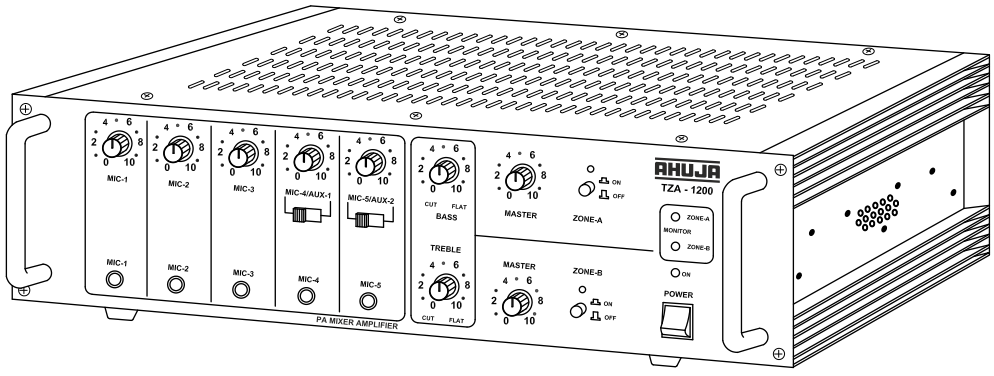
OPERATION MANUAL

AHUJA®

PA Mixer Amplifier

120W RMS/180W Max.

TZA-1200®



- Thank you for purchasing the AHUJA PA Mixer Amplifier.
- Please read this manual thoroughly before making connections and turning on the power. Following the instructions in this manual will enable you to obtain optimum performance from your new AHUJA PA Mixer Amplifier.
- Please retain this manual for future reference.

• Safety Instructions

Read the Instructions: Please read all the instructions in this section carefully before installation or use of the product. All the safety instructions must be followed.

Retain the Instructions: Please retain this Instruction Manual for future reference.

This symbol, wherever it appears, alerts you to the presence of uninsulated hazardous voltage that may be sufficient to constitute a risk of electric shock. External wiring to any terminal marked with this symbol must be done by a trained and instructed person only.

This symbol, wherever it appears adjacent to a component, alerts you that the concerned component can only be replaced by another of the exact same specifications.

WARNING

- To reduce the risk of electric shock, do not remove the top cover. No user serviceable parts inside. Refer all servicing to qualified personnel only.
- Before replacing any fuse, make sure the set is switched off and disconnected from the AC mains or any other power source. Replace a fuse only with another of exactly same specification.

CAUTIONS

Water & Moisture: To reduce the risk of fire or electrical shock, do not expose this set to rain or moisture. Do not use this set near water or in a wet location. Do not keep any object filled with liquid, such as a vase, on top of this set. Do not insert or remove the AC mains plug with wet hands.

Power Source: The voltage & frequency of the AC mains supply, and the voltage of the external battery, (if applicable) to which this set can be connected, is marked on the rear panel of the set. Do not connect this set to any power source other than those specified on the rear panel.

Power Cord Protection: Do not cut, kink, damage or modify the AC power cord supplied with this set. Keep the AC power cord away from heaters and harmful chemicals. Do not keep any heavy object on the power cord.

Operation on Generator: When operating this set on a generator, make sure the set is switched off till the generator voltage has stabilized.

Ventilation: This set should be situated so that its location or position does not interfere with its proper ventilation. Do not cover the ventilation holes / slots. Do not insert or drop anything into the ventilation holes / slots.

Stability: This set must be kept in a stable and flat horizontal position, and never in a tilted position. Do not place this set on an unstable stand, tripod, bracket or mount. Do not use attachments which are not supplied or explicitly recommended by the manufacturer.

Cover Strip: The cover strip of the 100V / 70V audio output terminal strip, and of any other high voltage output terminal strip, must be replaced after making connections. Failure to do so may result in exposure to hazardous voltages.

Earthing: This set must be earthed properly before use. A wire from the Earth terminal on the rear panel must be connected to electrical earth.

