Operation Manual

Public Address Amplifier

PA-1000B



interM

Welcome

A personal welcome to you from the management and employees of Inter-M

All of the co-workers here at Inter-M are dedicated to providing excellent products with inherently good value, and we are delighted you have purchased one of our products.

We sincerely trust this product will provide years of satisfactory service, but if anything is not to your complete satisfaction, we will endeavor to make things right.

Welcome to Inter-M, and thank you for becoming part of our worldwide extended family!





This symbol 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.



This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Attentions: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant on une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.
Pour deconnecter completement l’appareil du reseau d’alimentation. deconnecter le cordon d’alimentation de la prise murale.
La prise du reseau d’alimentation doit demeurer aisement accessible.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

*WARNING FOR YOUR PROTECTION PLEASE READ THE FOLLOWING-WATER AND MOISTURE: Unit should not be used near water(e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so than objects do not fall and liquids are not spilled into the enclosure through openings.
*CLASS 2 WIRING (Adjacent to speaker terminal): The speaker output of this apparatus can exceed 10 Watts and could be a shock injury. Connection to speakers should be performed by a skilled person.
*Do not install this equipment in a confined space such as a book case or similar unit.
*Warning : To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
*This apparatus shall be connected to a mains socket outlet with a protective earthing connection.
*To completely disconnect this apparatus from the AC mains, disconnect the power supply cord plug from the AC receptacle.
*The mains plug of the power supply cord shall remain readily accessible.

CAUTION

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

NOTE

*This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Contents

Unpacking 2

Installation
- Environment 2
- Important Safety Instructions 2

Features 3
- Accessories 3

Operation 3

Front Panel 4

Rear Panel 5

Connecting Speakers 7

Applications 9

Block Diagram 10

Specifications 11

Service
- Procedures 12
- Schematic 12
- Parts List 12

Variations and Options 12

Warranty 12

Unpacking

Although your PA-1000B is neither complicated nor difficult to operate, we recommend you take a few minutes to read this brief manual and familiarize yourself with the important information regarding product features, setup and operation.

As with most electronic devices, we strongly recommend you retain the original packaging. In the unlikely event the product must be returned for servicing, the original packaging (or reasonable equivalent) is required.

Installation

Environment
Never place this product in an environment which could alter its performance or reduce its service life. Such environments usually include high levels of heat, dust, moisture, and vibration.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. 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.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. 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.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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.



Features

- VERSATILE AND CONVENIENT
Two Mic input channels with both XLR and phone jack, and an Aux input channel.

- ANNOUNCEMENT CHIME
Convenient four-tone chime for use with announcements. Can be operated remotely.

- PRIORITY MUTING
Mic1 input and chime mute other inputs when in use. Mute level is adjustable via rear panel control.

- TELEPHONE INPUT
Telephone input function for connection with telephone system.

Accessories

One detachable AC power cord is provided for use with this product.

