



OPERATING INSTRUCTIONS

PA AMPLIFIERS

A-1240SS AS

A-1360SS AS

A-1360MK2 AS

Please follow the instructions in this manual to obtain the optimum results from this unit.
We also recommend that you keep this manual handy for future reference.

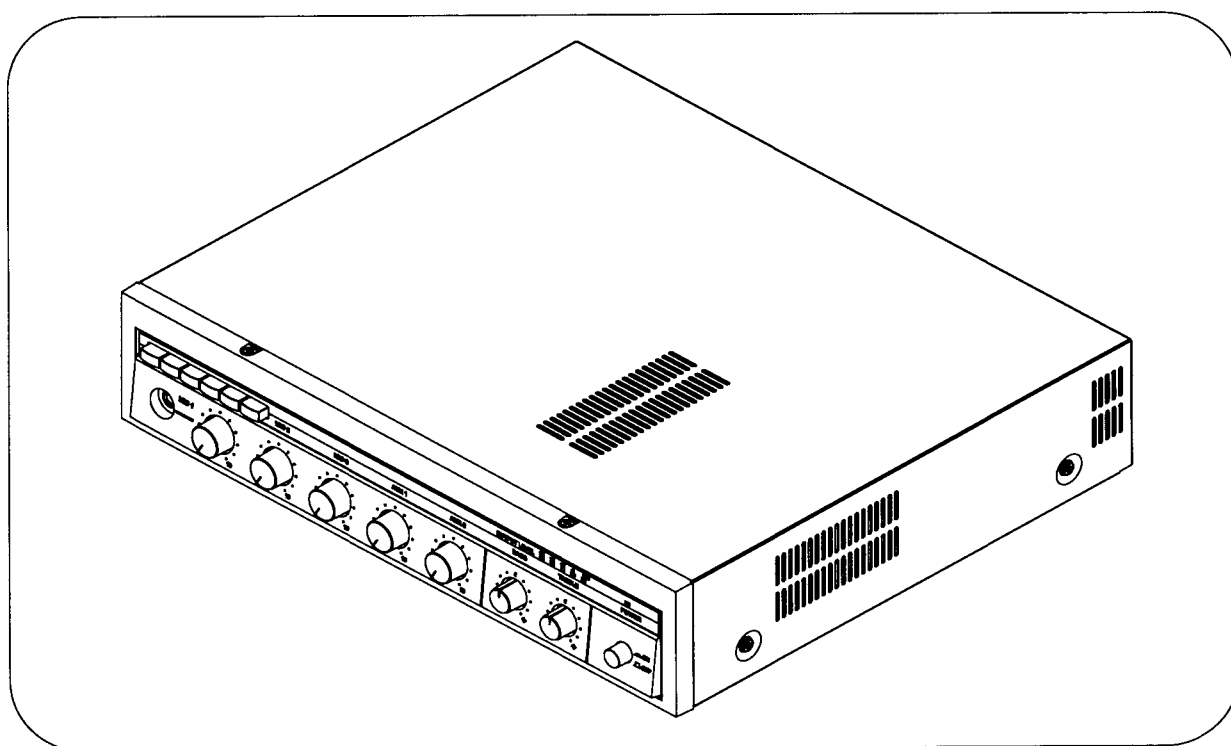


TABLE OF CONTENTS

1. SAFETY PRECAUTION	2	7. INSTALLATION	5
2. GENERAL DESCRIPTION	3	8. CONNECTIONS	
3. FEATURES	3	8.1 Input Connections	5
4. NOMENCLATURE AND FUNCTIONS		8.2 Output Connections	6
4.1 Front	3	8.3 Example of External Equipment	
4.2 Rear	3	Connections	7
5. MUTING FUNCTIONS	4	9. SPECIFICATIONS	8
6. VOLUME CONTROL SETTING	5		

1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first so you are thoroughly aware of the potential safety hazards as well as understand the safety symbols and messages.

WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

WARNING

When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects --including the unit itself -- on the power cord, as doing so may result in fire or electric shock.
- The terminals marked with the symbol  are hazardous live. The external wiring to these terminals requires installation by an instructed person.
- The socket-outlet shall be installed near the equipment and the plug (disconnecting device) shall be easily accessible.
- Be sure to replace the unit's terminal cover after connection completion. Because the voltage of up to 100V is applied to the high impedance speaker terminals, never touch these terminals to avoid electric shock.
- Be sure to ground to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.