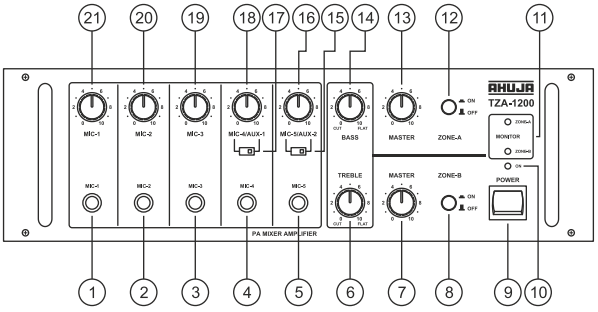
Cleaning: Disconnect this equipment from the AC mains and external battery before cleaning. Clean with a damp cloth, but do not allow any lequid to enter the set. Do not clean with liquids or aerosols.

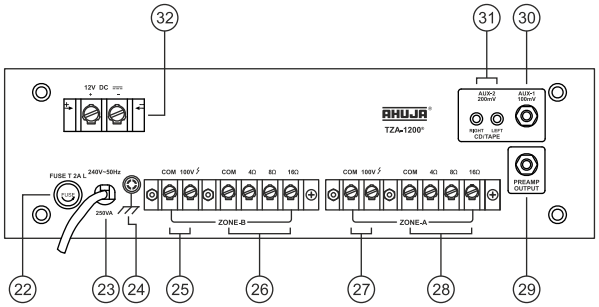
Exposure to Heat: Do not touch the heatsinks while the set is working.

• Features/General Description of Product

- Ideal for use in a wide variety of Two-Zone PA applications where some loudspeakers are required to operate indoors and some outdoors at different volume levels with ON / OFF facility.
- TZA-1200® is a 120 Watts two zone amplifier offering 3 independent unbalanced Mic Inputs & 2 unbalanced Mic Inputs alternate to 2 Aux Inputs to feed one or both zones and with combined tone controls and individual master controls.
- Volume level of each zone can be adjusted independently to any desired level and can be switched ON or OFF without disturbing its volume level settings.
- Preamplifier Output is provided for connecting to a Booster Amplifier and for recording the programme.
- Power losses in speaker wirings are reduced as the Two zones share the delivering of 120W of power.
- Provision for automatic changeover from AC to battery operation ensuring continuity of program.
- Protection provided against the reverse polarity of battery connections.
- Ease of operation, combined with service accessibility has been optimized in the design.

• Front & Rear Panel Controls & Features





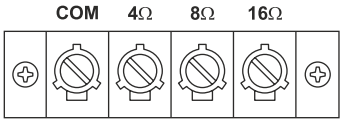
1. **MIC-1 Input Jack Socket**
   For connecting Lo-impedance microphones.
2. **MIC-2 Input Jack Socket**
3. **MIC-3 Input Jack Socket**
4. **MIC-4 Input Jack Socket**
5. **MIC-5 Input Jack Socket**
6. **TREBLE Control**
   For attenuating the signal level of high frequencies.
7. **MASTER Volume Control Zone-B**
   For adjustment of the overall volume level of Zone-B.
8. **Zone-B ON / OFF Switch**
9. **POWER Switch**
   Push the top part of the knob to switch the amplifier ON. Push the bottom part of the knob to switch the amplifier OFF.
10. **PILOT LED**
    To indicate that the set is ON.
11. **MONITOR LEDs for Zone-A and Zone-B**
    These LEDs indicate the level of output which is fed from the amplifier to the speaker.
12. **Zone-A ON / OFF Switch**
13. **MASTER Volume Control Zone-A**
    For adjustment of the overall volume level of Zone-A.
14. **BASS Control**
    For attenuating the signal level of low frequencies.
15. **MIC-5 / AUX-2 Selector Switch**
16. **MIC-5 / AUX-2 Volume Control**
17. **MIC-4 / AUX-1 Selector Switch**
18. **MIC-4 / AUX-1 Volume Control**
19. **MIC-3 Volume Control**
20. **MIC-2 Volume Control**
21. **MIC-1 Volume Control**
22. **AC Mains Fuse 2 Amp 250V (T 2A L)**
    This prevents excessive current flow caused by any defect / short circuit in the amplifier.
23. **3 Core AC Mains Cable With Plug**
24. **EARTH Terminal**
25. **Speaker Terminal Block for Zone-B (100V)**
    For connecting Column Speakers / Driver Units with 100V line matching transformers.
26. **Speaker Terminal Block for Zone-B (4, 8 and 16 ohm)**
    For connecting low impedance speakers.
27. **Speaker Terminal Block for Zone-A (100V)**
28. **Speaker Terminal Block for Zone-A (4, 8 and 16 ohm)**
29. **PRE OUT Jack Socket**
    For connecting to a Recorder for recording the overall program or for feeding to Aux input of any amplifier for obtaining combined high power output.
30. **AUX-1 Input Jack Socket**
    For connecting MP3 Player, CD Player, Echo Mixer or Audio Mixer etc.
31. **AUX-2 RCA Jack Socket**
    The 2-way RCA for connecting a CD Player, MP3 Player and Audio Mixer etc.
32. **Battery Terminal block**
    For connecting 12V Car Battery as stand-by power source.

