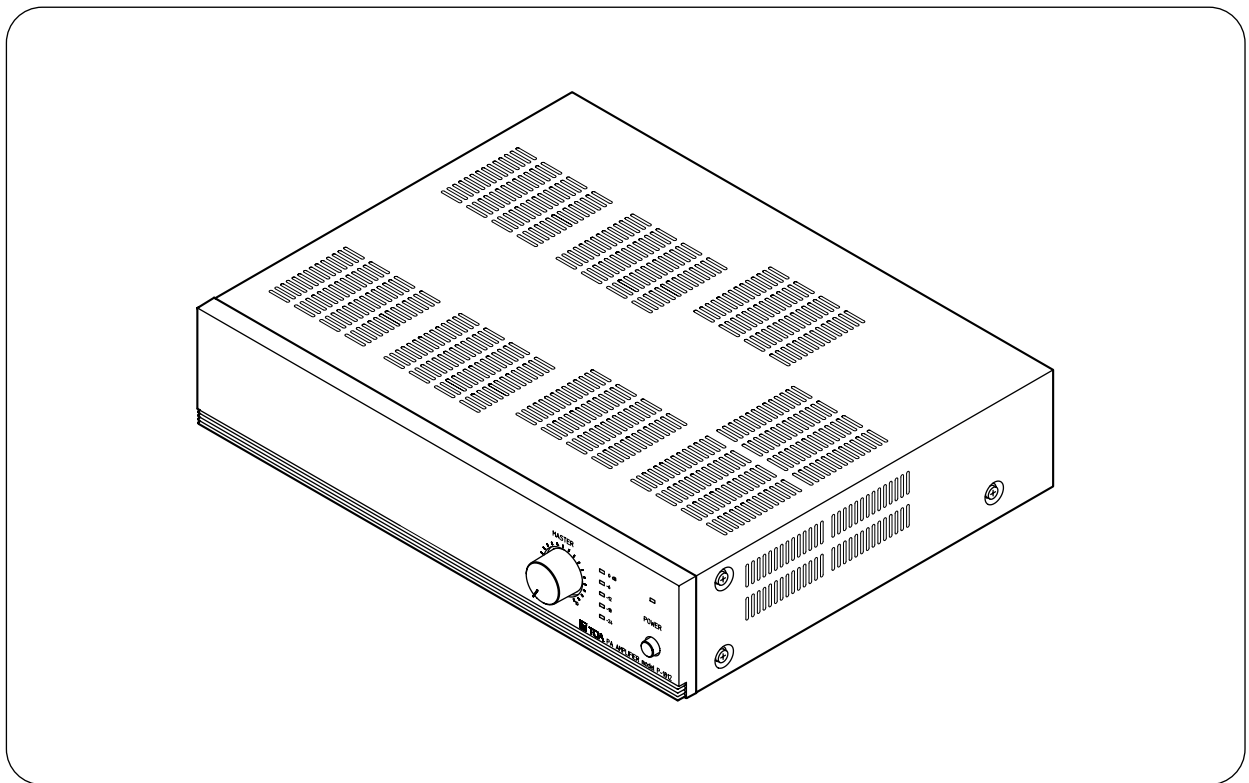




OPERATING INSTRUCTIONS

PA AMPLIFIER

P-1812



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.

TOA Corporation

TABLE OF CONTENTS

1. SAFETY PRECAUTIONS	3
2. GENERAL DESCRIPTION	4
3. FEATURES	4
4. NOMENCLATURE AND FUNCTIONS	
Front	5
Rear	5
5. CONNECTIONS	
5.1. Speaker Connections	6
5.2. Emergency Control Connection	6
5.3. Remote Power ON/OFF Control Connection	6
5.4. Emergency Input and Control Input Terminal Connections	7
6. INSTALLATION	8
7. RACK MOUNTING	8
8. CONTROL SETTING	9
9. DIMENSIONAL DIAGRAM	9
10. INTERNAL MODIFICATION	10
11. BLOCK DIAGRAM	11
12. SPECIFICATIONS	12
Accessories	12
Optional products	12

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 and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.



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.
- Be sure to replace the unit's terminal cover after connection completion. Because high voltage is applied to the 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.
- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down, causing personal injury and/or property damage.

