

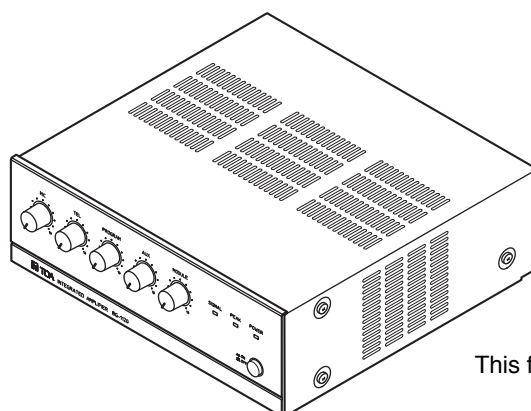
MIXER POWER AMPLIFIERS

BG-1015

BG-1030

BG-1060

BG-1120



This figure represents the BG-1120.

TABLE OF CONTENTS

1. IMPORTANT SAFETY INSTRUCTIONS	2	9.2. TEL Input Impedance Selection	12
2. SAFETY PRECAUTIONS	3	9.3. AUX, PROGRAM, MODULE (BGM) Output Selection	12
3. GENERAL DESCRIPTION	5	9.4. Phantom Power On/Off Setting for Microphone Input	12
4. FEATURES	5	9.5. Changing MIC and PROGRAM Input Types	
5. NOMENCLATURE AND FUNCTIONS		9.5.1. MIC input	13
Front	6	9.5.2. Program input	13
Rear	7	10. INSTALLATION	13
6. INPUT CONNECTIONS	8	11. RACK MOUNTING BRACKET ATTACHMENT ...	14
7. OUTPUT CONNECTIONS	9	12. CONTROL SETTINGS	14
8. PLUG-IN MODULE INPUT PORT		13. DIMENSIONAL DIAGRAM	15
8.1. Module Installation	10	14. BLOCK DIAGRAM	15
8.2. Module Selector Switch Settings	10	15. SPECIFICATIONS	16
9. EQUIPMENT SETTINGS		Accessories	16
9.1. Mute Function	10	Optional products	16
9.1.1. Mute operation A	11		
9.1.2. Mute operation B	11		

Thank you for purchasing TOA's Mixer Power Amplifier.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

1. IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

INSTRUCTIONS ESSENTIELLES POUR LA SÉCURITÉ

- Lire ces instructions.
- Conserver ces instructions pour référence ultérieure.
- Respecter tous les avertissements.
- Suivre toutes les instructions.
- Ne pas utiliser cet appareil à proximité d'eau.
- Nettoyer uniquement à l'aide d'un chiffon sec.
- Ne pas obstruer les orifices de ventilation. Installer conformément aux instructions du fabricant.
- Ne pas installer à proximité de sources de chaleur telles que des radiateurs, des registres thermiques, des chaudières ou d'autres appareils (notamment des amplificateurs) produisant de la chaleur.
- Ne pas contourner la fonction de sécurité de la fiche polarisée ou de mise à la terre. Une fiche polarisée est équipée de deux broches, dont l'une est plus large que l'autre. Une fiche de mise à la terre est équipée de deux broches et d'une troisième pour la mise à la terre. Cette dernière, la plus large, est prévue à des fins de sécurité. Si la fiche fournie ne peut être insérée dans la prise électrique souhaitée, consulter un électricien pour faire remplacer cette dernière.
- Protéger le cordon d'alimentation pour éviter qu'il ne soit piétiné ou pincé, notamment au niveau des fiches, des prises de courant ou de son point de sortie de l'appareil.
- Utiliser uniquement les accessoires spécifiés par le fabricant.
- Utiliser uniquement avec le chariot, support, trépied, la patte de montage ou la table spécifiés par le fabricant ou vendus avec l'appareil. En cas d'utilisation d'un chariot, manipuler la combinaison chariot/appareil pour éviter les blessures dues à un renversement.



- Débrancher cet appareil pendant les orages ainsi que lorsqu'il reste inutilisé pendant une période prolongée.
- La maintenance de l'appareil doit être confiée à un technicien après-vente qualifié. Une maintenance s'avère nécessaire si l'appareil est endommagé (au niveau du cordon d'alimentation ou de la fiche), a été mouillé par un liquide, un objet est tombé à l'intérieur, s'il a été exposé à la pluie ou l'humidité, s'il ne fonctionne pas normalement ou s'il est tombé.

2. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this 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.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instruction in the literature accompanying the appliance.



Le point d'exclamation à l'intérieur d'un triangle équilatéral avertit l'utilisateur de l'existence d'instructions d'utilisation et d'entretien (réparation) dans la documentation fournie avec l'appareil.



WARNING

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

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 output terminals, never touch these terminals to avoid electric shock.
- 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 and causing personal injury and/or property damage.
- External wiring connected to the terminals marked with ⚡ requires installation by an instructed person.
- The apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- The socket-outlet shall be installed near the equipment and the plug shall be easily accessible.
- Use the Rack mounting bracket MB-1000 (optional) when mounting the unit in an equipment rack. Remove four M4 x 8 screws on both sides of the unit, and mount the bracket there using the M4 x 16 screws (supplied with the MB-1000) instead.

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.

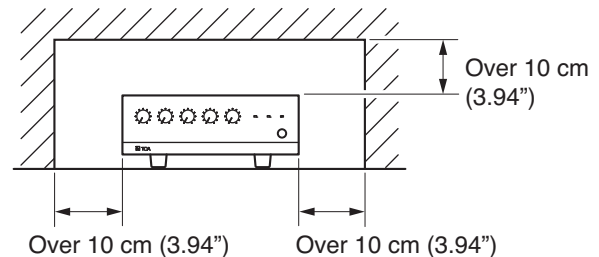


CAUTION

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

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.
- To avoid electric shocks, be sure to unplug the unit's power supply cord when connecting speakers.
- Be sure to follow the instructions below when rack-mounting the unit. Failure to do so may cause a fire or personal injury.
 - Install the equipment rack on a stable, hard floor. Fix it with anchor bolts or take other arrangements to prevent it from falling down.
 - When connecting the unit's power cord to an AC outlet, use the AC outlet with current capacity allowable to the unit.
 - No rack-mounting screws are supplied with the unit. Separately prepare the appropriate screws for the rack.
- Keep the amplifier over 10 cm (3.94") away from objects that may obstruct air flow to prevent the unit's internal temperature rise.



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.
- 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.



