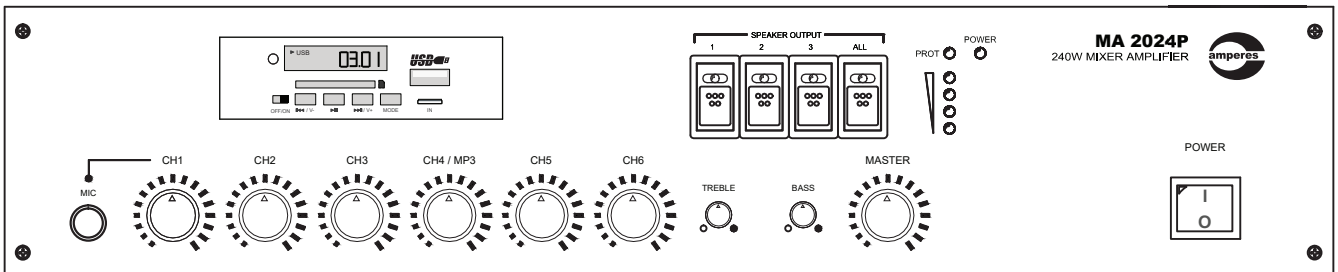
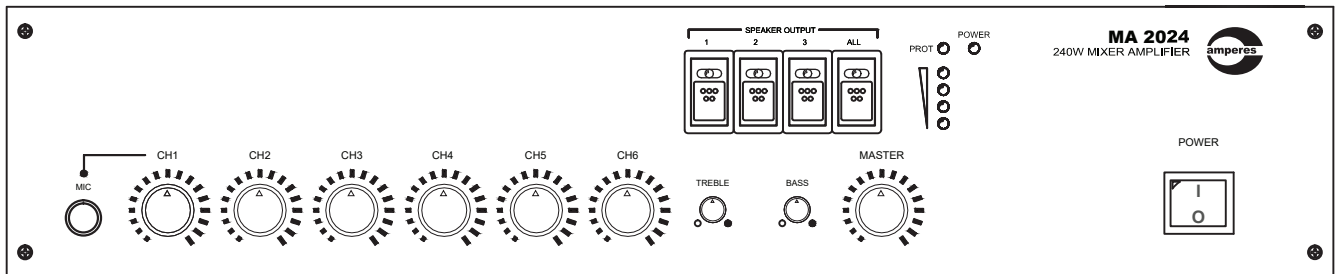




INSTRUCTION MANUAL

MA2060 60W 100V MA2012 120W 100V MA2024 240W 100V MA2060P/ MA2012P / MA2024P With Media Player Mixer Amp with 3 Zone Output



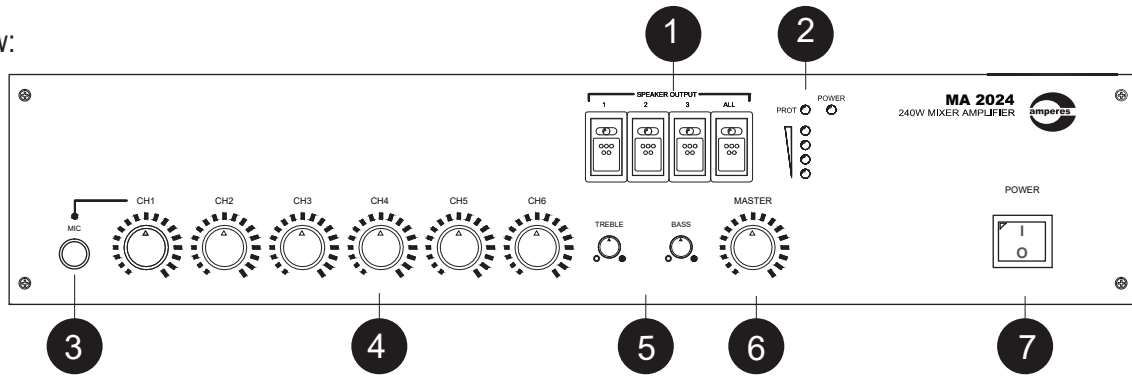
Thank you for choosing another quality product from Amperes Electronics.

MA2000 Series of mixer amplifiers had been further improved for performance and durability featuring 3 output speaker zoning with remote selection from PM Series of paging mic, priority muting over BGM sources as well as operation using 24V DC. The P prefix of the models includes an integrated media player for FM tuner reception, USB and SD Card Player.