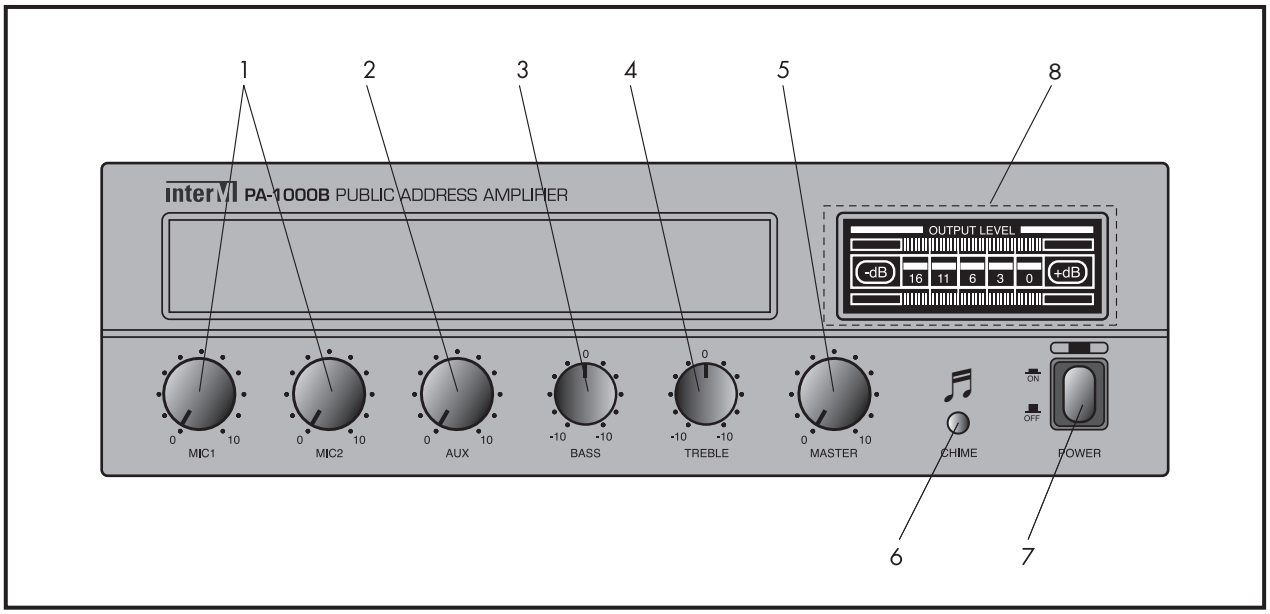
Operation

Make certain that speakers and input sources are properly connected before switching on.

Keep volume levels at minimum gain before switching on.

NOTE: The system's operation is delayed by approximately three seconds after pressing the AC Mains power switch. This is due to the built-in protection circuitry, designed to protect the speakers and other system components.

Front Panel



1. MIC 1 AND MIC 2 LEVEL
These knobs control the volume level of the inputs connected to the rear-panel Mic 1 and Mic 2 inputs.

2. AUX VOLUME LEVEL
This knob controls the volume level of the input connected to the rear-panel Aux Input.

3. BASS CONTROL
This knob controls the amount of cut(decrease) or boost(increase) to the lower frequencies. It is a 100Hz shelving type control at ±10dB.

4. TREBLE CONTROL
This knob controls the amount of cut(decrease) or boost(increase) to the higher frequencies. It is a 10kHz shelving type control at ±10dB.

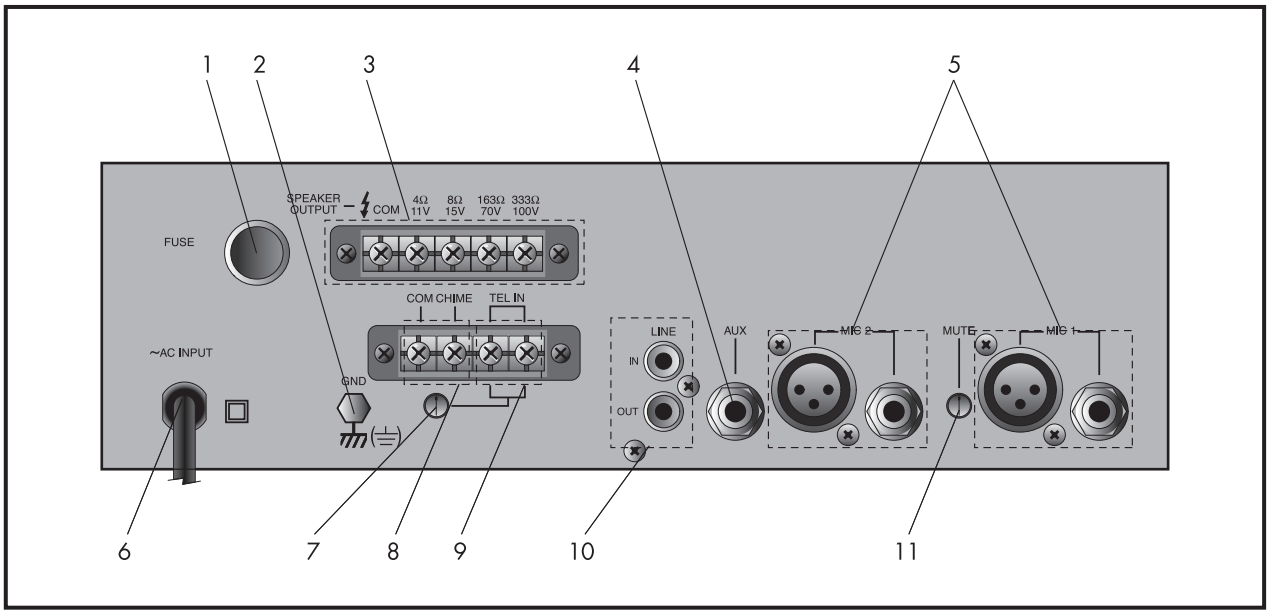
5. MASTER VOLUME
This rotary switch controls the overall output volume of the amplifier's output signal.