The lighting flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



L'éclair accompagné d'un symbole représentant une pointe de flèche à l'intérieur d'un triangle équilatéral avertit l'utilisateur de la présence d'une "tension dangereuse" à l'intérieur de l'enceinte du téléviseur, dont la magnitude peut être suffisante pour constituer un risque de choc électrique pour les personnes.



ATTENTION

L'appareil ne doit pas être exposé aux éclaboussures ou écoulements et tous objets remplis de liquide, tels que vases, ne doivent pas être sur l'appareil.

3. GENERAL DESCRIPTION

TOA's BG-1015, BG-1030, BG-1060, and BG-1120 Mixer Power Amplifiers can mix up to a total of 5 independent input signals.

Power output is rated at 15 W for the BG-1015, 30 W for the BG-1030, 60 W for the BG-1060, and 120 W for the BG-1120.

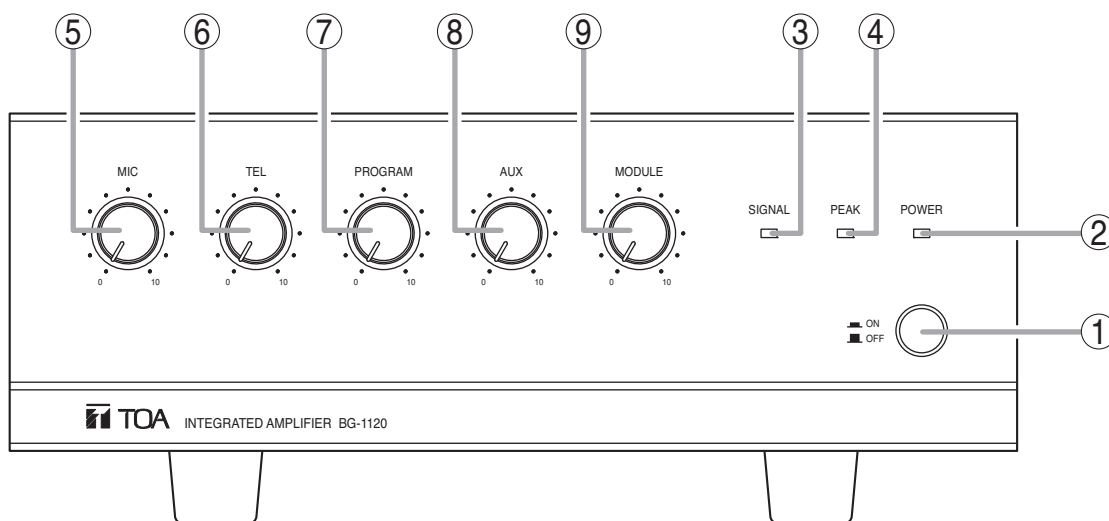
All units are ideal for use in sound systems requiring small power outputs.

4. FEATURES

- 3 balanced inputs, 1 unbalanced input, and 1 module input
- Phantom-powered microphone input
- Telephone paging input
- Compatible with all 900 Series modules (except for mute buss functions)
- Wide frequency response ranging from 50 Hz to 20 kHz
- Low distortion and low noise level
- Excellent output regulation
- Three different speaker outputs: 4 Ω , 25 V, and 70 V
- MOH (Music On-Hold) output: 1 V, 600 Ω
- 1 W output terminal: 8 Ω
- Independent bass and treble controls
- Input and output terminals for connection of signal processors
- Two different mute functions
- Overcurrent and thermal protection circuitries
- Compact and lightweight
- Desktop or 19" rack mountable

5. NOMENCLATURE AND FUNCTIONS

[Front]



This figure represents the BG-1120.

1. Power switch [ON / OFF]

Power is switched on and off with each depression of this switch.

Note

The amplifier comes into operation about 3 seconds after the power has been switched on.

2. Power indicator [POWER]

Lights green when the Power switch (1) is switched on.

3. Signal level indicator [SIGNAL]

Lights green when the speaker output level exceeds 20 dB.

4. Peak indicator [PEAK]

Lights red if output signals approach clipping level. If steady lit, turn down the corresponding Input volume control until the indicator flashes only intermittently.

5. Microphone input volume control [MIC]

Adjusts gain of microphone input. Turn the knob clockwise to increase the level and counterclockwise to decrease it.

6. Telephone paging input volume control [TEL]

Adjusts gain of telephone paging input. Turn the knob clockwise to increase the level and counterclockwise to decrease it.

7. Program input volume control [PROGRAM]

Adjusts gain of program input. Turn the knob clockwise to increase the level and counterclockwise to decrease it.

8. AUX input volume control [AUX]

Adjusts gain of AUX input. Turn the knob clockwise to increase the level and counterclockwise to decrease it.

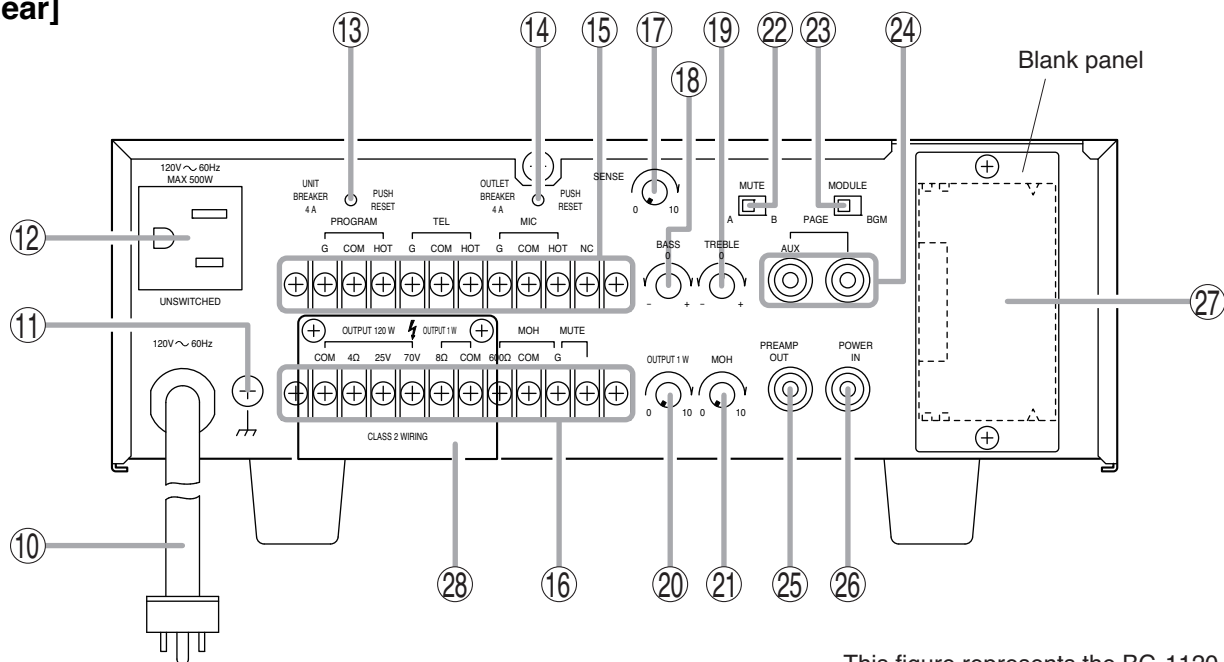
9. Module input volume control [MODULE]

Adjusts gain of Module input. Turn the knob clockwise to increase the level and counterclockwise to decrease it.