When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
 - If you detect smoke or a strange smell coming from the unit.
 - If water or any metallic object gets into the unit.
 - If the unit falls, or the unit case breaks.
 - If the power supply cord is damaged (exposure of the core, disconnection, etc.)
 - If it is malfunctioning (no tone sounds.)
- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest TOA dealer.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic object or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

CAUTION

When Installing the Unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug, never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the upper panel ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.
- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.

When the Unit is in Use

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.

2. GENERAL DESCRIPTION

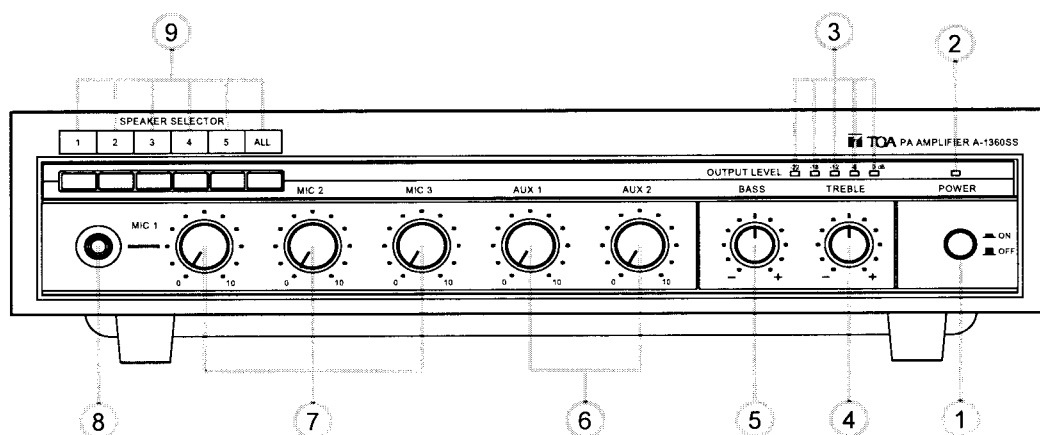
TOA's Basic Amplifiers A-1240SS, A-1360SS, A-1360MK2 are high performance mixer power amplifiers suited for broadcasting paging or background music in schools, offices, shops, factories, mosques, churches and large rooms.

3. FEATURES

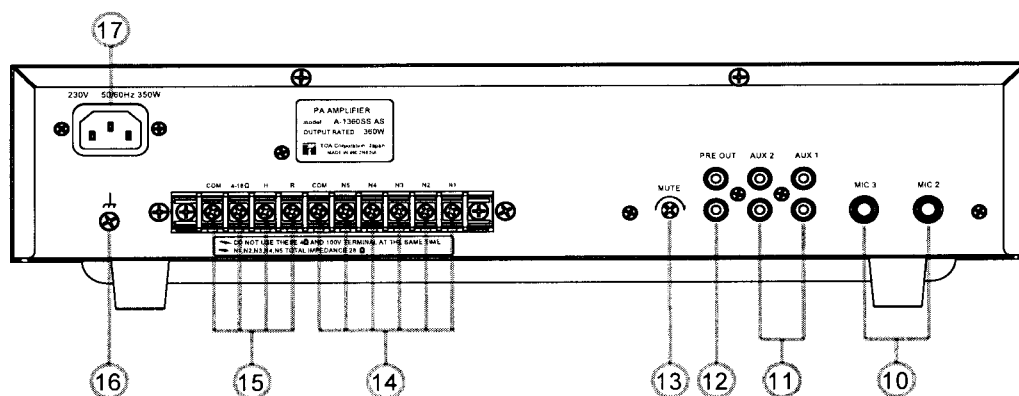
- High durability, high reliability, and high performance.
- Three microphone inputs, two AUX inputs, and one pre output.
- Speaker output of constant voltage distribution system (70V or 100V) and low impedance (4-16Ω).
- Muting function.
- Independent input volume controls .
- 5 Zone and 1 all call for speaker selector (model SS only)
- Independent tone controls of boost and cut type for both high and low frequencies.
- Current limiter circuitry protects transistors, and the thermal protection circuitry prevents a failure due to overheat.
- All MIC inputs are unbalanced input.

