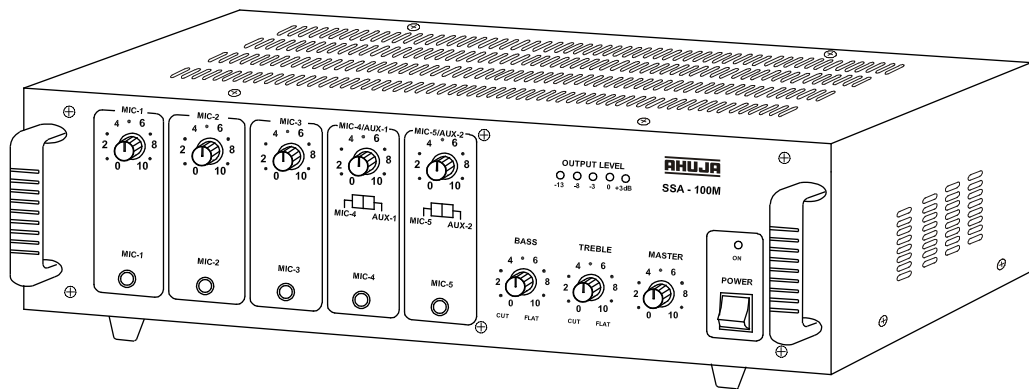


**AHUJA**<sup>®</sup>**PA AMPLIFIER**  
100W RMS/130W Max.

# SSA-100M



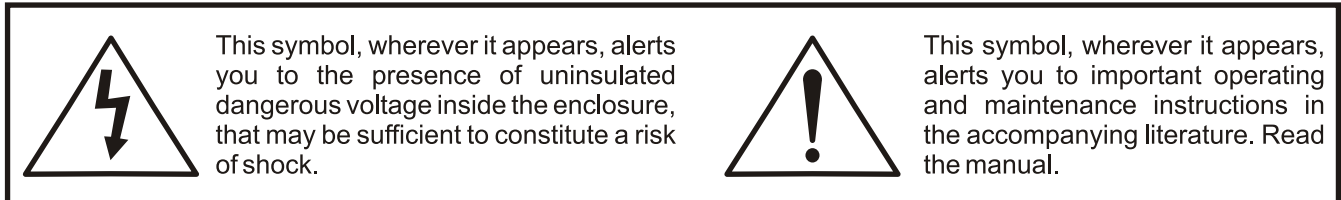
- ◆ Thank you for purchasing the AHUJA Portable PA Amplifier.
- ◆ Please read this manual thoroughly before making connections and turning on the power. Following the instructions in this manual will enable you to obtain optimum performance from your new AHUJA PA Amplifier.
- ◆ Please retain this manual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

## • Safety Instructions

**CAUTION:** To reduce the risk of electric shock, do not remove the top cover. No user serviceable parts inside. Refer servicing to qualified personnel only.



**WARNING:** To reduce the risk of fire or electrical shock, do not expose this equipment to rain or moisture.



**Detailed Safety Instructions:** All the safety instructions in this manual should be read before operating this equipment.

**Retain Instructions:** The operation manual should be kept for future reference.

**Follow Instructions:** All operation and safety instructions should be followed.

**Water and Moisture:** In order to prevent any fire or shock hazard, do not expose this equipment to rain or moisture.

**Power Source:** The equipment should be connected to a 220-240V 50Hz AC or a 24V DC power source. For 220V AC operation, a tap on the power transformer is available, which should only be changed by authorised Ahuja dealer.

**Power-cord Protection:** Do not cut, kink, damage or modify the power supply cord supplied with the equipment. Keep the power supply cord away from heaters & harmful chemicals. Do not place heavy objects on the power cord.

**Operation on Generator:** When operating the amplifier on a generator, make sure it is switched 'OFF' till the generator voltage has stabilized and then only switch the amplifier 'ON'.

**Ventilation:** The amplifier should be situated so that its location or position does not interfere with its proper ventilation. Also do not insert or drop anything into the ventilation holes.

**Prevention of Loss in Speaker Cables:** Always use thick cables for low impedance speaker connections. Use of cable type 23/36 or thicker is recommended as heavy current flows through the cables.