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 objects 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 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.
- Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.
- Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.
- Contact your TOA dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

2. GENERAL DESCRIPTION

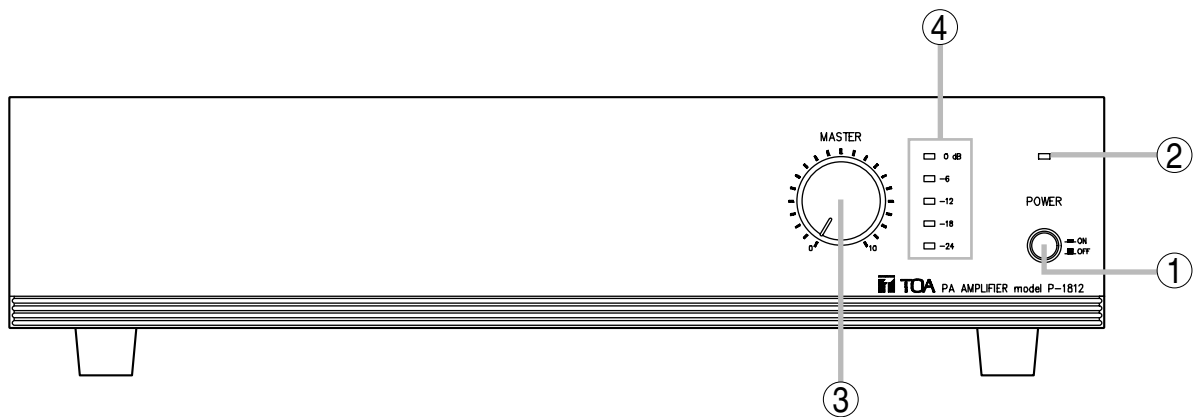
TOA's P-1812 PA Amplifier delivers 120 W power output and can be used in conjunction with the A-1800 series PA Amplifiers.

3. FEATURES

- Input level selector switch (–10 dB/0 dB).
- Mountable in a standard 19" equipment rack (2-unit size) using an optional rack mounting bracket.

4. NOMENCLATURE AND FUNCTIONS

[Front]



1. Power switch

Press to turn ON the power.
Press again to turn the power OFF.

2. Power indicator

Lights green when the power is switched on.

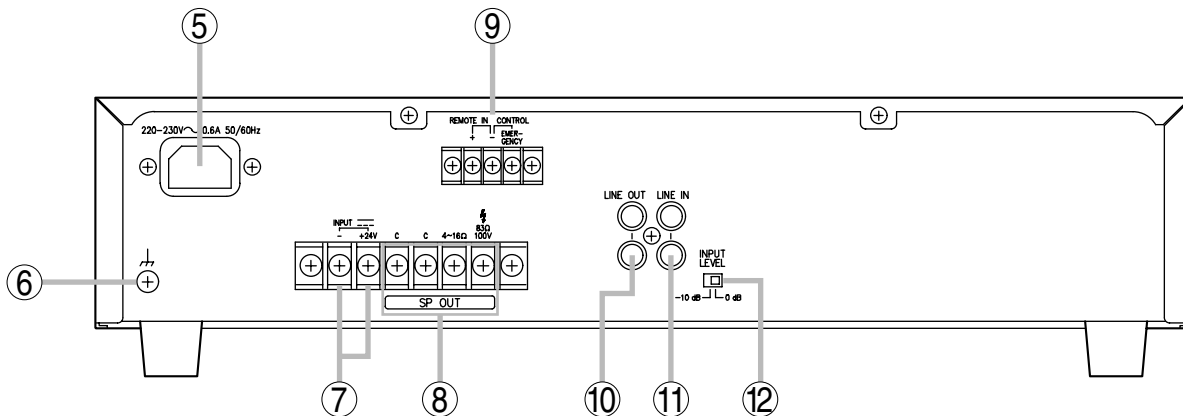
3. Master volume control

Adjusts the output signal level.

4. LED level meter

Indicates an output level.

[Rear]



5. AC inlet

Connects to the supplied power cord.

6. Ground terminal

A functional ground terminal.

7. DC input terminals

Connect to a 24 V DC power supply.

8. Output terminals

Connect to speakers.

9. Remote control terminal block

Permits the unit's power to be remotely turned ON or OFF by way of make contacts.
For details, refer to p. 6, Emergency Control Connection and Remote Power ON/OFF Control Connection.

10. Line output terminals [LINE OUT]

0 dB, 600 Ω , unbalanced.
Connect to the line input of other equipment.