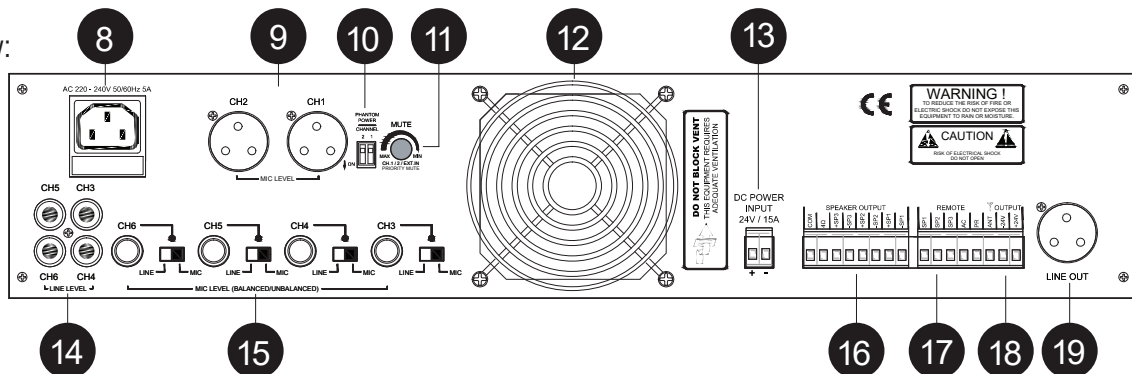
We believe that this product shall be able to meet your demanding requirement with affordable pricing and uncompromised features and quality. Though it is rather simple in the installation works, a brief read through the manual is recommended and we are confident that you are getting a product of excellence.

Parts Identifications

Front View:



Rear View:



1. SPEAKER ZONE SELECTOR

100V line output can be channeled into 3 output zones and each zone can be selected via these switches with ALL CALL. Alternatively, selection can also be done via remote paging microphone, i.e. PM1060.

2. LED INDICATORS

LED indicators for Power, Protect mode and 4 segment output level meter.

3. FRONT MIC INPUT JACK

Channel 1 balanced microphone input. Once inserted, it shall bypass the rear input connection.

4. INPUT LEVEL CONTROLS

Individual control knobs for input 1 to 6.

5. TONE CONTROLS

Bass and treble controls for mixed signals.

6. MASTER CONTROL

Master volume control for mixed signal; speaker and line outputs.

7. POWER SWITCH

Mains switch for ac input. Switching off the switch shall not disconnect the DC supply to the unit if it is connected to back up battery. It is recommended that the DC back up is connected to the battery charger's EM output instead of directly to the batteries. This shall prevent drainage of the battery bank.

8. MAINS AC CORD

Mains AC cord comes with standard British 3 pin plug with fuse rating of 5A.

Parts Identifications

9. XLR INPUTS

2 XLR balanced inputs are available for microphones.

10. PHANTOM POWER SWITCH

12V DC phantom power is available for input channel 1 & 2, which is suitable for connection to condenser microphones. The normal mic inputs, it is recommended that the phantom power features is turned off.

11. MUTE LEVEL CONTROL

Input channel 1 & 2 has priority over other channels, such that the presence of the signal shall mute other input sources. The level of mute or mixing is controlled by this knob, which can fully or partially mute or normal mix.

12. VENT FAN

The vent fan draws internally generated hot air & dispersed by the fan. The fan has dual speed which is determined by the internal heat sink temperature. To allow proper cooling, please ensure that the ambient is properly ventilated.

13. 24V DC POWER INPUT

Input to battery bank for back up supply with 10A rating at full load.

14. RCA JACK

For unbalanced line input sources such as CD player, etc.

15. MIC / LINE LEVEL SWITCH

Inputs to the unit can be either mic or line level. Select the required input type by using these switches and plug the input source to the appropriate jack. Stereo phone jack for balanced mic input whereas the RCA jack is for music source unbalanced line input. It is recommended that at any one time, only one type of input source is connected to the amplifier.

16. AMPLIFIER OUTPUT TERMINALS

Terminals for connecting external speakers and is available in 3 zones.