Protection function to be noted on operation

When the temperature of unit's internal heat sink exceeds the specified limit, the protection circuit disconnects the output from the inner circuit. Output is automatically restored when the heat sink cools down below the temperature limit.

[Rear]



This figure represents the BG-1120.

10. AC power cord

Connect this cord to an AC wall outlet of 120 V AC.

11. Ground terminal

Hum noise may be generated when external equipment is connected to the unit. Connecting this terminal to the functional ground terminal of the external equipment may reduce the hum noise.

12. AC outlet [UNSWITCHED]

Provides AC power to auxiliary equipment with power consumption of less than 500 W.

13. Breaker [UNIT]

Cuts off the AC power to the unit when its input current exceeds the allowable value.

Note

The yellow button in the breaker pops out to indicate that the breaker has tripped. After turning off the power and eliminating the cause of the breaker trip, press the button to reset the breaker.

14. Breaker [OUTLET]

Cuts off the AC power supply from the AC outlet if current output exceeds 4 A.

Note

The yellow button in the breaker pops out to indicate that the breaker has tripped. After turning off the power and eliminating the cause of the breaker trip, press the button to reset the breaker.

15. Input terminal block [PROGRAM, TEL, MIC]

Connect microphone, telephone, and program source to this terminal block. (Refer to p. 8, "Input Connections.")

16. Output terminal block [OUTPUT, MOH, MUTE]

Provides outputs for speaker (120 W output and 1 W output), MOH (Music On-Hold), and Mute control. (Refer to p. 9, "Output Connections" and p. 10, "Mute Function.")

17. Sensitivity control [SENSE]

Adjusts the sensitivity of the mute circuit. Turn clockwise to increase sensitivity, and counterclockwise to decrease it.

18. Bass control [BASS]

Adjusts the bass frequency band level of speaker outputs for MODULE (BGM), PROGRAM, and AUX input signals. Turn clockwise to increase bass output, and counterclockwise to decrease it. Bass level is flat at the center position.

19. Treble control [TREBLE]

Adjusts the treble frequency band level of speaker outputs for MODULE (BGM), PROGRAM, and AUX input signals. Turn clockwise to increase treble output, and counterclockwise to decrease it. Treble level is flat at the center position.

20. 1 W output volume control [OUTPUT 1 W]

Adjusts the 1 W OUTPUT level. Turn clockwise to increase the level and counterclockwise to decrease it.

21. MOH output volume control [MOH]

Adjusts the MOH (Music On-Hold) output signal level. Turn clockwise to increase the level and counterclockwise to decrease it.

22. Mute selector switch [MUTE]

Changes the type of mute operation.
(Refer to p. 10, "Mute Function.")

23. Module selector switch [MODULE]

Selects the output terminal for the module signal.
Shift the switch to the PAGE position when using the paging module, and to the BGM position when using the BGM module.

24. AUX input terminals [AUX]

An internal mixing type of jack.
-10 dB, 47 k Ω , unbalanced, RCA jack.
Used to connect external equipment input signals. (Refer to p. 8, "Input Connections.")

25. Preamplifier output terminal [PREAMP OUT]

0 dB, 600 Ω , unbalanced, RCA jack.
Used to feed output signals to external signal processing equipment such as limiters and equalizers.

26. Power amplifier input terminal [POWER IN]

0 dB, 10 k Ω , unbalanced, RCA jack.
Used to connect input signals from external signal processing equipment such as limiters and equalizers.

27. Module input port

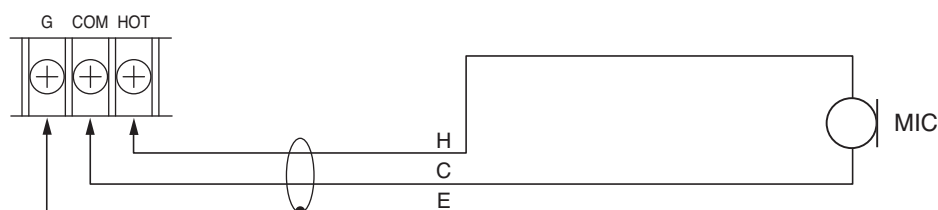
Accepts one of 900 series plug-in modules.
For the selection of the most appropriate module, refer to Plug-in Module Instruction manual.

28. Terminal cover

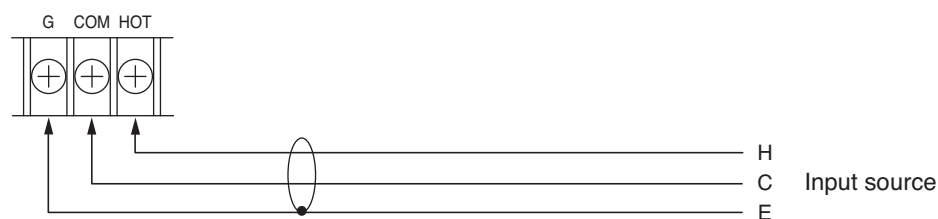
Make sure that the terminal cover is reattached after speaker output terminal connection completion.