11. Line input terminals [LINE IN]

0dB or -10 dB, 10 k Ω , balanced.
Connect to the line output of other equipment.

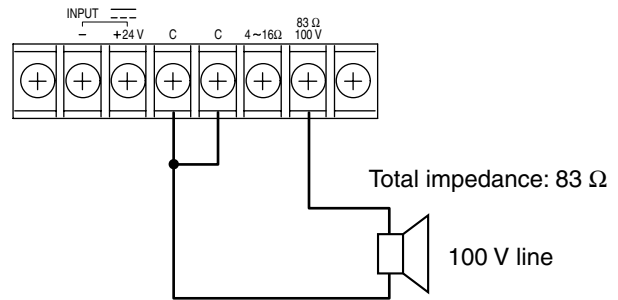
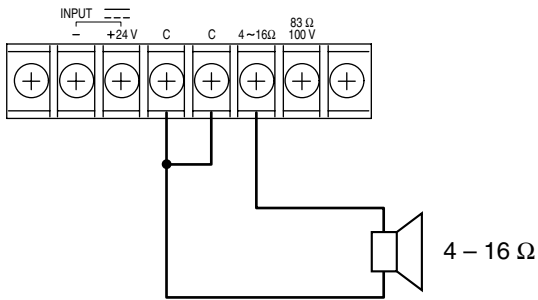
12. Input level selector switch

Selects either -10 dB or 0 dB for the Line input sensitivity level.

When using the unit in conjunction with the optional A-1800 series PA Amplifier, select 0 dB for easier adjustment of the sound volume.

5. CONNECTIONS

5.1. Speaker Connections



Notes

- Both the 4 – 16 Ω and 100 V terminals cannot be used at the same time.
- Impedances indicated in the figures represent the total speaker system (load) impedances.

⚠ WARNING

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.

5.2. Emergency Control Connection

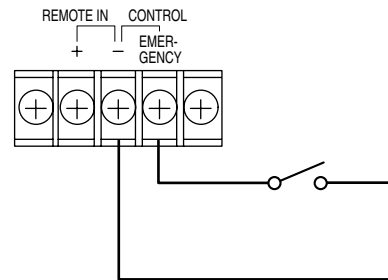
Shorting the Emergency Control terminals forcibly turns the unit's power ON, delivering signals at the Line Output and speaker output terminals bypassing the Master Volume Control.

Internal modification can change this Emergency control function as follows:

Shorting the control terminals forces the power to turn off, disabling broadcast from the unit.

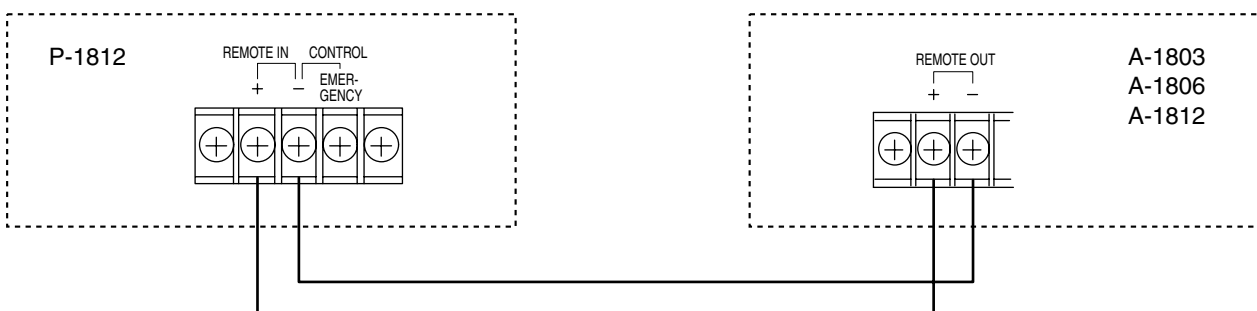
Opening the terminals returns the unit operation to the original broadcast status.

For this modification (p. 10 for details), please consult your TOA dealer.