6. CHIME BUTTON
Pressing this switch activates the chime circuitry.

7. POWER SWITCH
Pressing this switch switches the unit on, as indicated by the power indicator LED above the switch. Pressing it again switches the unit off.

8. OUTPUT LEVEL DISPLAY
This multi-segment LED meter indicates the amplifier's output level in RMS.

Rear Panel



1. AC FUSE HOLDER

This holder contains the AC overload protection fuse. If the fuse has blown out, replace it with a fuse of the same type and rating.

2. GND TERMINAL

This grounding terminal is provided for connecting with the chassis of a turntable or other input device to reduce hum and other ground loop noise. It may also be connected to a true earth ground, such as an AC third-pin ground or water pipe, to further reduce ground loop noise.

3. SPEAKER OUTPUT TERMINAL STRIP

Connect speakers whose combined impedance is equal to or higher than the rated output impedance, as shown below.

Impedance/Output Voltage							
USA/CANADA & Associated Version				EC & Associated Version			
4Ω/11V	8Ω/15V	21Ω/25V	163Ω/70V	4Ω/11V	8Ω/15V	163Ω/70V	333Ω/100V

4. AUX INPUT

Input on unbalanced 1/4" phone jack accepts a standard line-level input. The level of this input is controlled by the front-panel Aux Level control.

5. MIC 1, 2 INPUTS

Inputs on balanced XLR and 1/4" phone jacks accept a standard mic-level or line-level input. The level of this input is controlled by the front-panel Mic 1 or Mic 2 Level control.

6. AC POWER CORD

This is the AC cord for connecting power. Do not bend, pull, twist, heat and cut by force. It may cause electric shock.

7. TEL IN LEVEL CONTROLS

The Tel In Control regulates the volume of the signal from an external telephone signal connected to the Tel In Terminal.

8. EXTERNAL CHIME TERMINAL

These terminals are used for remote control of the chime signal.

9. TELEPHONE IN TERMINAL

These terminals are used to connect to a telephone exchange system for paging purposes.

※ NOTE : When signal is present on the Telephone Input terminal, all other input signals (except Mic 1 and Chime) are muted.

10. LINE IN/OUT JACKS

These are line - level input and autput on unbalanced RCA jacks, provided for connection of extermal sources such as CD or cassette deck.

11. MUTE CONTROL

When signal is present at Mic 1 or Chime input, all other inputs are muted. This control adjusts the level of Mic 1 and Chime output when muting is in use.

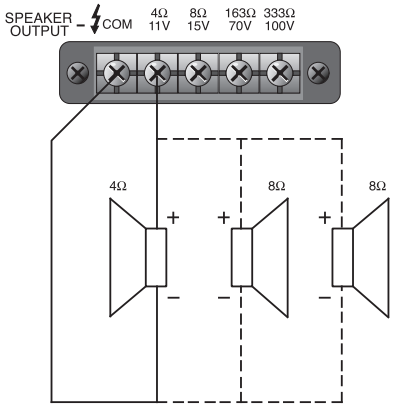
Connecting Speakers (EC & Associated Version)

Before connecting speakers disconnect the AC power cable. Make certain that the total impedance is not less than the rated impedance indicated.

