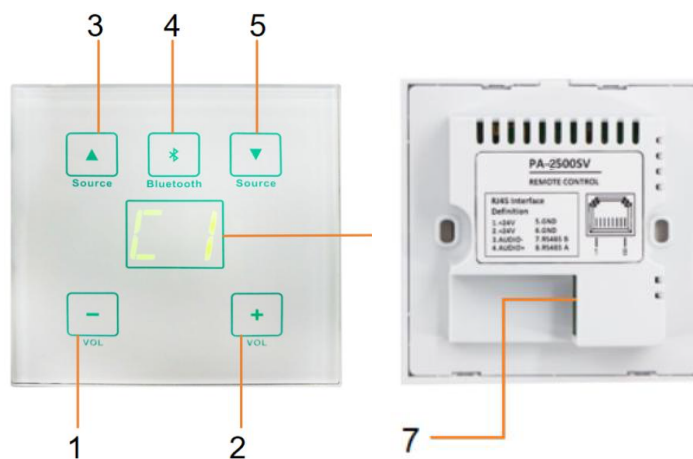

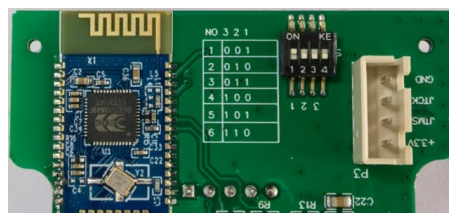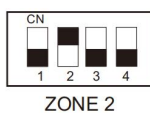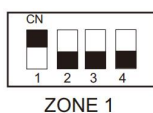### PA-2500WP DIP switch guide
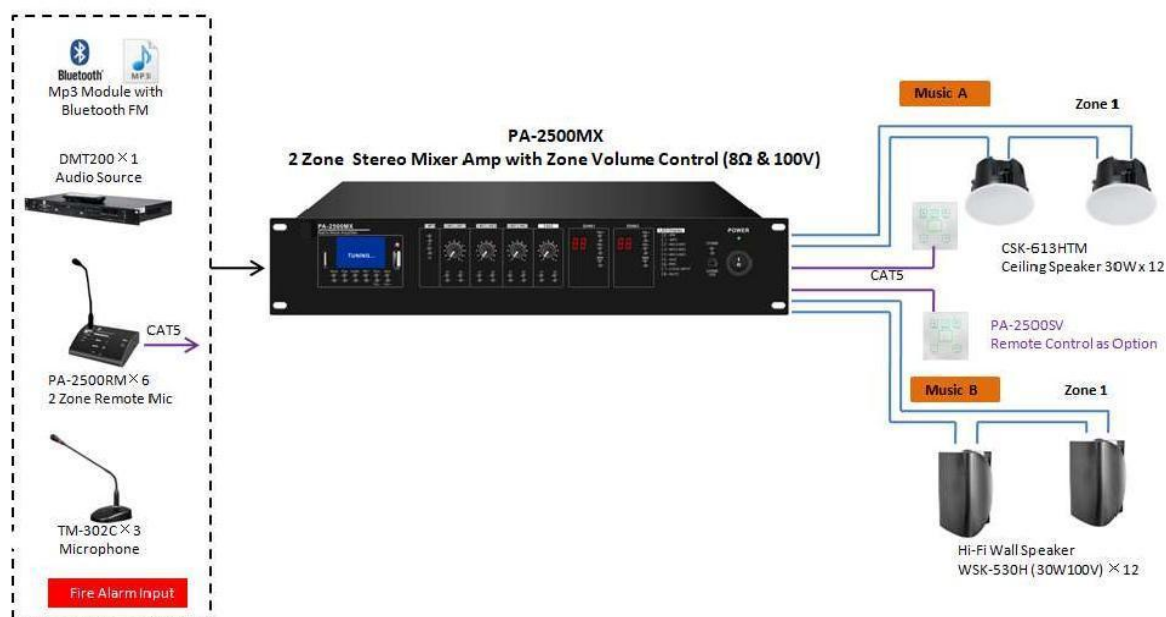

1.ADD1
2.ADD2

PA-2500SV Feature:
1. Volume -
2. Volume +
3. Output source Prev
4. Bluetooth switch
5. Output source Next
6. Display window
7. RJ45 port

PA-2500SV DIP switch guide

ZONE 1   ZONE 2
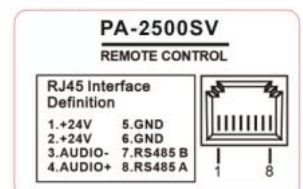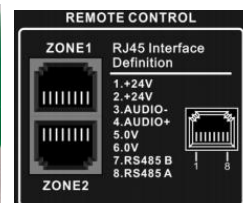
CONNECTION DIAGRAMS

SPECIFICATION

Model	PA-2120MX	PA-2240MX	PA-2350MX	PA-2500MX
Description	2 Zone Mixer Amplifier with USB/SD/FM/Bluetooth			
Rated Power Output	2×120W	2×240W	2×350W	2×500W
Speaker Outputs	2 zone separated speaker output of 100V & 8-16Ω			
Connector	Mic/line1-3: 2.5mV, balanced COMBO XLR input with +48V phantom power, Line1 & EMC input: 250mV; RCA type, Mute: closed circuit= remote mute, open circuit=normal working, Two RJ45 ports for remote microphone & remote control panel			
Input	MIC1-3: 5-8mV, 600Ω; Line, 150-470mV, 10KΩ, unbalanced RCA			
Line Out	0.775(0dBV)			
Frequency Response	60Hz-15kHz(±3dB)			
S/N Ratio	Line ≥ 85dB, Mic≥ 72dB			
THD	Less than 0.5%			
Protection	short-circuit, clip, overload and high temp protection			
Power Consumption	300W	600W	850W	1200W
Power Supply	230V AC; 50-60Hz			
Dimension	484×405×88mm			
Weight	6.6kg	9.6kg	11.9kg	13.7kg

SERVICE

Ensure the problem is not related to operator error, or system devices that are external to this unit. Information provided in the troubleshooting portion of this manual may help with this process. Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

WARRANTY

Warranty terms of global three years. While the term and warranty may vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

Specifications may change without pre-notice.