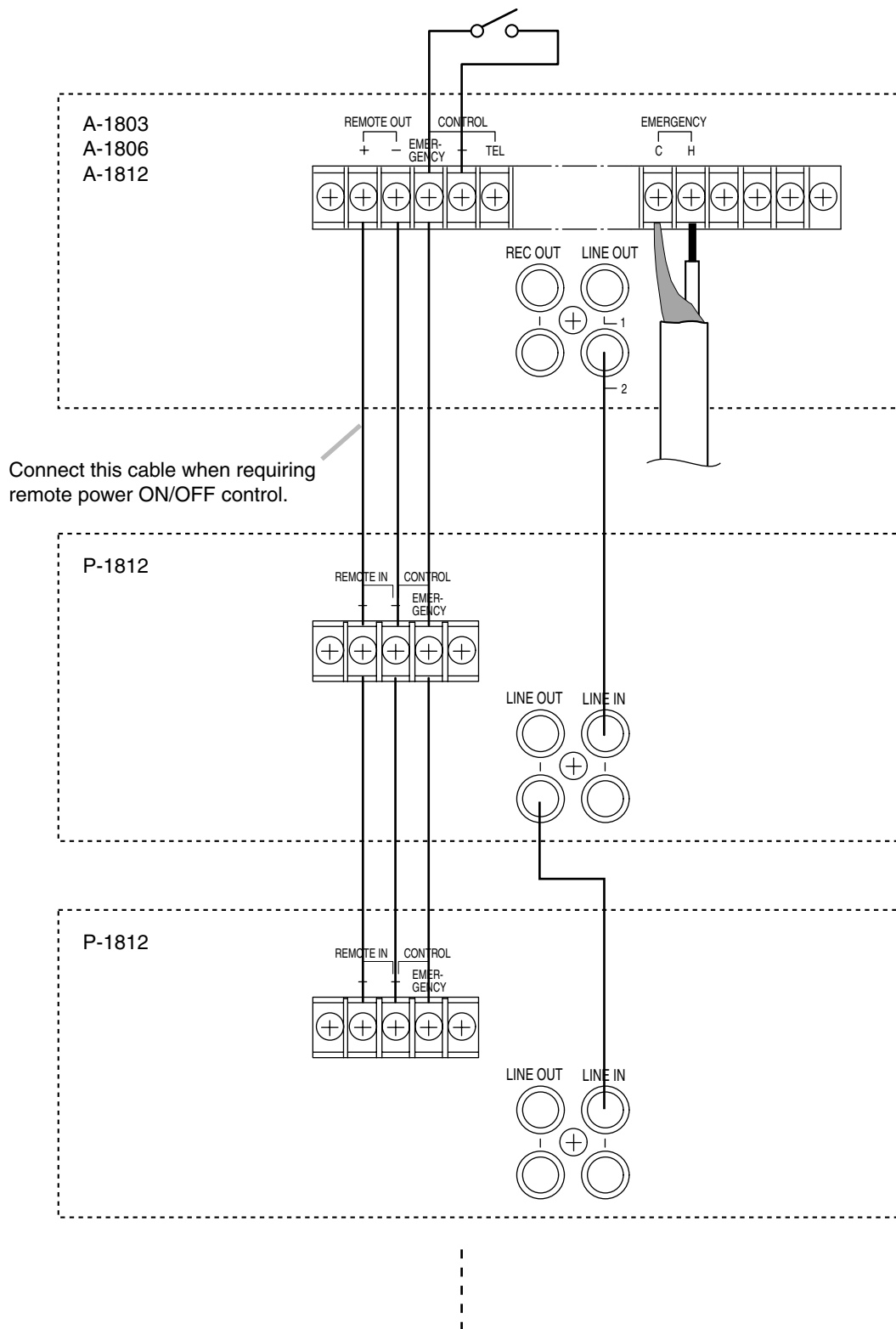
5.3. Remote Power ON/OFF Control Connection

With the P-1812's power turned OFF, it can be remotely turned ON from the optional A-1803, A-1806, or A-1812 PA Amplifier by making the Remote IN-OUT terminal connections as shown below. (This remote control operates only when the P-1812's power is turned OFF.)