6. INPUT CONNECTIONS

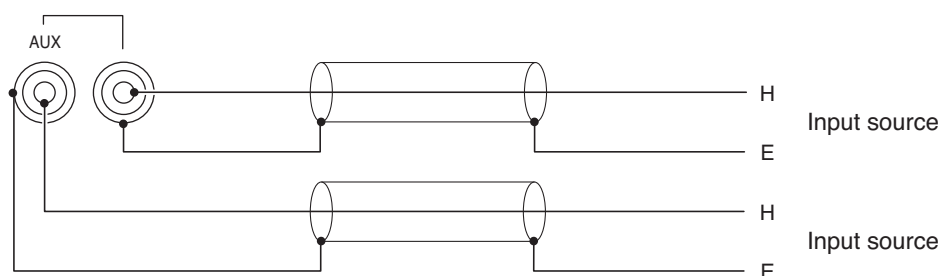
[MIC input connections]



[TEL and PROGRAM input connections]



[AUX input connections]

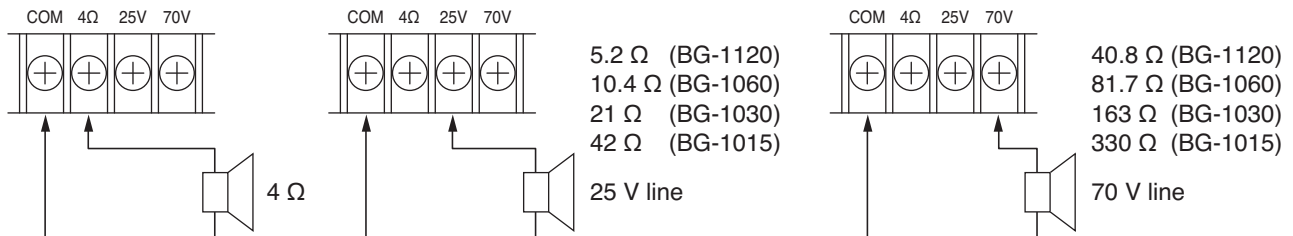


7. OUTPUT CONNECTIONS

[Output terminals]

Each amplifier has 3 speaker outputs: 4 Ω , 25 V and 70 V. Use only one of these outputs for connection. Class 2 wiring may be used.

Note: Impedances indicated in the diagram mean total speaker load impedance.



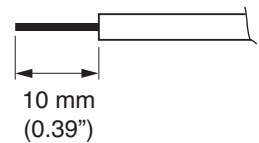
WARNING

The terminals marked with the symbol ⚡ are hazardous live. The external wiring to these terminals requires installation by an instructed person.

[Connection of speaker cable]

Step 1. Unscrew the terminal cover.

Step 2. Strip 10 mm (0.39") of insulative jacket from the end of the speaker cable, as shown in the figure at right.



Step 3. Connect speaker cables to the speaker output terminals.

Step 4. Replace the terminal cover.

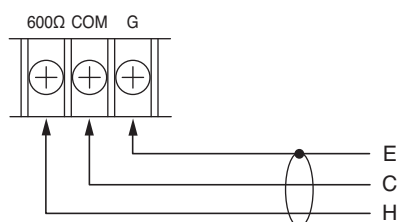


WARNING

Be sure to replace the terminal cover after connection completion. Because high voltage is generated at the speaker output terminals, never touch these terminals to avoid electric shock.

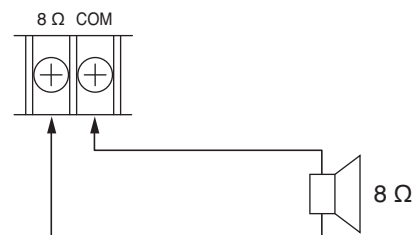
[MOH output connections]

The MOH output is rated at 1 V / 600 Ω .



[OUTPUT 1 W output connections]

The OUTPUT 1 W output is rated at 1 W / 8 Ω .



8. PLUG-IN MODULE INPUT PORT

A single port for TOA plug-in modules is located on the unit's rear panel. Any 900 Series plug-in module can be inserted into this port.

Note: Consult your nearest TOA dealer for selection of appropriate module types.

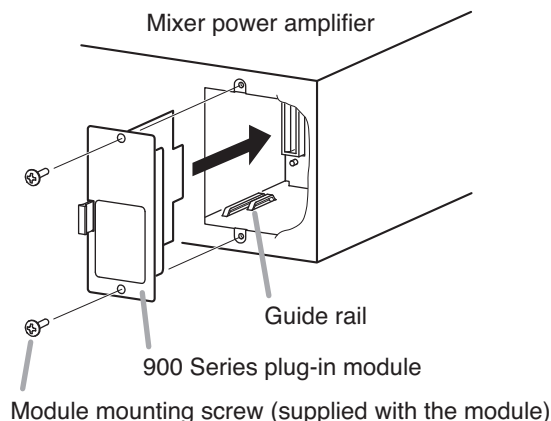
Be sure to turn off the power before performing the following operations:

8.1. Module Installation

Step 1. Remove the blank panel covering the module slot on the rear panel.

Step 2. Align the module board with the top and bottom guide rails, and press in.

Step 3. Using the screws supplied with the module, secure the module to the rear panel.

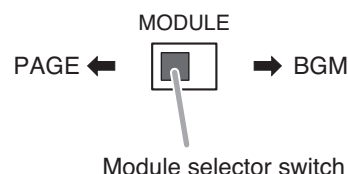


8.2. Module Selector Switch Settings

Shift the rear panel-mounted Module Selector Switch to either the PAGE or BGM position, depending on the output terminal to which the module signal is to be sent.

PAGE: Signals from the installed module are only sent to the speaker outputs.

BGM: The terminal to which the signal from the module is to be output differs depending on jumper wire settings inside the unit. (Refer to p. 12, "AUX, PROGRAM, MODULE (BGM) Output Selection.")



Set both the bass and treble controls to the center position when using the equalizer module.

Caution

Make sure that the supplied blank panel is placed over the module input port when the port is not in use.

9. EQUIPMENT SETTINGS

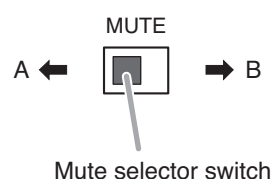
CAUTION

These servicing instructions are for use by qualified personnel only. To avoid electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

9.1. Mute Function

The unit features 2 different mute functions, A and B.

Mute A or B can be selected with the rear panel-mounted Mute Selector Switch.



9.1.1. Mute operation A

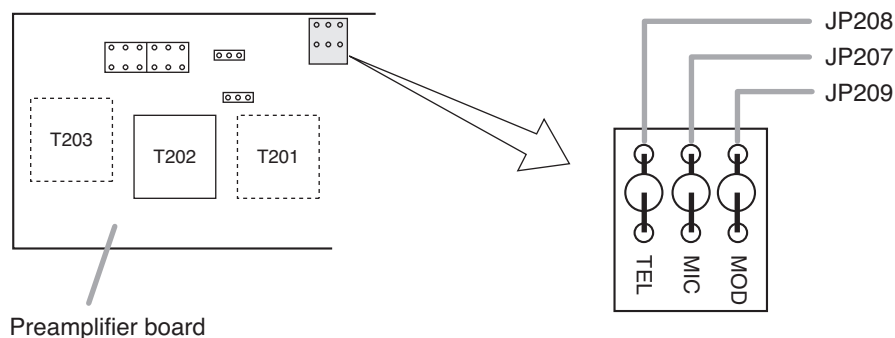
The mute function can be activated either by the TEL, MIC, or MODULE (PAGE) input signal, or by shorting the rear panel-mounted mute terminals.