4. NOMENCLATURES AND FUNCTIONS

4.1. Front



4.2. Rear



1. **Power Switch**
Press to turn ON the power.
Press again to turn Off the power.
2. **Power Indicator**
Lights red when power is switched ON.
3. **Signal Indicator**
Lights green when indicated output signal. And light red when output signal clip/distortion.
4. **Treble Control**
Adjusts treble response. Rotate counterclockwise to reduce it. The maximum position provides flat characteristics.
5. **Bass Control**
Adjusts bass response. Rotate counterclockwise to reduce it. The maximum position provides flat characteristics.
6. **AUX Volume Control**
Adjusts the AUX level.
7. **Microphone Volume Control**
Adjusts the microphone level.
8. **MIC 1 Input**
-52 dB (2.5mV), 600 Ω , Phone Jack unbalanced.
9. **Speaker Selector Switch**
(only for model A-1240SS or A-1360SS)
To select output speaker zones 1-5. Select ALL to turn ON all output (N1-N5)
10. **MIC 1 and MIC 2 Inputs**
-52 dB (2.5mV), 600 Ω , Phone Jack unbalanced
11. **AUX 1 and AUX 2 Input Terminals**
-10 dB (316mV), 10 k Ω , RCA Pin Jack unbalanced
12. **PRE OUT**
0dB, 600 Ω , unbalanced, connect to Line In power amplifier.
13. **Muting Level Control**
Adjusts the background music level 0 ~ 40dB to be automatically reduced when priority function is operated.
14. **Output Terminals with Speaker Selector**
(A-1240SS and A-1360SS only)
Connect to high impedance speakers. Output N1-N5 can be ON by speaker selector switch.
15. **Output Terminals**
Connect to speakers. This terminal is direct output, without selector switch. When connecting speakers use only one of the speaker output terminals, low or high impedance.
16. **Ground Terminal**
Connect to ground (earth) to avoid electric shock.
17. **AC Power Input**
Connects to an AC power source.

5. MUTING FUNCTION

- Mic1 input has a priority function. When Mic1 input is used, it takes precedence and automatically reduces the volume of Mic2, Mic3, and Aux inputs by 0 to 40 dB, which is adjustable with the MUTE on the rear panel. The attenuation level is preset for -40 dB at the factory.



Remark: About Mute function.

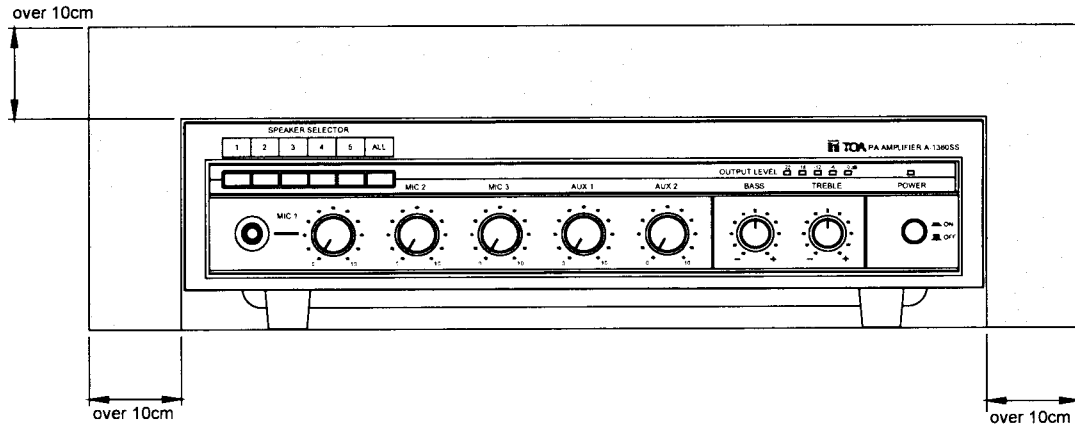
- When signal is in Mic1, the mute circuit works promptly.
- When Mic1 signal disappears, the signals from Mic2, Mic3 and Aux inputs resume to their previous states about 2-3 seconds later.