CAUTION

- The equipment must be earthed properly before operating it to avoid electric shock. A wire from the Earth Terminal must be connected to electrical earth for safe operation.

• Speaker Connections

TZA-1200® is a medium power PA mixer amplifier. Therefore it is important that correct loudspeaker connections are made to avoid damage to the amplifier or speakers.

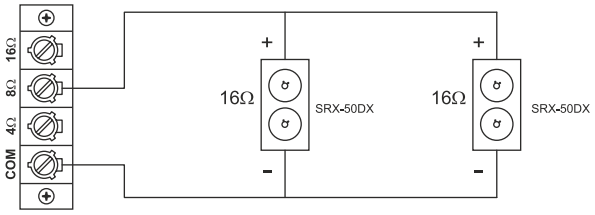


Low Impedance Speaker Connections

- Box type Speakers like SAX-200DX / SRX-120DX can be directly connected to COM-4Ω / 8Ω / 16Ω terminal strip.
- Driver Units without LMT like AU-40 / AU-60 can be directly connected to COM-4Ω / 8Ω / 16Ω terminal strip.
- Column speakers without LMT like SCM-30 can be directly connected to COM-4Ω / 8Ω / 16Ω terminal strip.

Connecting one SAX-120DX Speaker

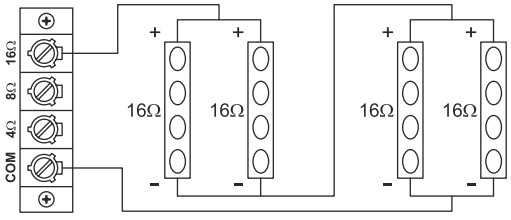
SAX-120DX speaker (100W) should be connected to COM & 8Ω tap as shown in the figure.



Resultant Impedance = 16 / 2 = 8 ohm

Connecting two SRX-50DX Speakers

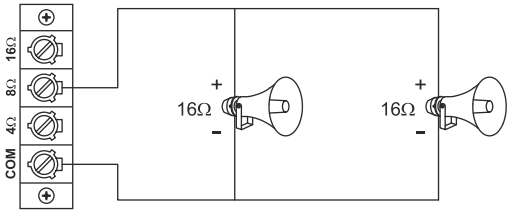
The loudspeakers like SRX-50DX should be wired in parallel as shown in figure. As the resulting impedance of the speaker system is 8Ω, they should be connected to the 8Ω tap of the amplifier.



Resultant Impedance = 16/2 +16/2 = 16 ohm

Connecting four Speakers like SCM-30

Four Column Speakers like SCM-30 (20W) should be wired in two groups of two Column Speakers each in parallel and then two groups in series as shown in figure. The resulting impedance of the speaker system is 16Ω.

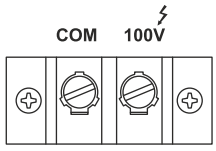


Resultant Impedance = 16 / 2 = 8 ohm

Connecting two AU-40 Driver Units

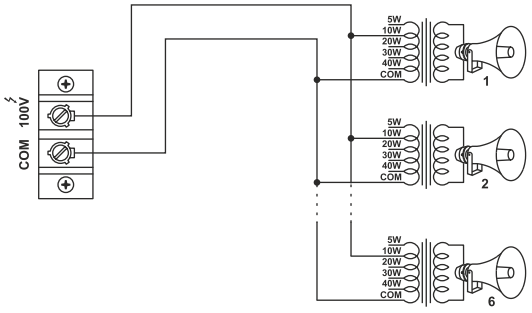
Two Driver Units like AU-40 / AU-60 should be connected in parallel as shown in figure. The resulting impedance of the system is 8Ω. The speaker system should be connected to 8Ω tap of the amplifier.