For 4Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 4Ω terminal. See Figure 2-1 below.

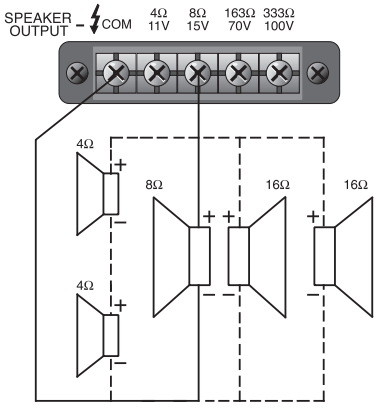
For 8Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 8Ω terminal. See Figure 2-2 below.

FOR 4Ω TERMINAL



(Figure 2-1)

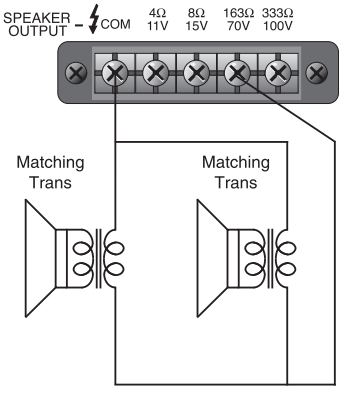
FOR 8Ω TERMINAL



(Figure 2-2)

For high-voltage distributed systems, connect with matching transformer as per Figures 2-3 and 2-4 below. Be certain that the total impedance does not equal less than the rated impedance.

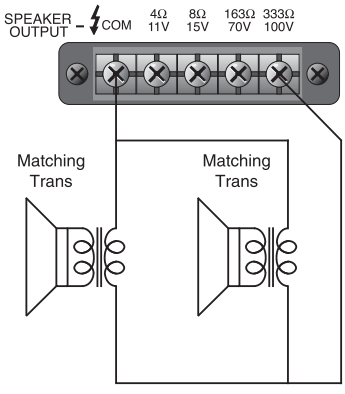
FOR 70V TERMINAL



Be sure that total impedance is not less than rated impedance.

(Figure 2-3)

FOR 100V TERMINAL



Be sure that total impedance is not less than rated impedance.

(Figure 2-4)

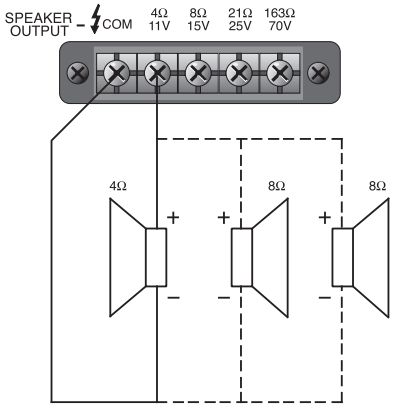
Connecting Speakers (USA/CANADA & Associated Version)

Before connecting speakers disconnect the AC power cable. Make certain that the total impedance is not less than the rated impedance indicated.

For 4Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 4Ω terminal. See Figure 2-1 below.

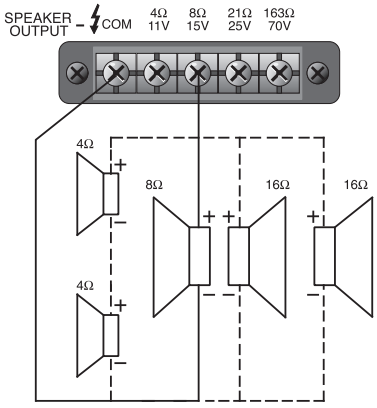
For 8Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 8Ω terminal. See Figure 2-2 below.