6. VOLUME CONTROL SETTINGS

Output levels are adjustable with individual volume controls. For music play or announcement, adjust the corresponding volume control so that the red peak indicator lights intermittently. Note that the sound quality is downgraded when the peak indicator remains lit.

7. INSTALLATION

Keep all sides of the unit more than 10 cm (3.94 inches) away from objects that may obstruct air flow to prevent a rise in the unit's internal temperature.

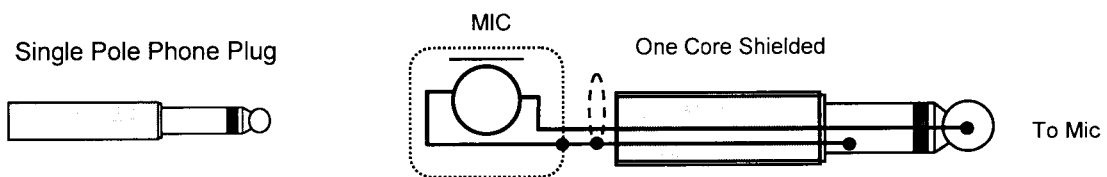


8. CONNECTIONS

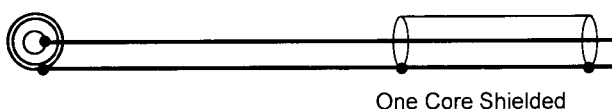
8.1 Input Connections

• Mic1, Mic2, Mic3 Connection (Phone Plug)

The microphone input circuit is unbalanced and uses single pole type plug. As it is easy to pick up noise in an unbalanced connection, the length of the microphone cable used is recommended to be less than 10m.



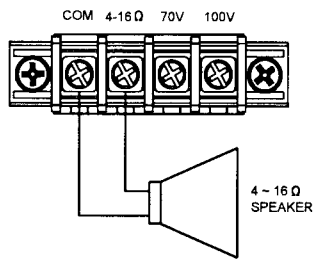
• AUX input Connections (RCA pin jack)