• Speaker Connections ....



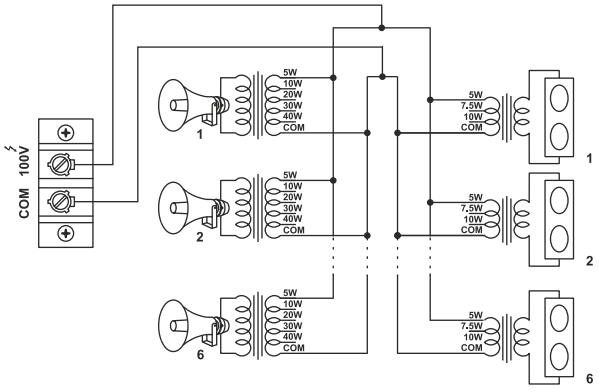
High Impedance Speakers or Speakers Using A 100V Line Matching Transformer

- Only Driver Units / Horn Speakers / Column Speakers with 100V Line Matching Transformers are to be connected to 100V Terminal Strip.
- The power drawn from any zone of the amplifier should not exceed 60 Watts.



Connecting Ten Driver Units with 100V LMT

6 Driver Units with 100V Line Matching Transformer connected at 10 Watts tap can be operated.

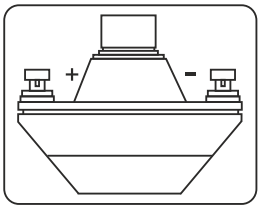


Connecting a Combination of Driver Units and Column Speakers with 100V LMT

6 Column Speakers with 100V LMT at 5 Watts and 6 Driver Units with 100V LMT at 5 Watts can be connected together. The power drawn from any zone of the amplifier should not exceed 60 Watts.

Correct Phasing of Loudspeakers

- When two or more Speakers / Units installed in the same area and are facing the same direction, it is essential that their cones / diaphragms act in unison. Otherwise the sound level of one speaker will be canceling the sound level of the other. To avoid any mistake, the terminals of Box speakers and the Driver Units are marked '+' & '-'. Always connect the COM of the Amplifier to '-' of speaker & 4 / 8 /16 of the amplifier to the '+' of the speakers.
- In case of LMTs the COM of all the LMTs should be connected to the COM of the red strip terminal of the amplifier and the power tap to 100V line as shown above.