[Mute signal settings]

Input signals to activate the mute function can be selected by the internal jumper wire settings. The TEL, MIC, and MODULE (PAGE) input signals are all factory-preset (Jumpers JP207, JP208, and JP209 are set.) as muting signals.

Cut off the jumper wire corresponding to the input signal to be disabled for muting.

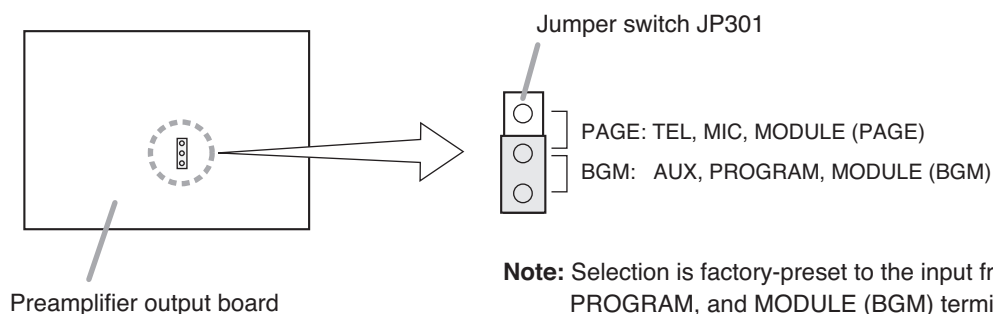
In any case, shorting the rear-mounted Mute terminals can also actuate the mute function.



Note: If Module Input is selected, the mute function can only be used when the Module Selector Switch is set to the PAGE position.

[Muted signal settings]

Use the unit's internal jumper switch JP301 to select the signal to be muted. Select either the input signal from the TEL, MIC, and MODULE (PAGE) terminals or from the AUX, PROGRAM, and MODULE (BGM) terminals as the signal to be muted.



Note: Selection is factory-preset to the input from AUX, PROGRAM, and MODULE (BGM) terminals.

9.1.2. Mute operation B

The mute function can be controlled by way of the rear panel-mounted Mute terminal.

Note: The mute function cannot be controlled by means of an input signal.

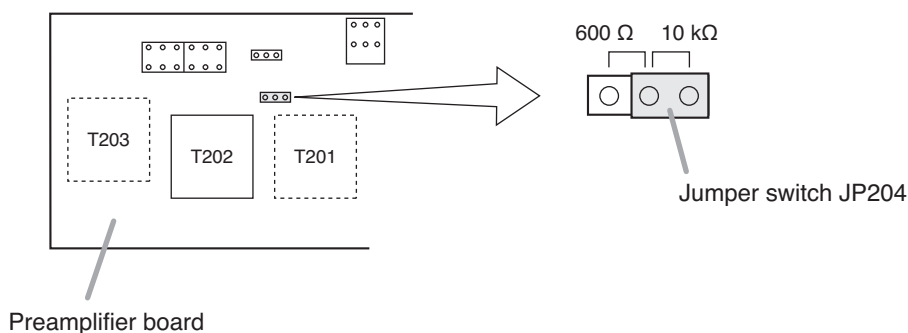
[Mute terminal]

✓ : Channel is ON. ✕ : Signal is muted.

Open		Close	
MIC	✕	MIC	✓
TEL		TEL	
MODULE (PAGE)		MODULE (PAGE)	
AUX	✓	AUX	✕
PROGRAM		PROGRAM	
MODULE (BGM)		MODULE (BGM)	

9.2. TEL Input Impedance Selection

The impedance is factory-preset to 10 k Ω . To switch to 600 Ω , change the position of the unit's internal jumper switch JP204.



9.3. AUX, PROGRAM, MODULE (BGM) Output Selection

Operations shown in the following tables can be enabled with the unit's internal jumper settings.

[OUTPUT 15 W / 30 W / 60 W / 120 W]

JP210	Jumpered	AUX:	ON
	Cut	AUX:	OFF
JP211	Jumpered	PROGRAM:	ON
	Cut	PROGRAM:	OFF
JP212	Jumpered	MODULE (BGM):	ON
	Cut	MODULE (BGM):	OFF

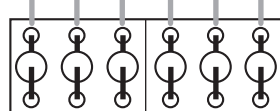
[OUTPUT 1 W, MOH]

JP213	Jumpered	AUX:	ON
	Cut	AUX:	OFF
JP214	Jumpered	PROGRAM:	ON
	Cut	PROGRAM:	OFF
JP215	Jumpered	MODULE (BGM):	ON
	Cut	MODULE (BGM):	OFF

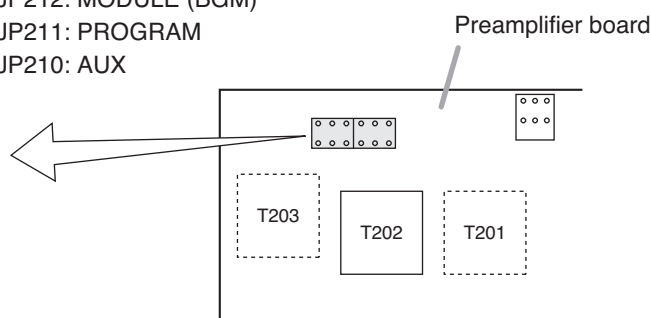
[OUTPUT 1 W, MOH]

JP213: AUX
JP214: PROGRAM
JP215: MODULE (BGM)

JP212: MODULE (BGM)
JP211: PROGRAM
JP210: AUX

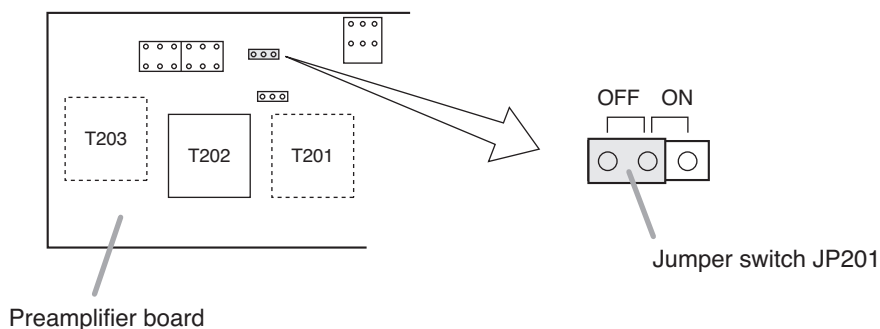


[OUTPUT 15 W / 30 W / 60 W / 120 W]



9.4. Phantom Power On/Off Setting for Microphone Input

The phantom power is set to ON or OFF with the unit's internal jumper switch JP201. It is factory-preset to OFF.