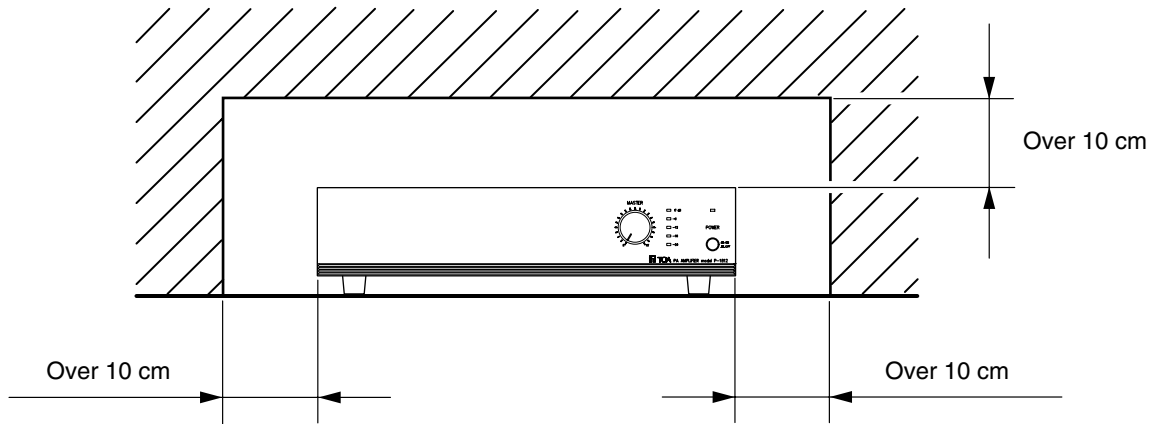
5.4. Emergency Input and Control Input Terminal Connections

While the Emergency control input terminals remain shorted, the power of all the connected A-1800 series and P-1812s is turned on, and the A-1800's ZONE 1 and 2 speaker outputs are enabled, allowing only Emergency input signals to go through bypassing the master volume control. Opening the control input terminals automatically returns the muted signals to the original level.



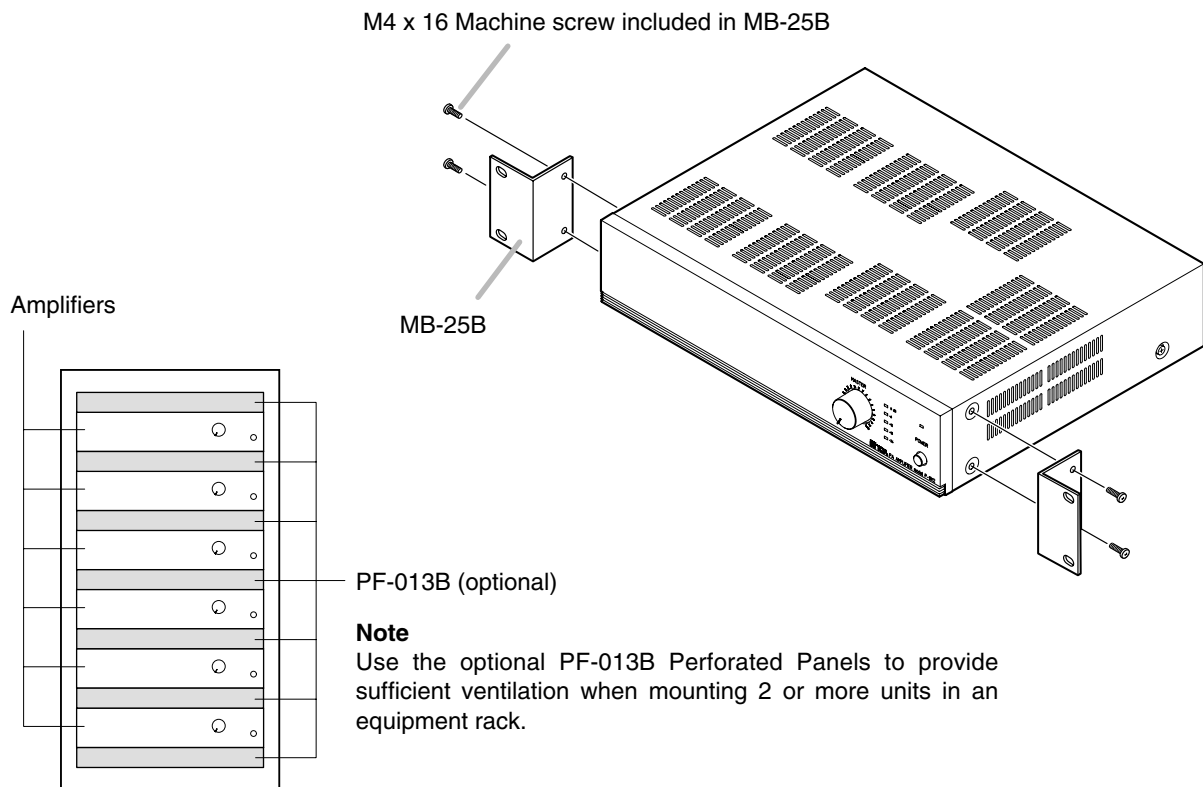
6. INSTALLATION

Keep the unit's all sides over 10 cm away from objects that may obstruct air flow to prevent the unit's internal temperature rise.