17. REMOTE PAGING ZONE SELECTION

External control of speaker zone selection via negative triggering method. Connection to Amperes PM1060 is recommended

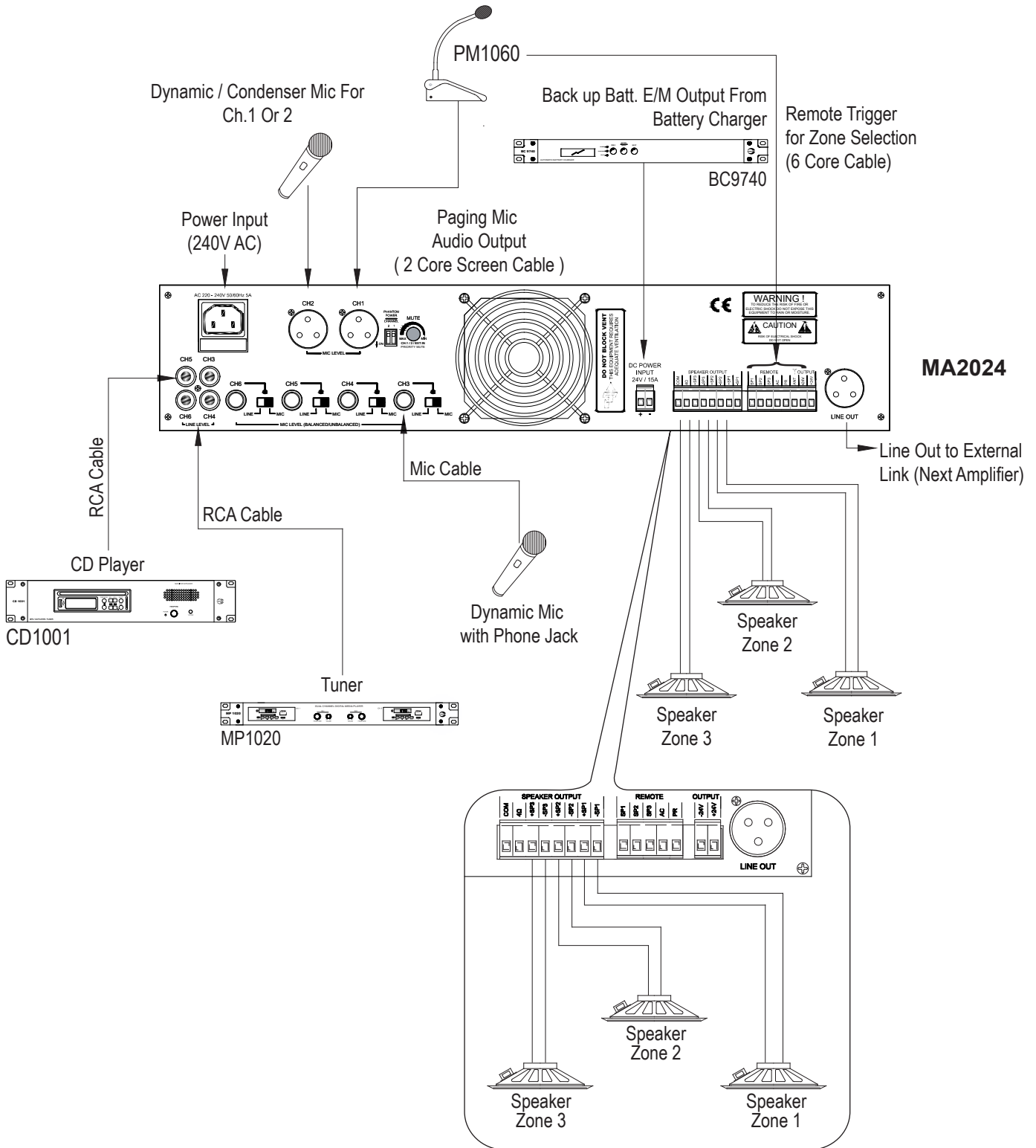
18. DC 24V OUTPUT

This 24V DC for paging mic power supply.

19. LINE OUTPUT

Line level output for external link. The output level is controlled by the Master volume controller.