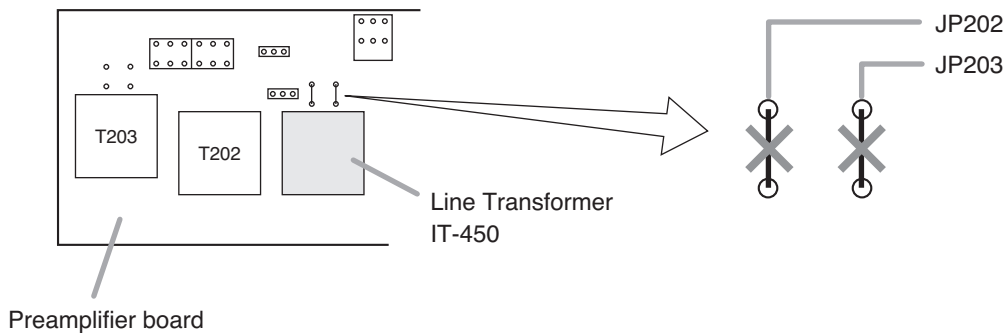


9.5. Changing MIC and PROGRAM Input Types

Both MIC and PROGRAM inputs can be changed from electronically balanced to transformer balanced types with the following procedures.

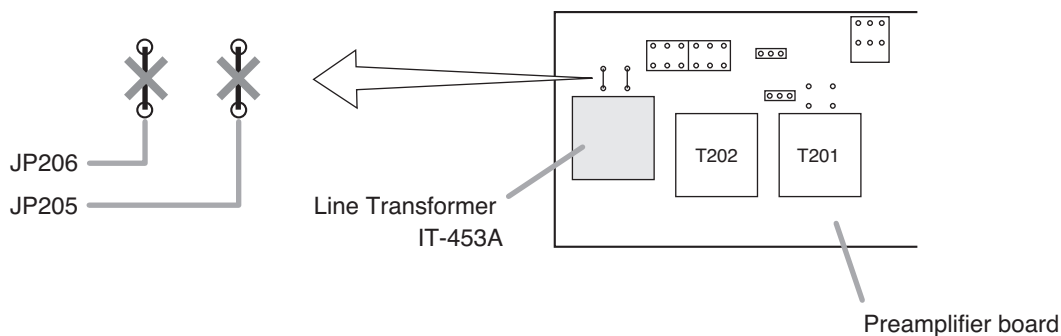
9.5.1. MIC input

- Install an optional IT-450 Line Transformer on the preamplifier board as shown below.
- Cut off both JP202 and JP203 jumper wires.



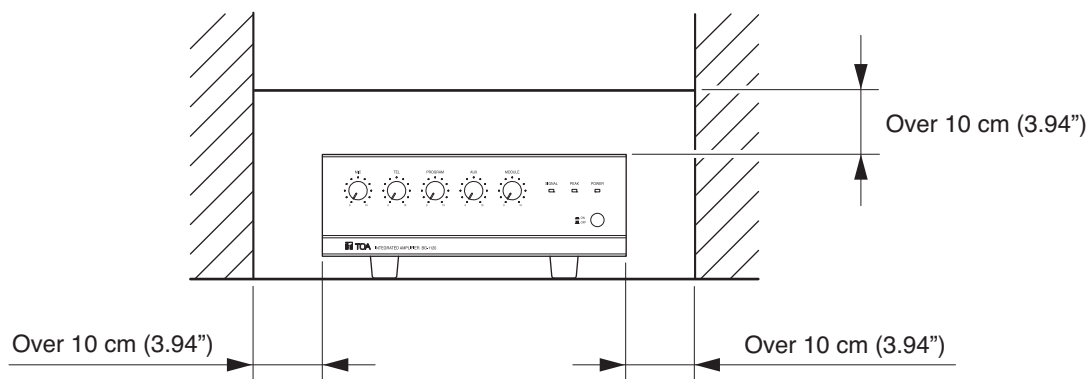
9.5.2. Program input

- Install an optional IT-453A Line Transformer on the preamplifier board as shown below.
- Cut off both JP205 and JP206 jumper wires.



10. INSTALLATION

Keep the amplifier over 10 cm (3.94") away from objects that may obstruct air flow to prevent the unit's internal temperature rise.

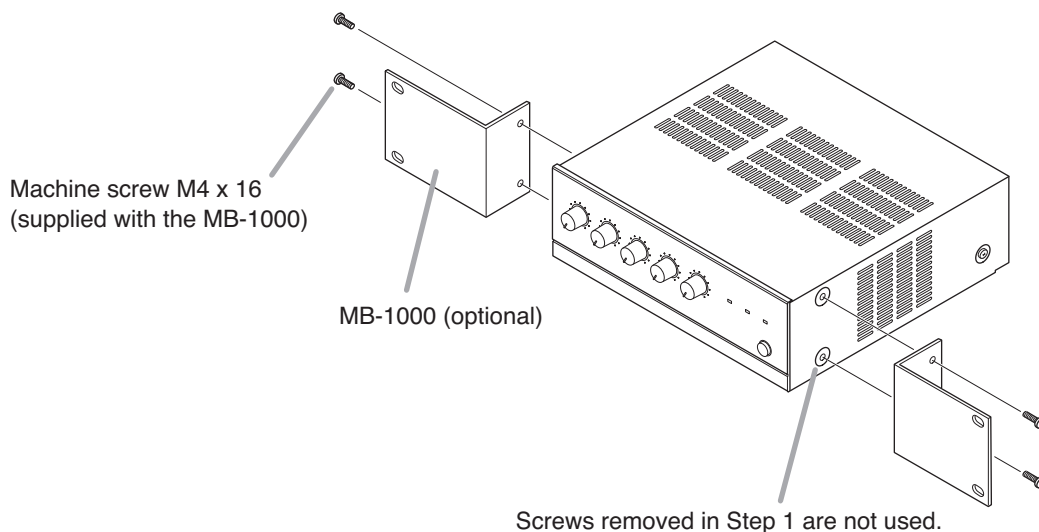


11. RACK MOUNTING BRACKET ATTACHMENT

To mount the amplifier in a standard 19" equipment rack, use the optional MB-1000 Rack Mounting Bracket. Attach the MB-1000 to the amplifier using the 4 supplied screws. When using other screws, ensure that each screw is shorter than 16 mm (0.63").