7. RACK MOUNTING

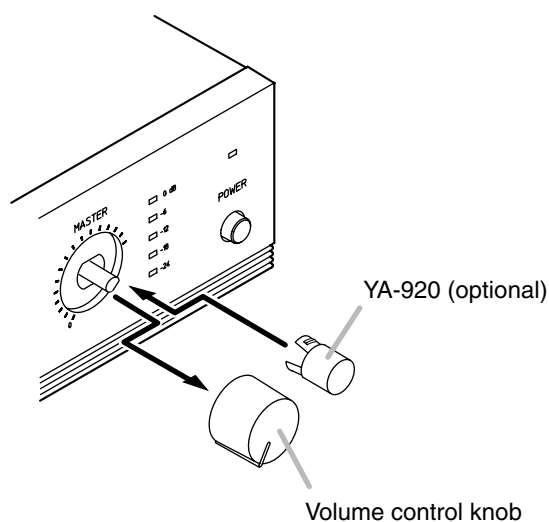
To mount the unit in a standard 19" equipment rack, use the optional MB-25B Rack Mounting Bracket. Attach the MB-25B to the unit using the supplied 4 screws. When using other screws, each screw must be shorter than 16 mm.



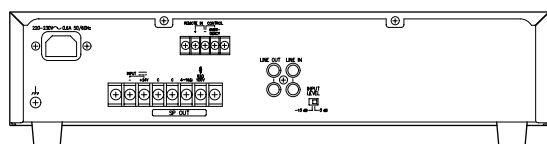
8. CONTROL SETTING

Output levels are adjustable with the Master Volume Control. For music play or announcements, adjust the Control so that the red indicator doesn't light. Note that the sound quality is downgraded when the red indicator remains lit.

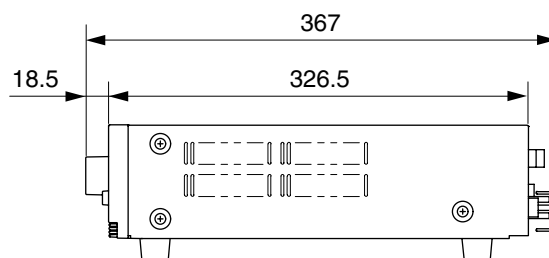
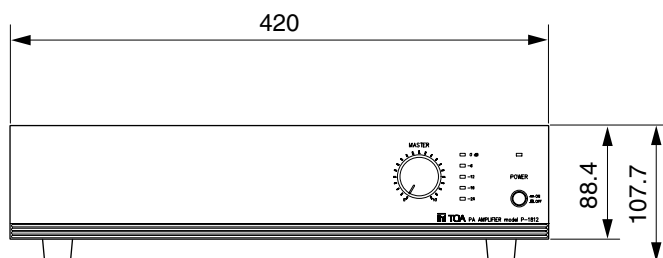
To prevent the accidental change of the setting of Master Volume Control, remove its knob after setting it to the desired position and attach the optional YA-920 Volume Control Cover instead.