**Proper Selection of Output Terminals:** When 100V line is being used, do not connect speakers to 4 $\Omega$ , 8 $\Omega$  or 16 $\Omega$  tap. Similarly do not connect speakers to 100V line when 4 $\Omega$ , 8 $\Omega$  or 16 $\Omega$  tap is being used.

**Grounding or Earthing:** The equipment must be earthed properly before operating it to avoid electric shock. A wire from the Earth Terminal must be connected to either water pipe or to electrical earth for safe operation.

**Replacing AC Mains Fuse:** After disconnecting the AC mains and rectifying the defect in the amplifier, change the fuse with another of the specified rating only. Insert and tighten the fuse holder completely to avoid any loose contact.

**Replacing DC Fuse:** The DC Fuse should be replaced with another of the specified rating only.

**Exposure to Hot Region:** Do not touch the Heat Sink while the amplifier is in operation.

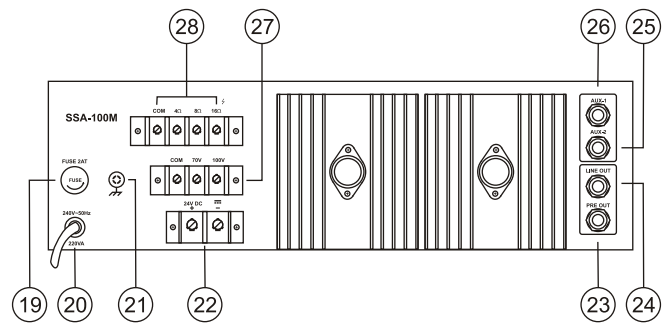
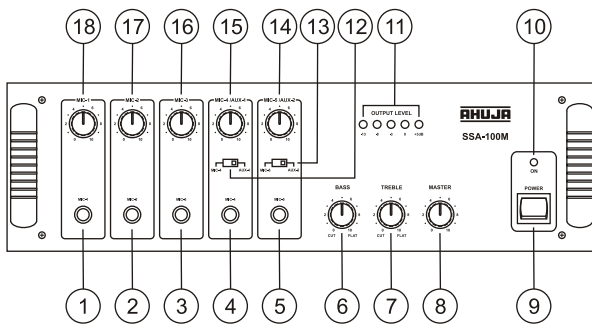
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## • **Features/General Description of Product**

- Designed for use in a wide variety of PA applications.
- SSA-100M is a 100 Watts Mixer Amplifier with Three Unbalanced Independent Mic inputs and Two Unbalanced Mic Inputs alternate to two Auxiliary inputs.
- SSA-100M has a Pre-amp output for recording the program, a Line output for connecting to a Booster Amplifier
- Bass and Treble Controls have been provided which help to shape the tonal quality of music and speech to the desired requirement.
- LED ARRAY has been provided for visual monitoring of output level of music and speech.
- Provision for automatic changeover from AC to Battery Operation ensuring continuity of program has been provided.
- 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. **BASS Control**  
For attenuating the signal level of low frequencies.
7. **TREBLE Control**  
For attenuating the signal level of high frequencies.
8. **MASTER Control**  
This permits adjustment of overall volume of program inputs.
9. **POWER Switch**
10. **POWER LED**  
This LED glows when the amplifier is switched 'ON'.
11. **LED Array (5 LEDs)**  
It indicates roughly the power output that is being delivered to the loudspeakers by the amplifier.
12. **MIC-4/AUX-1 Selector Switch**
13. **MIC-5/AUX-2 Selector Switch**
14. **MIC-5/AUX-2 Volume Control**
15. **MIC-4/AUX-1 Volume Control**
16. **MIC-3 Volume Control**
17. **MIC-2 Volume Control**
18. **MIC-1 Volume Control**