FOR 4Ω TERMINAL



(Figure 2-1)

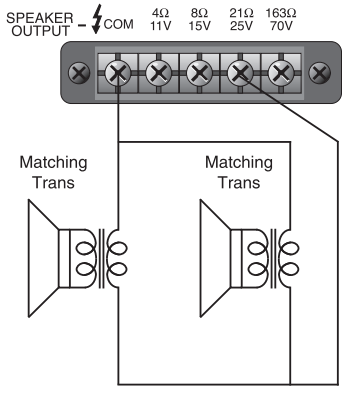
FOR 8Ω TERMINAL



(Figure 2-2)

For high-voltage distributed systems, connect with matching transformer as per Figures 2-3 and 2-4 below. Be certain that the total impedance does not equal less than the rated impedance.

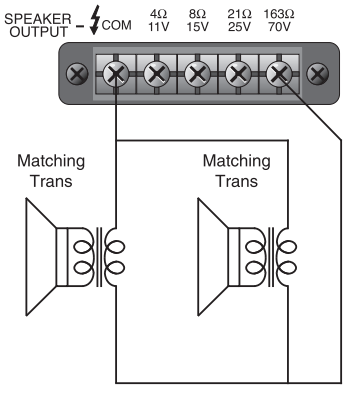
FOR 25V TERMINAL



Be sure that total impedance is not less than rated impedance.

(Figure 2-3)