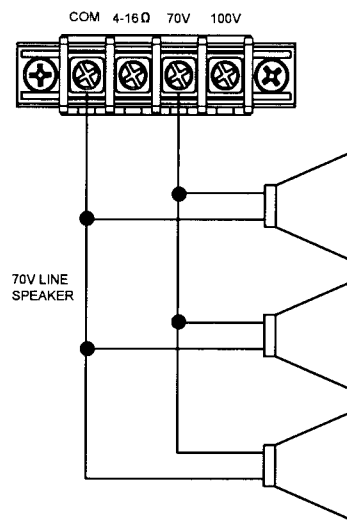
8.2. Output Connections

A-1360MK2

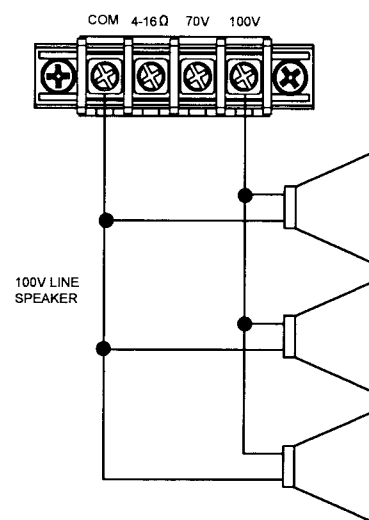
• Low Impedance Speaker



• 70V Line Speaker

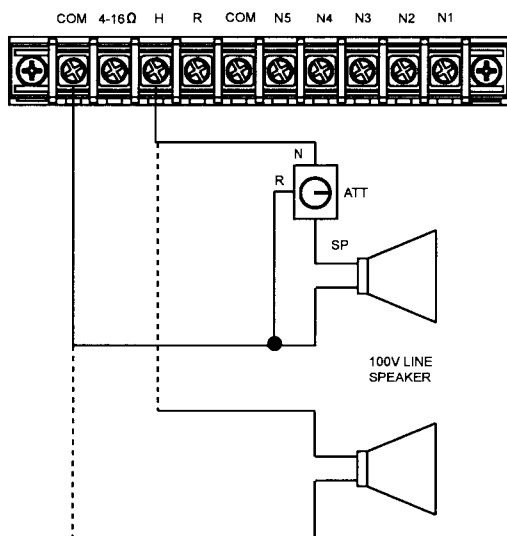


• 100V Line Speaker

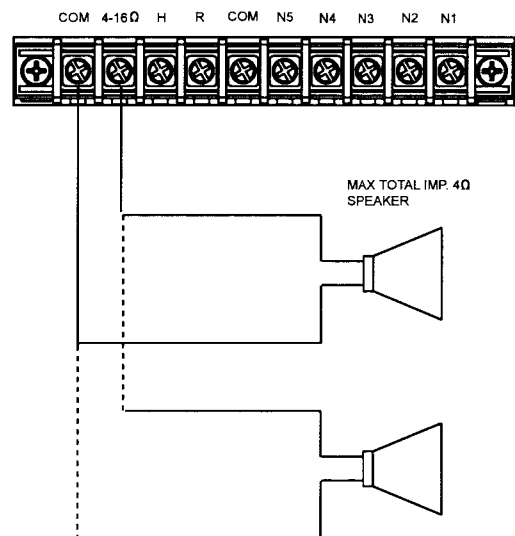


A-1240SS/A-1360SS

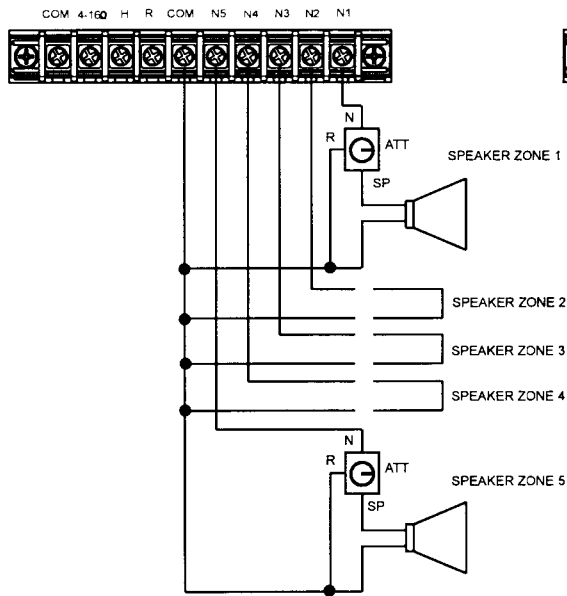
• High Impedance Speaker



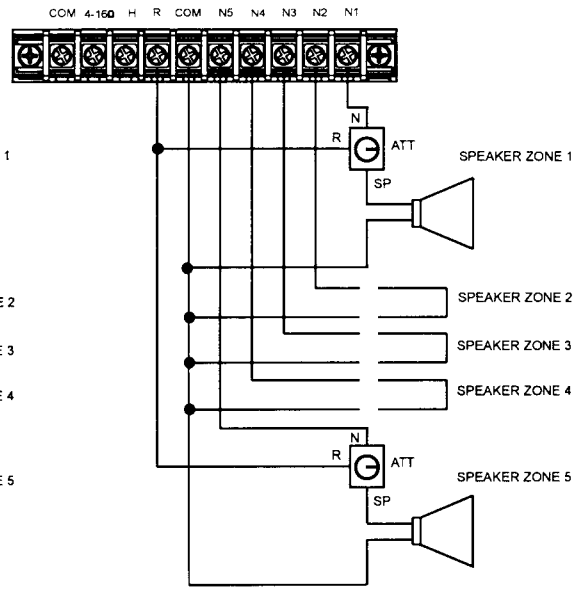
• Low Impedance Speaker



• 2 Lines System



• 3 Lines System



CAUTION!

- Tripartite the 4 Ω , 70V and 100V terminals cannot be used at the same time.
- Impedances indicated at the terminal represent the total speaker system (load) impedances.