9. DIMENSIONAL DIAGRAM



Unit: mm

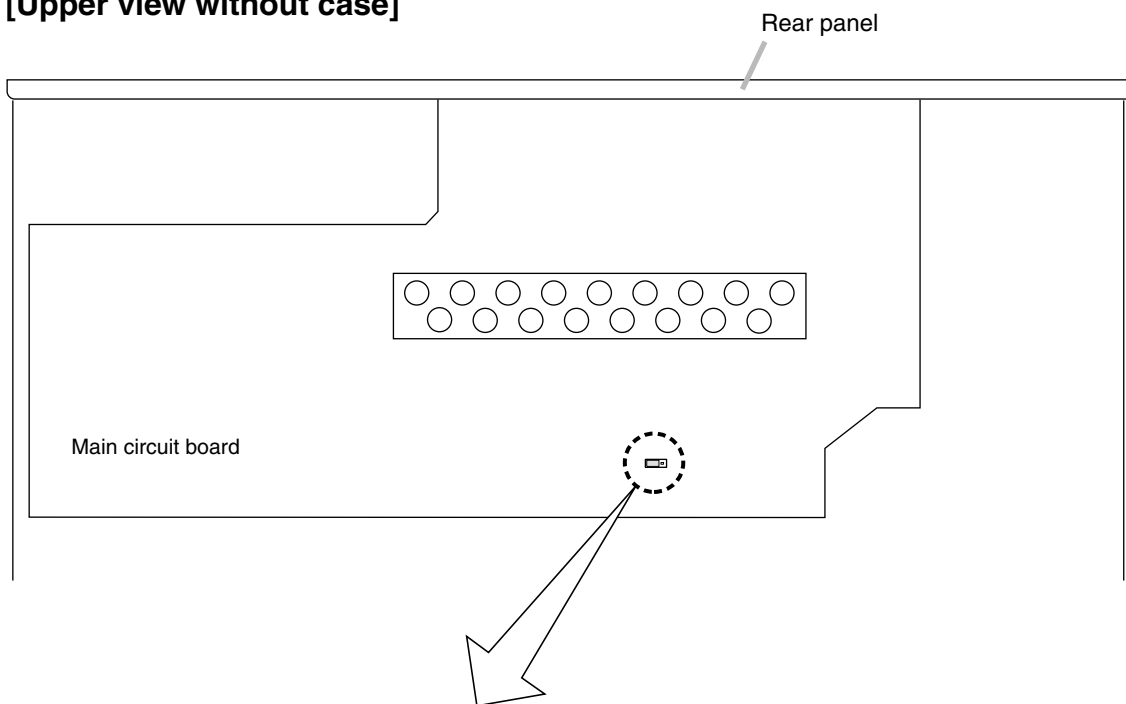


10. INTERNAL MODIFICATION

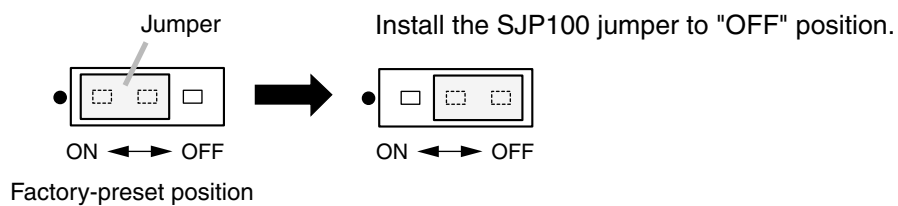
Leave the modification described here to a qualified service technician only.
Please consult your TOA dealer.

This modification enables the EMERGENCY Control to turn the power off and disable broadcast when activated.