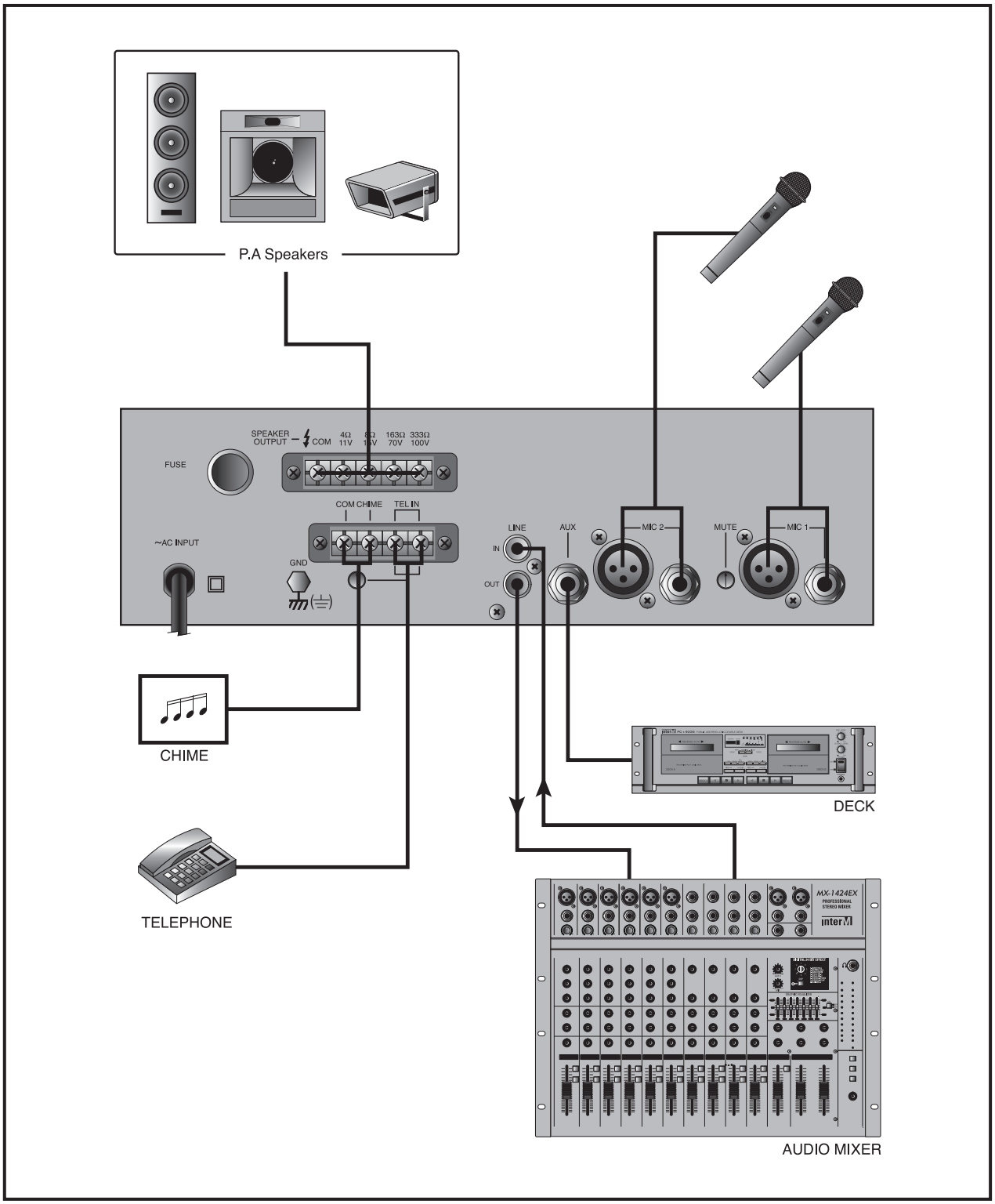
FOR 70V TERMINAL



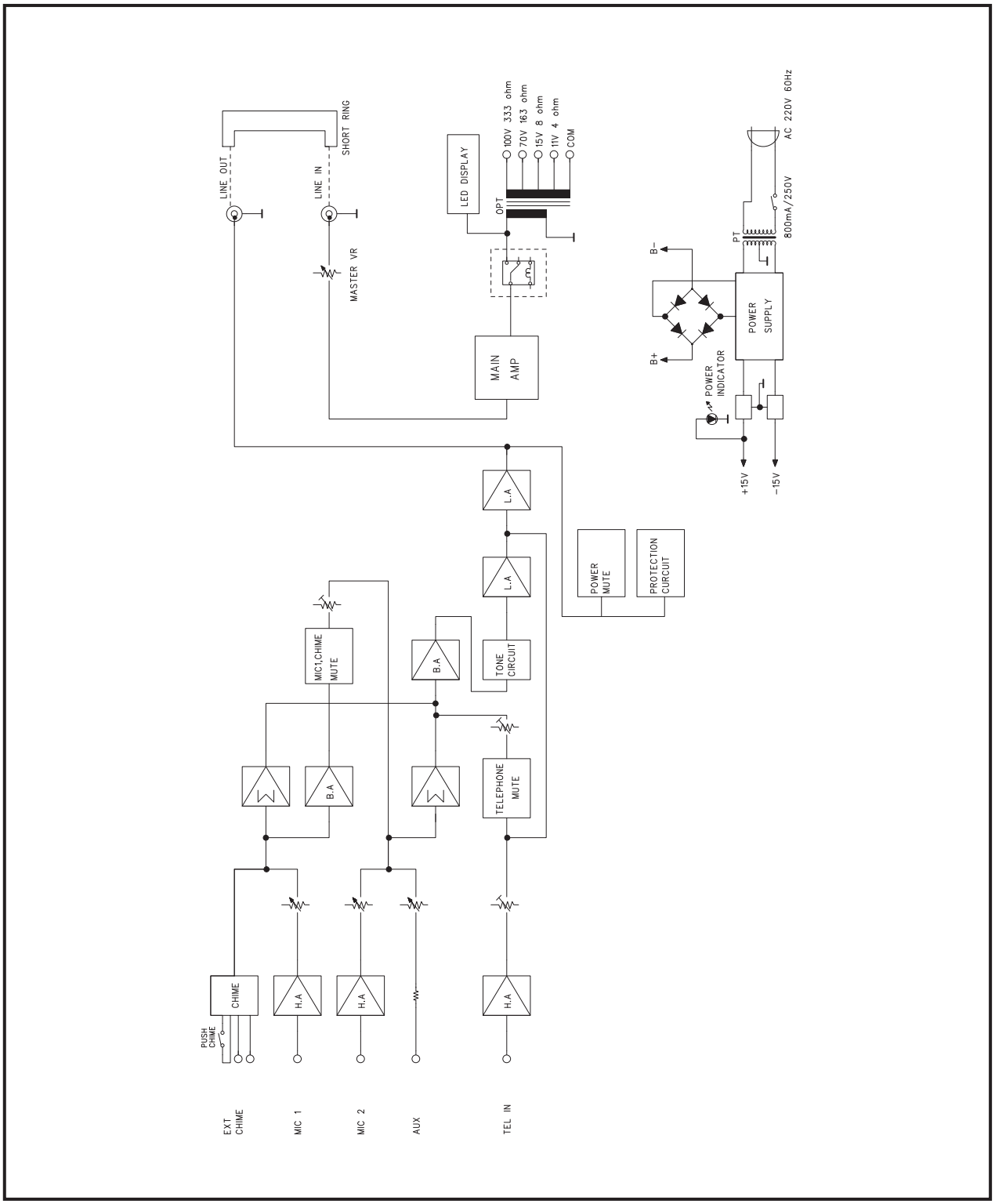
Be sure that total impedance is not less than rated impedance.