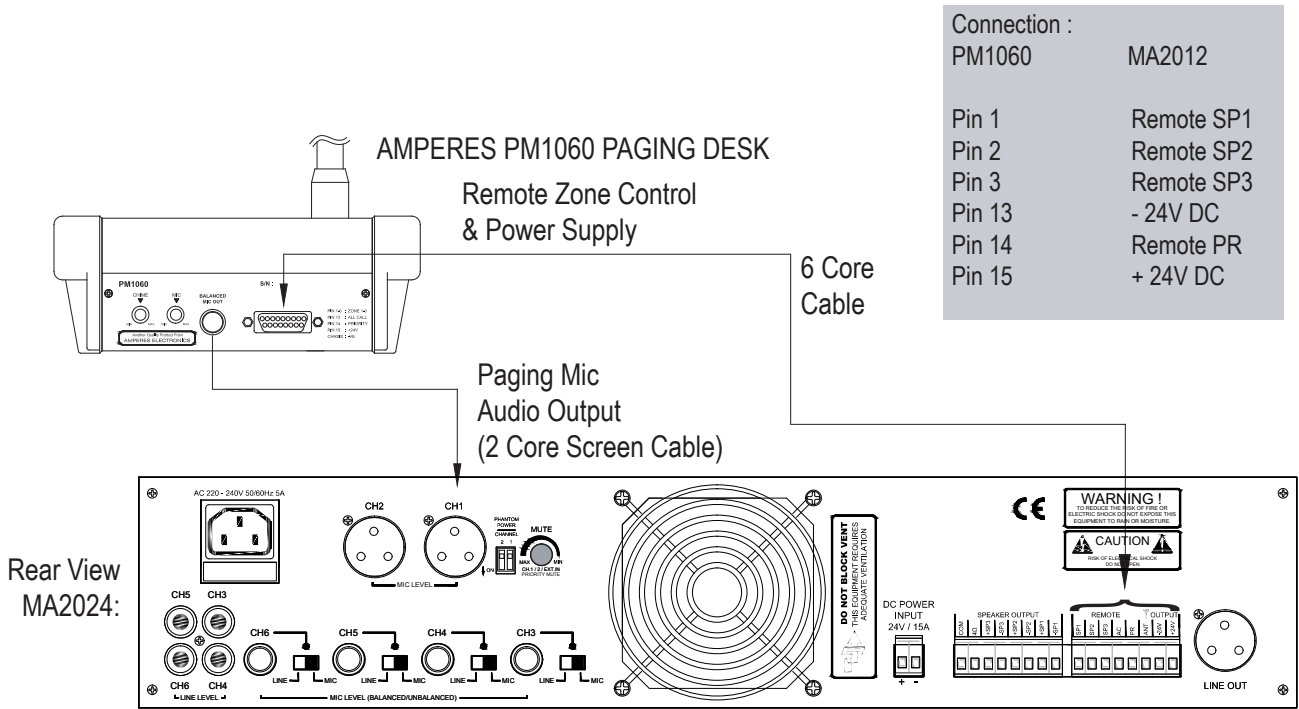
Rear Connections



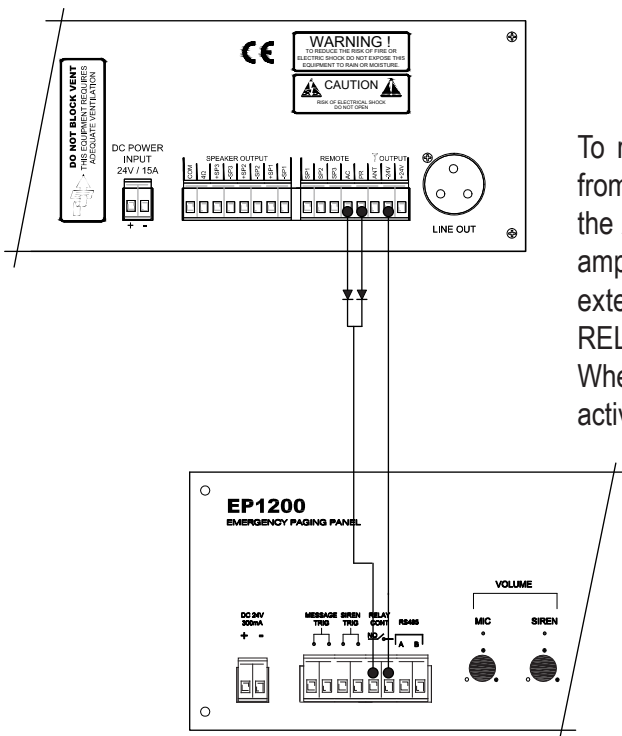
Connecting Paging Microphone

External paging desk with or without zone selection can be connected to the unit, preferable with mic level output. Connection can be done via the front panel 1/4" stereo phone jack or rear panel XLR jack. It is recommended that paging desk with zone selection (Amperes PM1060) be connected via the rear panel jack.