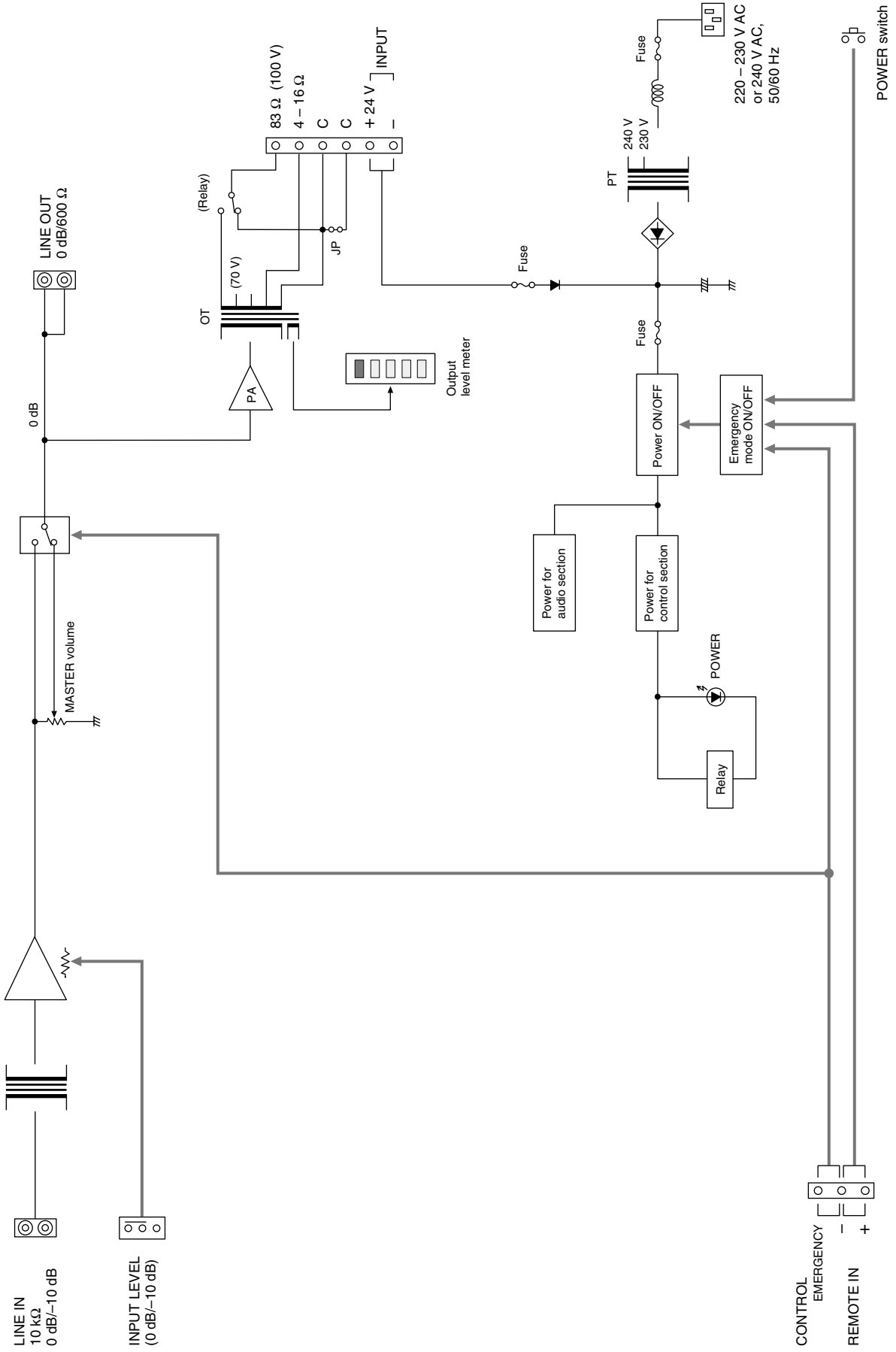
[Upper view without case]



SJP100 (EMERGENCY)



11. BLOCK DIAGRAM



12. SPECIFICATIONS

Power Source	220 – 230 V AC or 240 V AC, 50/60 Hz 24 V DC (M4 screw terminal*2)
Rated Output	120 W
Power/Current Consumption	AC operation: 258 W (rated output), 94 W (EN60065) Under 320 mA (when power switch is OFF) 24 V DC operation: 7.0 A (rated output), 2.7 A (EN60065)
Frequency Response	50 – 20,000 Hz (± 3 dB)
Distortion	Under 2% at 1 kHz, rated power
Input	LINE: 0 dB*1/–10 dB*1 (switchable), 10 k Ω , transformer balanced, RCA pin jack
Output	LINE: 0 dB*1, 600 Ω , unbalanced, RCA pin jack SPEAKER: High impedance (100 V line/83 Ω), M4 screw terminal*2 Low impedance (4 – 16 Ω), M4 screw terminal*2 Note: Both Low and High impedance terminals cannot be used at the same time.
S/N Ratio (Band Pass: 20 – 20,000 Hz)	Over 100 dB (Master volume: min) Over 97 dB (Master volume: max, INPUT LEVEL switch: 0 dB) Over 90 dB (Master volume: max, INPUT LEVEL switch: –10 dB)
Control Input	POWER REMOTE: No-voltage make contact input Open voltage: 24 V DC Short-circuit: under 1 mA, M3 screw terminal*2 EMERGENCY*3: No-voltage make contact input Open voltage: 24 V DC Short-circuit: under 1 mA, M3 screw terminal*2
Indicator	5-point LED output level meter, Power indicator LED
Operating Temperature	–10°C to +40°C
Finish	Panel: ABS resin, black, hair line Case: Steel plate, black
Dimensions	420 (w) x 107.7 (h) x 367 (d) mm
Weight	12.2 kg

*1 0 dB = 1 V

*2 Distance between barriers on the above screw terminals: 7 mm (M3 screw), 9 mm (M4 screw)

*3 Operation when activated can be selected from the following: Turning ON the unit's power (factory-preset) or OFF.

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

• Accessories

AC power cord 1
Terminal cover 1
Terminal cover mounting screw (M4 x 8) 2

• Optional products

Rack mounting bracket: MB-25B
Volume control cover: YA-920
Perforated panel: PF-013B