(Figure 2-4)

Applications



Block Diagram



Specifications

		PA-1000B
Rated Output Power		30W (RMS)
Input Sensitivity/Impedance	MIC1, 2	PL55 : 1mV(-60dB)/10kΩ
		XLR : 0.3mV(-70dB)/10kΩ
	AUX	0.775V(-2dB)/10kΩ
	TELEPHONE	0.775V(-2dB)/600Ω
	LINE N	1V(0dB)/10kΩ
T.H.D (@ 1kHz Rated Output)	MIC1, 2	Less than 1%
	AUX	Less than 1%
	TELEPHONE	Less than 1%
	LINE IN	Less than 0.1%
S/N	MIC 1, 2	Better than 50dB
	AUX	Better than 70dB
	TELEPHONE	Better than 70dB
	LINE IN	Better than 95dB
Frequency Response	MIC 1, 2	120Hz~10kHz
	AUX	120Hz~15kHz
	TELEPHONE	330Hz~3.3kHz
	LINE IN	80Hz~15kHz
Speaker Output/Impedance		11V/4Ω, 15.5V/8Ω, 70V/163Ω, 100V/333Ω
LINE OUT/Impedance		1V/10kΩ
TONE CONTROL	BASS(100Hz)	±10dB
	TREBLE(10kHz)	±10dB
Operating Temperature		-10°C ~ +40°C
Power Source		AC 100-120V or AC 220-240V, 50/60Hz (Supplied AC mains transformer depends on country requirements)
Power Consumption		45W
Weight (set)		4.6kg/10lb
Dimensions (set)		300(W) x 88(H) x 260(D)mm/ 11.8(W) x 3.5(H) x 10.2(D)in

* Design and specification are subject to be changed for the improvement of product quality without pre notice.

Service

Procedures
Ensure the problem is not related to operator error, or system devices that are external to this unit. Information provided in the troubleshooting portion of this manual may help with this process. Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

Schematic
A Schematic is available by contacting your warranty provider.

Parts List
A Parts List is available by contacting your warranty provider.

Variations and Options

Variations
Products supplied through legitimate sources are compatible with local AC power requirements.

Options
No optional items are available for this product.

Warranty

Warranty terms and conditions vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

To obtain specific warranty information and available service locations contact Inter-M directly(in Korea or the USA) or the authorized Inter-M Distributor for your specific country or region.

NOTE

NOTE

Inter-M, Ltd. (Korea) began operations in 1983.

Since then, Inter-M has grown to become one of the largest manufacturers
of professional audio and commercial sound electronics equipment in the world.

Inter-M has gained worldwide recognition for its own branded products,
as well as private label manufacturing of electronics sold under other names (OEM).

The company is no longer just a Korean company, but rather a global company
that is truly international in scope, with factories and offices in Korea and China,
and sales and marketing operations located in Japan, Europe, and the U.S.A.

With more than 850 employees around the globe,
Inter-M is well-poised for further growth and expansion.

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