The diagram below illustrates the connection of Amperes PM1060 paging desk with zone selection :



Remotely Activate ALL CALL

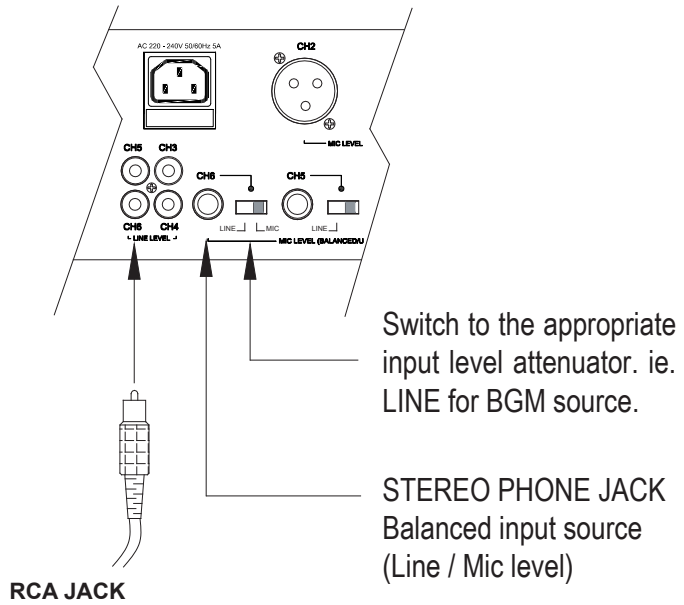


To remotely trigger ALL CALL on MA2000 series mixer amps from another device we can externally install a pair of diodes to the AC (ALL CALL) and PR (PRIORITY) ports of the mixer amp. The diodes are then connected to the dry contact of an external device. In the left figure, the diodes are linked to RELAY CONTACT of an Emergency Paging Panel, EP1200. When the EP1200 siren / message trigger is activated, it will activate ALL CALL on the mixer amp.

Connecting BGM Sources

Use the right connector for the appropriate BGM source. At any one time, only one jack shall be connected to the inputs of the same channel to avoid interference. Also, please switch to the right input level position for the correspondence input source.

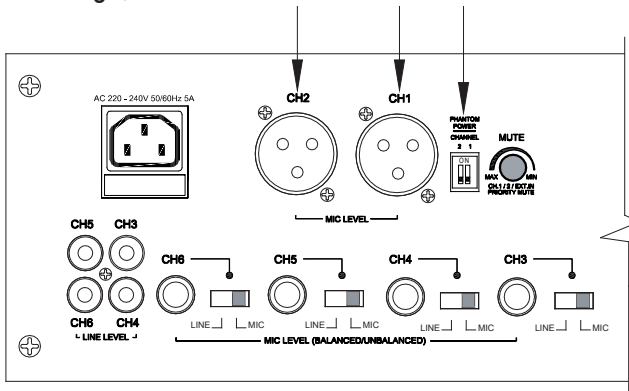
Very often BGM source shall have stereo outputs whereas the mixer amp has only mono input. Therefore, use either one output of the BGM source to connect to the input. To obtain better result of music stereo effect, use a combiner jack (stereo to mono) before inserting to the mixer amplifier.



Phantom Power

PHANTOM POWER SWITCH

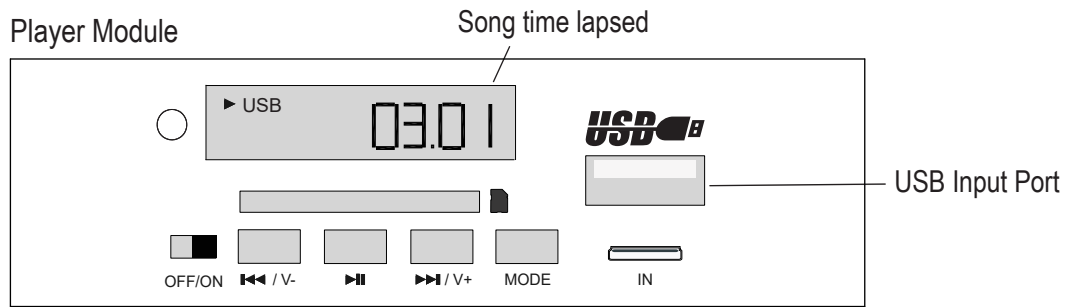
Switch on when condenser microphone is used. In normal usage, it is recommended that it is switched off



Two channels - 1 and 2 are provided with switchable phantom power of 12V.