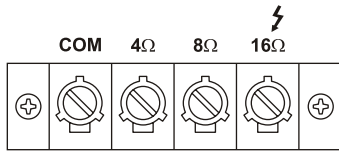
19. **AC Mains Fuse 2 Amp 250V**  
This prevents excessive current flow caused by any defect / short circuit in the amplifier.
20. **2 Core AC Mains Cable With Plug**
21. **EARTH Terminal**
22. **Battery Terminal block**  
For connecting two 12V Car Batteries in series (which becomes 24V) as standby power source.
23. **PRE OUT Jack Socket**  
For connecting to Cassette Recorder for recording the overall program or for feeding to Aux input of any amplifier for obtaining combined high power output.
24. **LINE OUT Jack Socket**  
For connecting to Line input of a Booster amplifier or any other amplifier.
25. **AUX-2 Input Jack Socket**  
For connecting Cassette Player, CD Player, Echo Mixer or Audio Mixer etc.
26. **AUX-1 Input Jack Socket**  
For connecting Cassette Player, CD Player, Echo Mixer or Audio Mixer etc.
27. **Speaker Terminal Block (70V, 100V)**  
For connecting Column Speakers / Driver Units with 100V line matching transformers.
28. **Speaker Terminal Block (4, 8 and 16 ohm)**  
For connecting low impedance speakers.

### ⚠ Caution

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

## • Speaker Connections

SSA-100M is a medium powered amplifier. Therefore it is important that correct loudspeaker connections are made to avoid damage to the amplifiers or speakers.

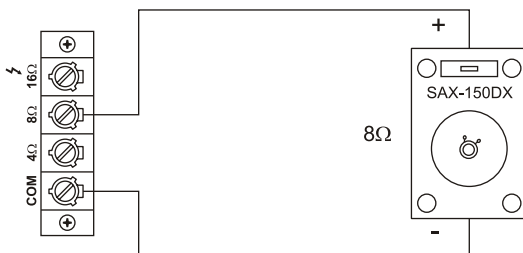


### Low Impedance Speaker Connections

- Box type Speakers like SAX-150DX/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.

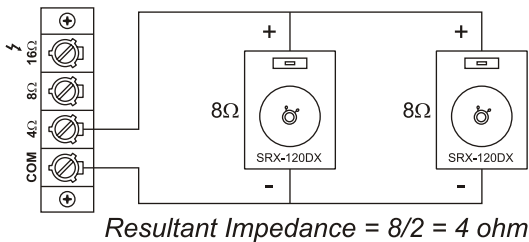
### Connecting one SAX-150DX Speaker

SAX-150DX speaker (150W) should be connected to COM & 8Ω tap as shown in the figure.



### Connecting two SRX-120DX Speakers

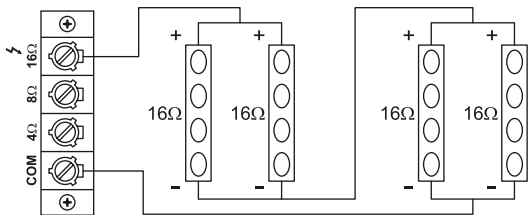
The loudspeakers like SRX-120DX should be wired parallel as shown in figure. As the resulting impedance of the speaker system is 4Ω, they should be connected to the 4Ω tap of the amplifier.



Resultant Impedance =  $8/2 = 4 \text{ ohm}$

### Connecting four Speakers like SCM-30

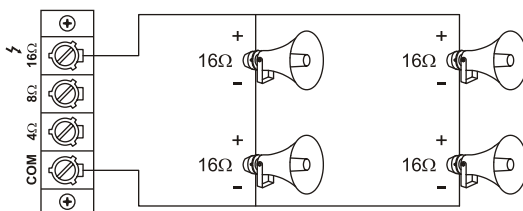
Four Column Speakers like SCM-30 (20W) should be wired in two groups of two Column Speakers each in parallel and then two groups in series as shown in figure. The resulting impedance of the speaker system is 16Ω. **As the combined wattage of column speakers is less than the wattage of the amplifier, for safe operation of the speakers they must be connected to the 8Ω tap of the amplifier (under-loading).**



Resultant Impedance =  $16/2 + 16/2 = 16 \text{ ohm}$

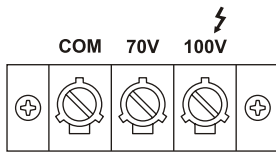
### Connecting four AU-40 Driver Units

Four Driver Units like AU-40 / AU-60 should be wired in two groups of two Driver Units each in series and then two groups are connected in parallel as shown in figure. The resulting impedance of the system is 16Ω. The speaker system should be connected to 16Ω tap of the amplifier.