Step 1. Remove four M4 x 8 screws on both sides of the unit. The removed screws are not used.

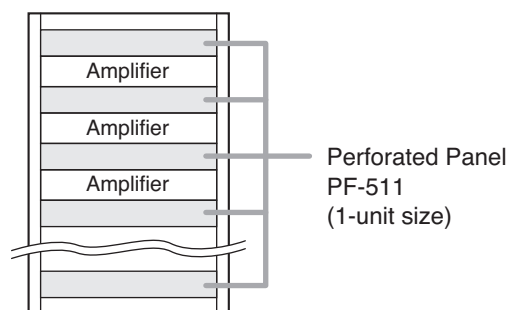
Step 2. Attach the MB-1000 to the unit using four M4 x 16 Machine screws supplied with the MB-1000.



Notes

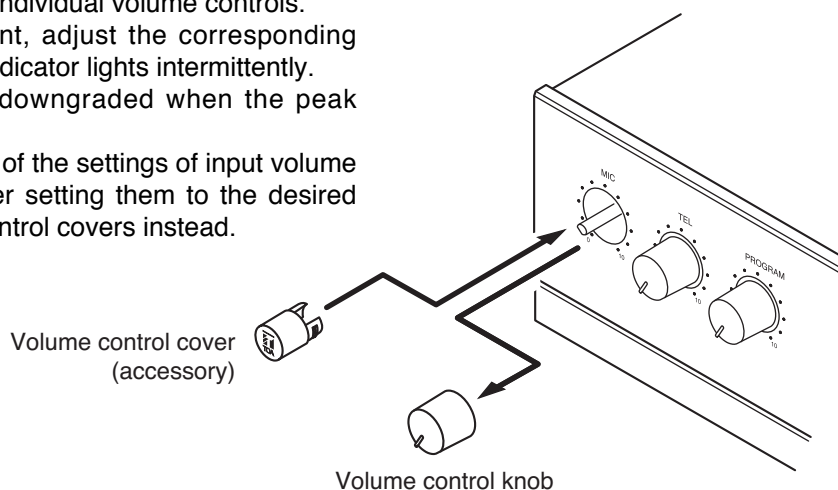
- Remove 4 plastic feet on the bottom surface when mounting the unit in a rack.
- Rack mounting screws are not supplied with the unit. Use the screws that are appropriate for the rack.
- When mounting the unit in an equipment rack, the inside of the rack must be sufficiently ventilated. To achieve sufficient ventilation, also mount the optional PF-511 Perforated Panel (1U*):
 - (1) at the top and the bottom of the rack, and
 - (2) above and below the unit.

* 1U size = 44.5 mm or 1.75" (reference size)

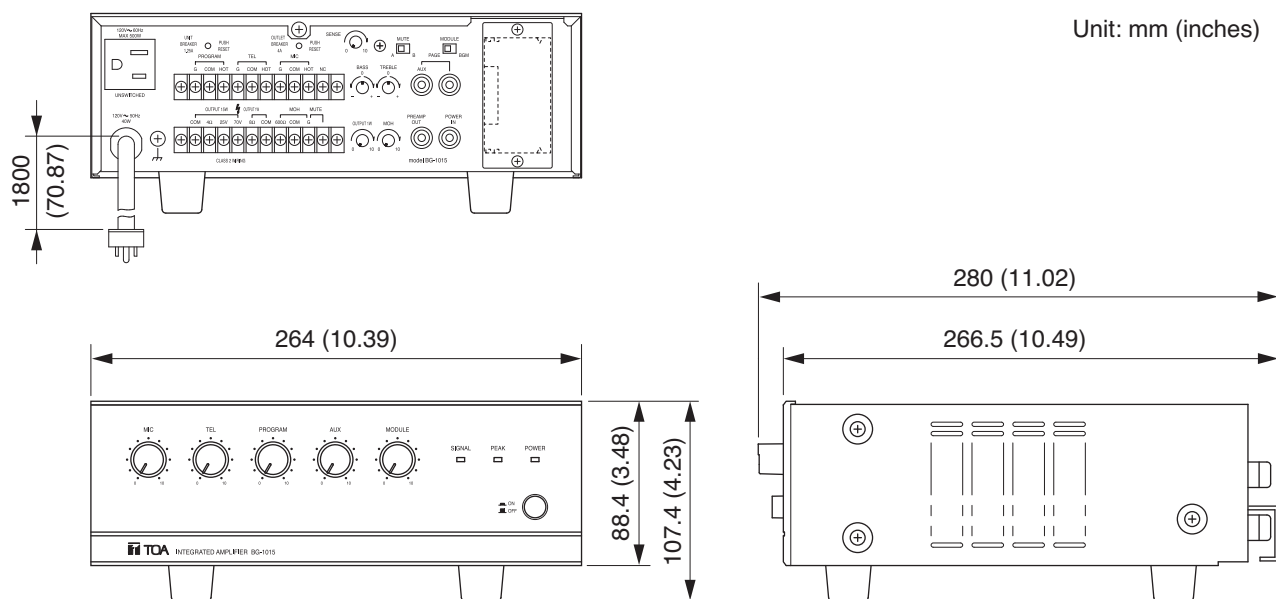


12. CONTROL SETTINGS

Output levels are adjustable with individual volume controls. For music play or announcement, adjust the corresponding volume control so that the peak indicator lights intermittently. Note that the sound quality is downgraded when the peak indicator remains lit. To prevent the accidental change of the settings of input volume controls, remove their knobs after setting them to the desired position and attach the volume control covers instead.