Operating the Unit (Playing USB / SD)

Insert a SD Card or USB into the slot and the unit shall automatically enter the playing mode.



OFF/ON Button

OFF/ON

Individual power OFF/ON for each module



Next, Prev & Volume Button

◀ / V-



▶ / V+

The top button for repeating the previous song and to decrease the song volume while the bottom one shall skip to the next song and to increase the song volume.



Play & Pause Button

▶||

Press this button to play or to pause.



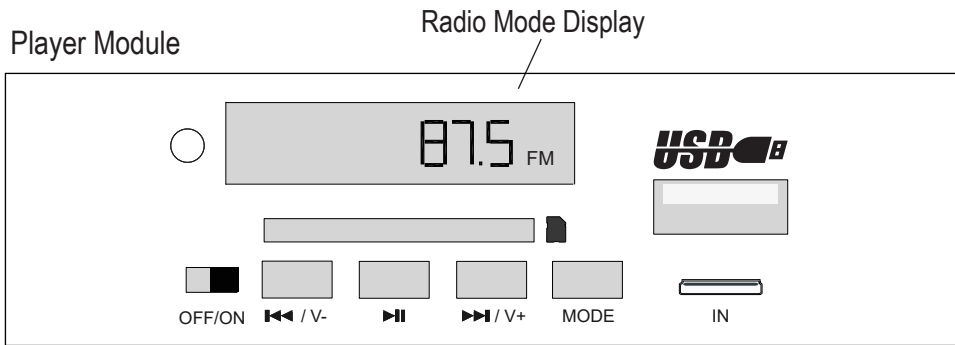
Mode Button

MODE

The menu at the display would switch between :-

RADIO ---- USB ---- SD ---- BLUETOOTH ---- RADIO

Operating the Unit (FM Tuner)



To enter the radio mode, press Mode button & FM Radio reception mode shall be displayed.

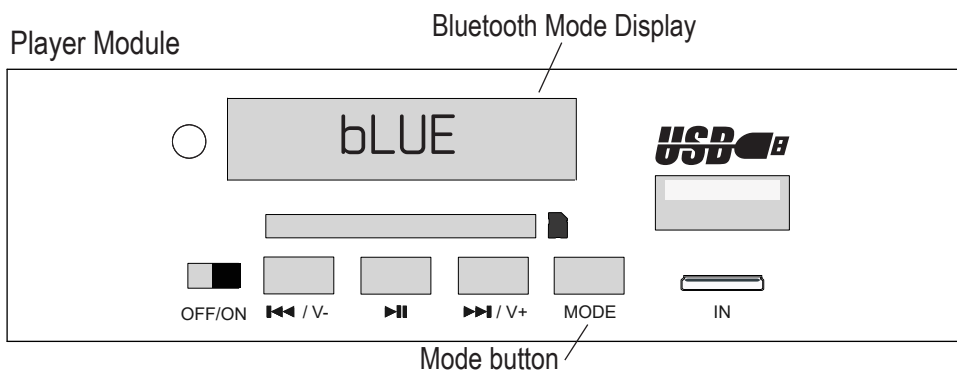


Use the 'Next' or 'Prev' button to manually select the station.

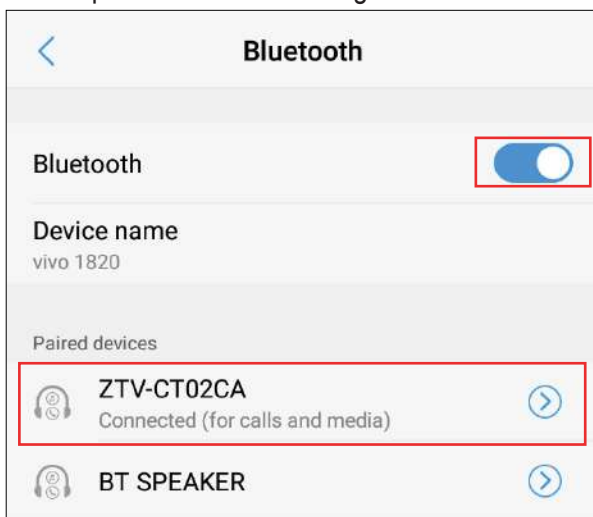


Auto program select. Press this button briefly and the tuner shall automatically search the stations.