Total impedances of 100V line:

· 42 Ω (A-1240)

· 28 Ω (A-1360)

Total impedances of 70V line:

· 13.6 Ω (A-1360MK2)

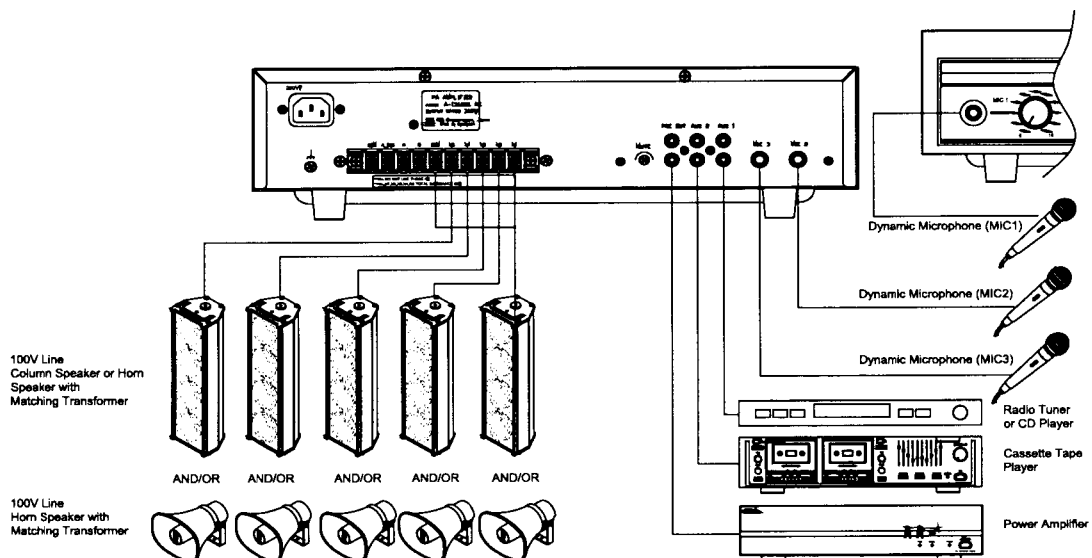


CAUTION

Be sure to attach the supplied terminal cover after connection completion.

Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.

8.3. Example of External Equipment Connections



9. SPECIFICATIONS

Model No.			A-1240SS AS	A-1360SS AS	A-1360MK2 AS
Power Source			AC 230 V 50/60Hz		
Rated Output			240 W	360 W	360 W
Power Consumption (IEC60065)			252 W	350 W	350 W
Frequency Response			50 - 18,000 Hz, ±3 dB		
Distortion			Less Than 0.3% at 1 kHz, 1/3 Rated Power		
Inputs	MIC 1		-52 dBV (2.5 mV), 600 Ω, Unbalanced, Equivalent to Phone Jack		
	MIC 2		-52 dBV (2.5 mV), 600 Ω, Unbalanced, Equivalent to Phone Jack		
	MIC 3		-52 dBV (2.5 mV), 600 Ω, Unbalanced, Equivalent to Phone Jack		
	AUX 1		-10 dBV (316 mV), 10 kΩ, Unbalanced, RCA Pin Jack		
	AUX 2		-10 dBV (316 mV), 10 kΩ, Unbalanced, RCA Pin Jack		
Outputs	Speaker Out		Speaker Outputs plug in screw connector		
	Direct Line	100 V	H : 42 Ω	H : 28 Ω	28 Ω
		70 V	-	-	13.6 Ω
		4-16 Ω	4-16 Ω	4-16 Ω	4-16 Ω
	Speaker Selector		5-Zone Selector (all zones simultaneously selectable), Plug in screw 1 All Call		-
	Pre Out		0dBV (1.0V), 600Ω, Unbalanced, RCA Pin Jack		
S/N Ratio			Over 65 dB (MIC 1 - MIC 3)		
			Over 75 dB (AUX 1 - AUX 2)		
Tone Controls			Bass: ±10 dB at 100 Hz Treble: ±10 dB at 10 kHz		
Muting			MIC1 overrides other input signals with 0 - 40 dB attenuation by voice switch of MIC1 input level.		
Indicators			Power LED, Signal LED		
Finish			Panel: ABS Resin, Black Case: Steel Plate, Black		
Dimensions			420(W) x 110(H) x 384(D) mm		
Weight			12.8 kg	14.6 kg	14.6 kg
Accessory			AC Power Cord (1pc)		

*) 0 dBV = 1.0 V

**) Specifications are measured on 230V AC.

Note: The design and specifications are subject to change without notice for improvement.



TOA Corporation

Part No: 533-01-086-40