Resultant Impedance =  $(16 \times 2)/2 = 16 \text{ ohm}$

## • Speaker Connections ....

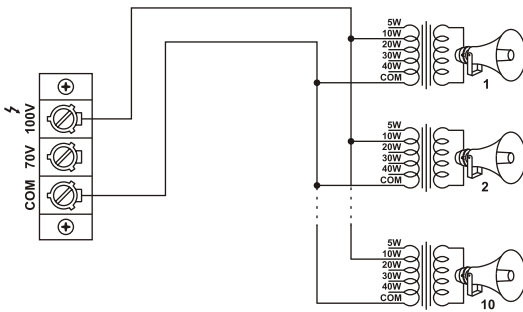


### High Impedance Speakers or Speakers Using A 100V Line Matching Transformer

- Only Driver Units / Horn Speakers / Column Speakers with 100V Line Matching Transformers are to be connected to Com-70V / 100V Terminal Strip.
- The power drawn from the amplifier should not exceed 100 Watts.

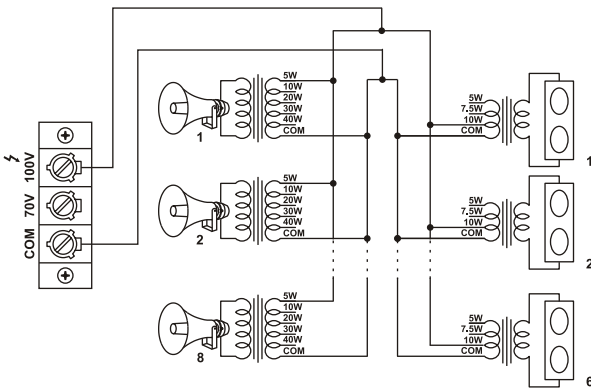
### Connecting Ten Driver Units with 100V LMT

10 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 10 Watts and 8 Driver Units with 100V LMT at 5 Watts can be connected together. The power drawn from the amplifier should not exceed 100 Watts.



### Use of 70 Volt Line

A loudspeaker / Driver Unit with its LMT adjusted to the 10W tap, when connected to COM and 100V terminals on the amplifier's Terminal Strip will draw 10W from the amplifier but when the same is connected to COM and 70V it will only draw half power i.e. 5W. A good use of 70V line tap can be made in installations where large number of speakers/ driver units are to be installed for more even distribution of sound.

### 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.

### ⚠ Caution

- When speakers are connected to COM-4Ω / 8Ω / 16Ω Terminal Strip, no speaker should be connected to the Terminal Strip marked COM-70V / 100V.
- When 70 / 100 Volt line is being used, no speaker / driver unit should be connected to 4Ω / 8Ω / 16Ω (Low Impedance) Tap.

## • Specifications

<b>Model</b>	<b>SSA-100M</b>
<b>Power Output</b>	130 Watts RMS Max. 100 Watts RMS at 10% THD 90 Watts RMS at 5% THD
<b>Output Regulation</b>	≤ 2db (no load to full load at 1kHz)
<b>Inputs / Sensitivities</b>	5 × Mic 0.65mv / 4.7kΩ Aux 1 : 50mV / 470kΩ Aux 2 : 150mV / 470kΩ
<b>Frequency Response</b>	50Hz - 15,000Hz ± 3dB
<b>Tone Controls</b>	Bass : -10dB at 100Hz Treble : -10dB at 10kHz
<b>Signal to Noise Ratio</b>	60dB
<b>Pre-amp Output</b>	200mV / 600Ω
<b>Line Output</b>	1V / 1kΩ
<b>Speaker Output</b>	4Ω ,8Ω &16Ω (for direct connections) 70V & 100V Line (for use with LMT)
<b>Power Source</b>	AC: 220-240V 50/60Hz DC: 24V (2x12V Car Battery)
<b>Power Consumption</b>	AC: 220VA DC: 3Amps (average)
<b>Dimensions</b>	W420 × H135 × D290 mm
<b>Weight</b>	10.5kg 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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