Operating the Unit (Bluetooth)



Mobile phone bluetooth setting



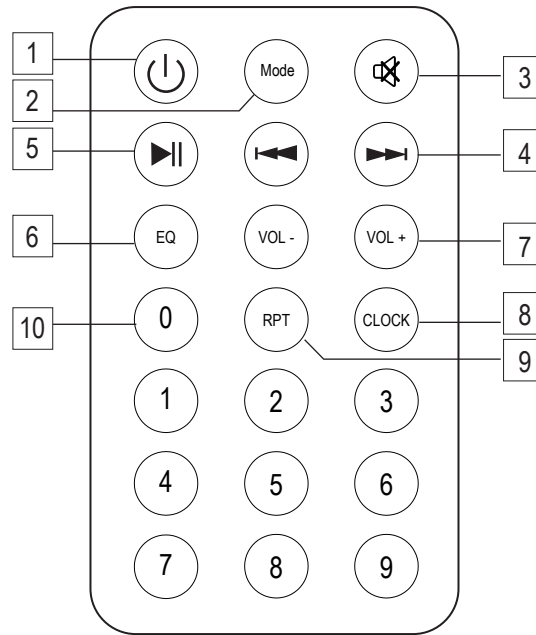
1) On MA2000P series media player, press MODE button until 'bLUE' show up on the LED display, indicates that the player is now in Bluetooth reception mode.

2) On a Bluetooth transmission device, turn On the Bluetooth mode. It will start searching for active reception device around the area.

Figure on the left, shows a mobile phone running on Android detected a device named " ZTV-CT02CA " which is the MA2000P player. Click the " ZTV-CT02CA " to pair the player.

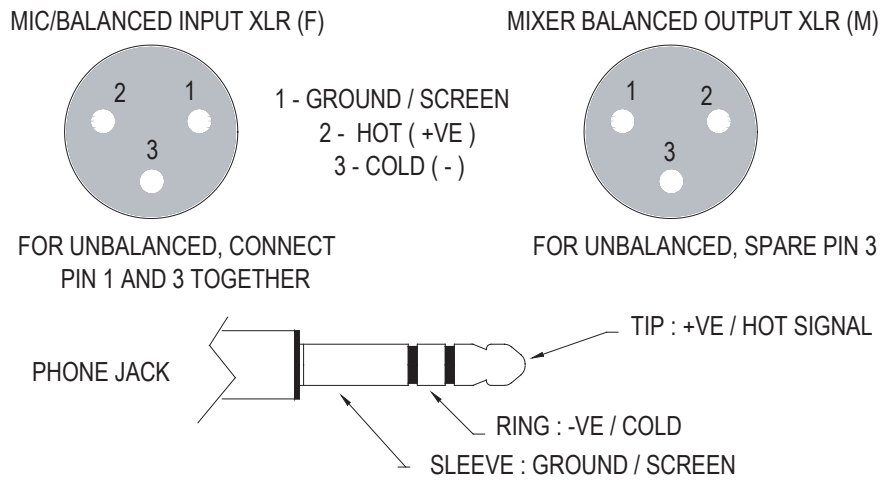
If the pairing is successful, we shall hear " Bluetooth successfully connected". Now we can play an audio file on our bluetooth device and stream it to MA2000P.

Remote Control



1. Power Switch : Press once to switch ON, press again to switch OFF.
2. Mode: Press this button to switch the radio / bluetooth / AUX / playback of USB / SD function.
3. MUTE : Press once to mute audio output, press again to resume volume level.
4. Next / Previous Button : In the playback mode, USB / SD songs, press this button to select previous song or next song. In the radio mode, it is for searching stations.
5. Play / Pause Button : Press this button to switch between Play and Pause.
6. EQ: Press this button to switch EQ modes (Jazz, Pop, etc)
7. VOL +/-: Press this button to increase or decrease volume level.
8. CLOCK: Press this button to switch to clock mode.
9. RPT: During playback, press RPT button briefly to play the current track repeatedly, and the LCD will display ONE. Press RPT button twice to play the tracks in the Folder repeatedly, and the LCD will display FOLD. Press RPT button twice to play all the track, and the LCD will display ALL.
10. Numerical Buttons : In the radio mode, press this button to search the station. In the playback mode, press this button to choose desired songs.