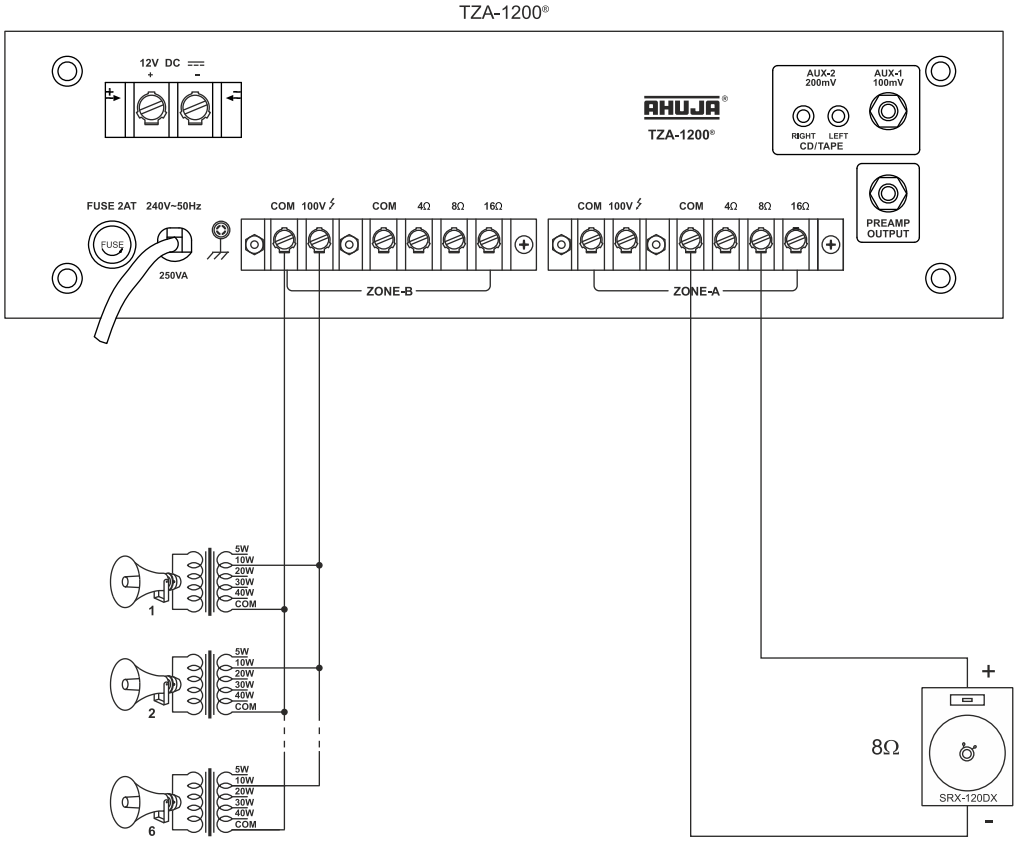


IMPORTANT

- When speakers are connected to COM-4Ω / 8Ω / 16Ω Terminal Strip, no speaker should be connected to the Terminal Strip marked COM-100V.
- When 100 Volt line is being used, no speaker / driver unit should be connected to 4Ω / 8Ω / 16Ω (Low Impedance) Tap.

Connecting Similar / Different Types of Speakers for Indoor and Outdoor applications

1. In places where box type speakers are to be used for inside the hall and driver units with 100V line matching transformer are to be installed for the outside.
2. Here box type speakers are connected on one zone and driver units are connected on the other zone.
3. The volume of both the zones can be adjusted with the help of respective Master Controls. The box speakers are to be operated on low volume inside the hall. The driver units are to be operated on a higher volume level of the outside.
4. The tonal quality can be adjusted by Bass and Treble Controls.



• Specifications

Model TZA-1200®	ZONE-A	ZONE-B
Power Output	90W RMS Max. 60W RMS at 10% THD 55W RMS at 5% THD 50W RMS at 2% THD	90W RMS Max. 60W RMS at 10% THD 55W RMS at 5% THD 50W RMS at 2% THD
Output Regulation	≤2 dB no load to full load at 1kHz	
Input Channels	5 × Mic 0.6mV / 4.7kΩ (Mic Source Imp. 50Ω to 1kΩ) Aux 1 : 100mV / 470kΩ Aux 2 : 200mV / 250kΩ (2-way RCA Jacks)	
Frequency Response	70Hz – 15,000 Hz ± 3dB	70Hz – 15,000Hz ±3dB
S/N Ratio	60dB	60dB
Tone Controls	Bass: -10dB at 100Hz	Bass: -10dB at 100Hz
	Treble: -10dB at 10kHz	Treble: -10dB at 10kHz
Preamp Output	200mV / 600Ω	
Output Taps for Speaker Matching	4, 8 & 16Ω (for direct connections) 100V Line (for use with LMT)	4, 8 & 16Ω (for direct connections) 100V Line (for use with LMT)
Power Supply	AC : 220-240V 50/60Hz; DC : 12V (12V Car Battery)	
Protection	AC: 2 Amp. (T 2A L); DC: 2×10 Amp. (Both Zone) (T 10A L)	
AC Power Consumption	250VA	
DC Power Consumption	5A (Average)	
Dimensions	W400 × H130 × D290 mm	
Weight	10.10 kg approx.	

• Design and Specifications are subject to change without notice owing to continuous product upgradation.
• Technical specifications are subject to production tolerances.

AHUJA RADIOS • 215, Okhla Industrial Estate, New Delhi - 110 020, INDIA
Tel.: +91-11-26831549, 41612474 Fax : +91-11-26847287
E-mail: ahuja@ahujaradios.com, admin@ahujaradios.com
Website: ahujaradios.com

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