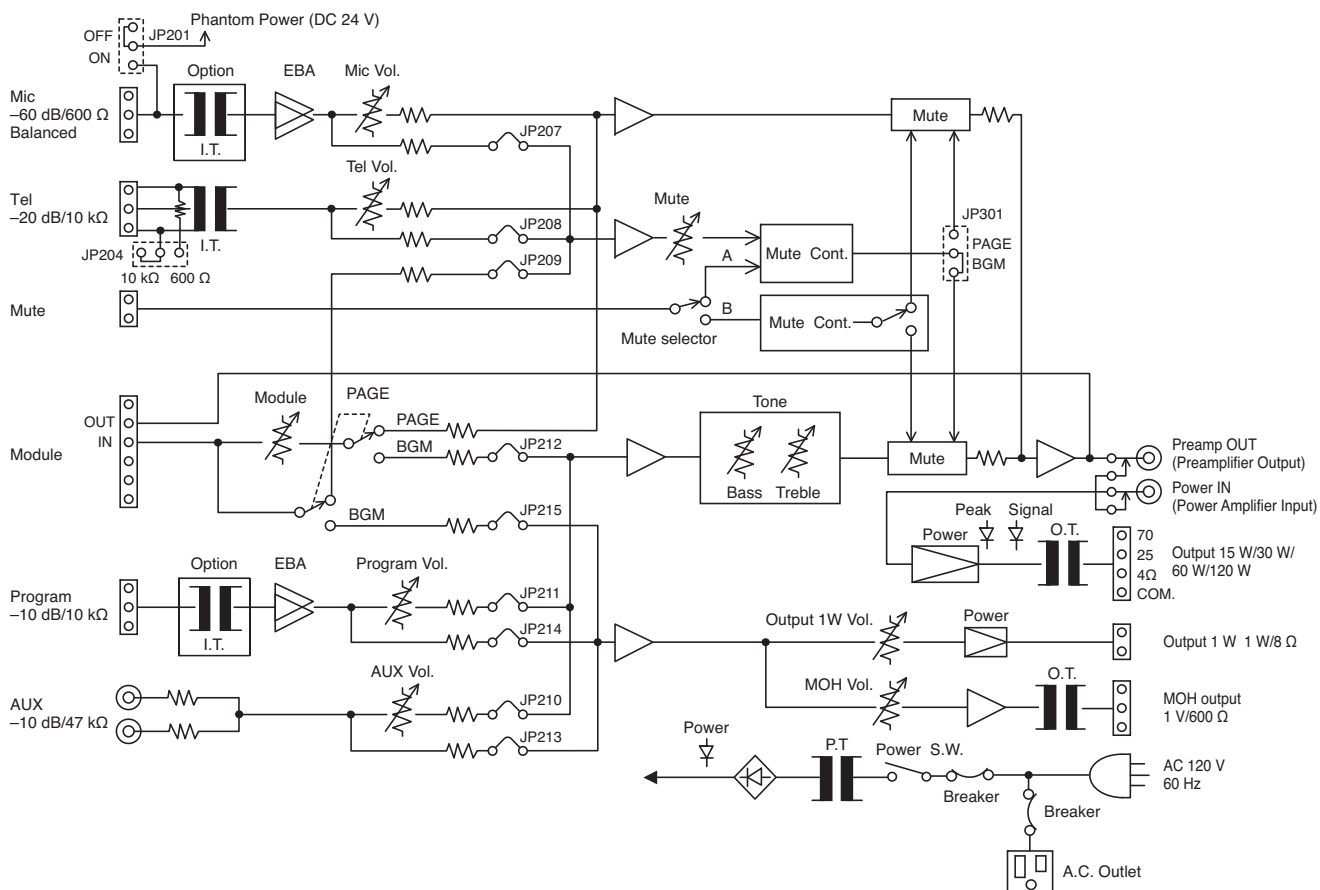


13. DIMENSIONAL DIAGRAM (Applicable to all models)



This figure represents the BG-1015.

14. BLOCK DIAGRAM



15. SPECIFICATIONS

Model No.	BG-1015	BG-1030	BG-1060	BG-1120
Power Source	120 V AC, 60 Hz			
Rated Output	15 W	30 W	60 W	120 W
Power Consumption				
Rated output	50 W	80 W	160 W	260 W
Based on cUL standards	40 W	60 W	100 W	150 W
Frequency Response	50 Hz – 20 kHz			
Total Harmonic Distortion	0.05% at 1 kHz, rated output			
Input	Mic: –60 dB ^{*1} , 600 Ω, electrically balanced, M3 screw terminal ^{*2} Tel: –20 dB ^{*1} , 10 kΩ/600 Ω, balanced, M3 screw terminal ^{*2} Program: –10 dB ^{*1} , 10 kΩ, electrically balanced, M3 screw terminal ^{*2} Aux: –10 dB ^{*1} , 47 kΩ, unbalanced, RCA jack (internal mixing) Module: –20 dB ^{*1} , 10 kΩ, unbalanced, card edge connector Power IN: 0 dB ^{*1} , 10 kΩ, unbalanced, RCA jack Mute: M3 screw terminal ^{*2}			
Output	Main: 4 Ω, 25 V and 70 V, balanced, M3 screw terminal ^{*2} Sub: 1 W/8 Ω, unbalanced, M3 screw terminal ^{*2} MOH: 0 dB ^{*1} , 600 Ω, balanced, M3 screw terminal ^{*2} Preamp OUT: 0 dB ^{*1} , 600 Ω, unbalanced, RCA jack			
Output Regulation	Under 2 dB, no load to full load			
S/N Ratio	Mic: 60 dB, Tel: 75 dB, Program: 75 dB, Aux: 75 dB, Module: 75 dB (Band Pass: 20 Hz – 20 kHz, Tone Controls: Centered)			
Tone Controls	Bass: ±10 dB at 100 Hz, Treble: ±10 dB at 10 kHz Controls affect only program input, aux input and module (BGM) input			
Cooling Fan Speed	—		Variable by heat sink temperature	
Indicator	Power LED, Signal LED, Peak LED			
Protection	Self protection, with 1 AC breaker (outside)			
Other Feature	Automatic electronic drive limiter Output disconnected for approx. 3 seconds after the unit is turned on			
Finish	Panel: ABS resin, black Case: Steel plate, black, paint			
Dimensions	264 (w) x 107.4 (h) x 280 (d) mm (10.39" x 4.23" x 11.02")			
Weight (without input module)	4.5 kg (9.92 lb)	4.8 kg (10.58 lb)	5.6 kg (12.35 lb)	6.4 kg (14.11 lb)

*1 0 dB = 1 V

*2 Distance between barriers on the above screw terminal: 6 mm (0.24")

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

• Accessories

Volume control cover 5

• Optional products

Line transformer: IT-450
 Line transformer: IT-453A
 Rack mounting bracket: MB-1000
 Perforated panel: PF-511



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