Connection of Jacks



Summary of Features

- 6 mic / line selectable input channels, with front mic jack, phantom power
- Priority muting for mic input 1 with adjustable muting level
- 3 zone speaker output with ALL CALL and remote triggering port
- 100V line output with aux 4 Ohm speaker terminal
- Tone and bass controls
- AC / DC operation for fixed and uninterrupted operation

Technical Specifications

	MA2060 / MA2060P	MA2012 / MA2012P	MA2024 / MA2024P
Ratings	60W 100V line	120W 100V line	240W 100V line
Operating voltage	220 - 240V AC or 24V DC		
Current (Load / Standby) 240V AC	0.87A / 0.08A	1.0A / 0.13A	1.95A / 0.17A
24V DC requirement	4.1A	6.3A	10.8A
Input channel	6 : 2 MIC (XLR), 4 MIC/Line Selectable (RCA/Phone Jack)		
Input phantom power	Mic 1 and 2 ; 12V DC		
Input sensitivity / impedance	2 x Mic (XLR) & 4 x Mic (Phone jack) : 4 mVrms 4 x LINE (RCA) : 350 mVrms	2 x Mic (XLR) & 4 x Mic (Phone jack) : 20 mVrms 4 x LINE (RCA) : 150 mVrms	
Tone controls	Bass (100 Hz) ; Treble (10 KHz) +/- 3 dB		
Outputs	3 Zone 100V line, 4 Ohm		
Output selection	Front and remote triggering		
Frequency response @1KHz +/- 3dB, 20-20kHz	175 ~ 18 KHz	70 ~ 15 KHz	
Protections	Thermal, short circuit, AC and DC fuse		
Indicators	AC mains, clip, protect, audio input level		
Cooling system	Dual speed fan with heat sensing		
Dimensions (W x H x D)	424 x 88 x 300 mm		
Weight	9.80 kg	11.10 kg	12.40 kg

Note:

The above specifications are correct at time of printing but subjected to changes without prior notice due to product improvements.

Warranty Conditions

Only Amperes Electronics Service Centres are allowed to make warranty repairs : a list of Amperes Electronics Service Centres may be asked for by the purchaser or send directly to Amperes Electronics Sdn Bhd at 70 Jalan Industri PBP 3, Tmn Perindustrian Pusat Bandar Puchong, 47100, Puchong, Selangor, Malaysia or its authorized dealers. This warranty is not valid if repairs are performed by unauthorized personnel or service centres.

This warranty covers only repairs and replacement of defective parts ; cost and risks of transportation as well as removal and installation of the product from the main system are for the account of the purchaser. This warranty shall not extend to the replacement of the unit.

This warranty does not cover damages caused by misuse, neglect, accident of the product as well as using the product with power supply voltage other than shown on the product, or any other power supply source / adaptor not recommended by the manufacturer.

This warranty does not cover damages caused by fire, earthquakes, floods, lightning and every cause not directly related to the unit.

This warranty does not include any indemnity in favor of the purchaser or the dealer for the period out of use of the unit; moreover the warranty does not cover any damages which may be caused to people and things when using the product.

This warranty certificate is valid only for the described product, and is not valid if modifications are made on this certificate or on the identification label applied on the product.

This warranty covers all the material and manufacturing defects and is valid for a period of 36 months from the date of purchase or for a specified period in countries where this is stated by a national law. In this case, the extension is valid only in the country where the product is purchased.

Amperes Electronics Sdn Bhd is not obliged to modify previously manufactured products under warranty if the design changes or improvements are made.

Disclaimer

Information contained in this manual is subject to change without prior notice and does not represent a commitment on the part of the vendor. AMPERES ELECTRONICS SDN BHD shall not be liable for any loss or damages whatsoever arising from the use of information or any error contained in this manual.

It is recommended that all services and repairs on this product be carried out by AMPERES ELECTRONICS SDN BHD or its authorized service agents.

AMPERES series must only be used for the purpose they were intended by the manufacturer and in conjunction with this operating manual.

AMPERES ELECTRONICS SDN BHD cannot accept any liability whatsoever for any loss or damages caused by service, maintenance or repair by unauthorized personnel, or by use other than that intended by the manufacturer.



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