

Operation Manual

Public Address Amplifier/Receiver **PA-1000B/1000BR**



interM

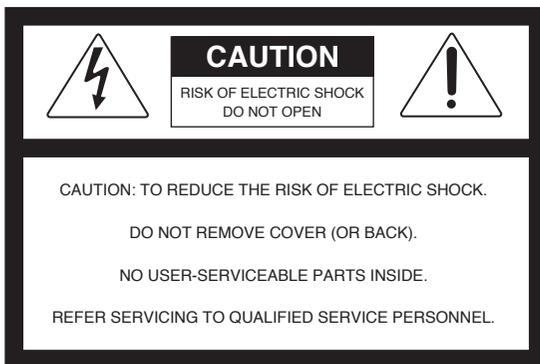
Welcome

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!



WARNING

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

*Do not install this equipment in a confined space such as a book case or similar unit.

*The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

*Worded: "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 that objects do not fall and liquids are not spilled into the enclosure through openings."

Service Instructions

*Worded: "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."

*Location: Instruction Manual.

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.



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 ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.

*** It can be heated up if you use this product in closed box or ill-ventilated place.**

Contents

Unpacking	2
Installation	
Environment	2
Important Safety Instructions	2
Features	3
Accessories	3
Operation	3
Front Panel	4
Tuner Section	5
Rear Panel	6
Connecting Speakers	8
Application of The Antenna	10
Applications	11
Block Diagram	12
Specifications	13
Service	
Procedures	14
Schematic	14
Parts List	14
Variations and Options	14
Warranty	14

Unpacking

Although your PA-1000B or PA-1000BR 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/MUSIC-ON-HOLD (PA-1000BR ONLY)

Telephone input with music-on-hold function for connection with telephone system.

- DIGITAL TUNER

Easy-to-use, fully digital AM/FM tuner with 30 memory locations for storing your favorite stations.

Accessories

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

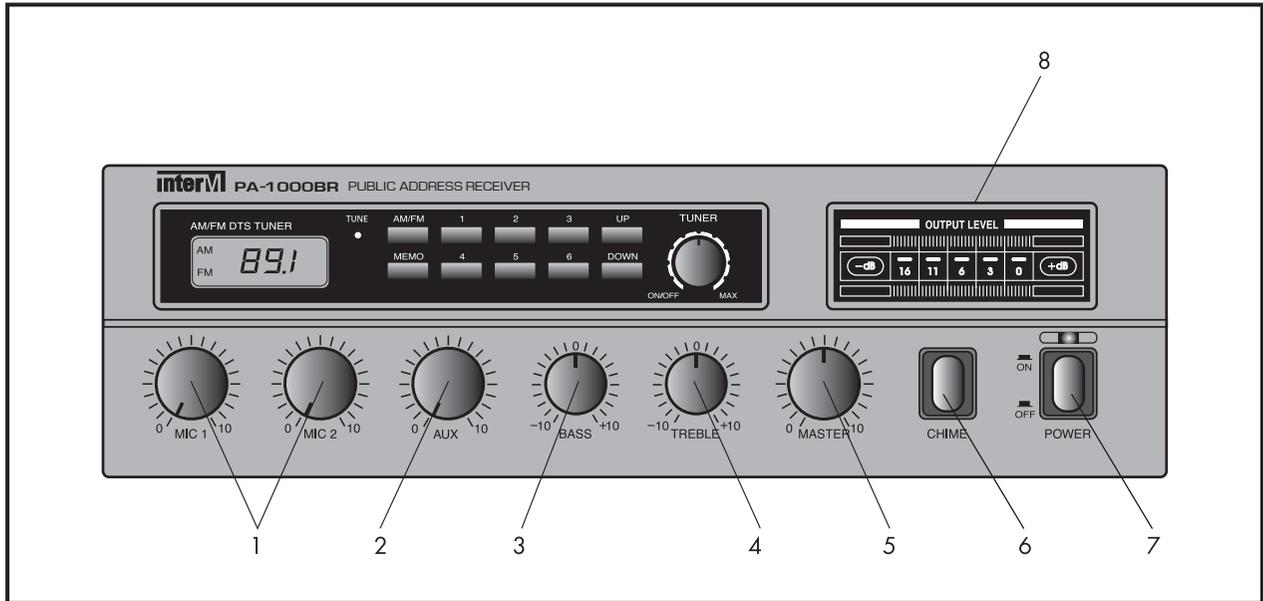
Operation

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 $\pm 10\text{dB}$.

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 $\pm 10\text{dB}$.

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.

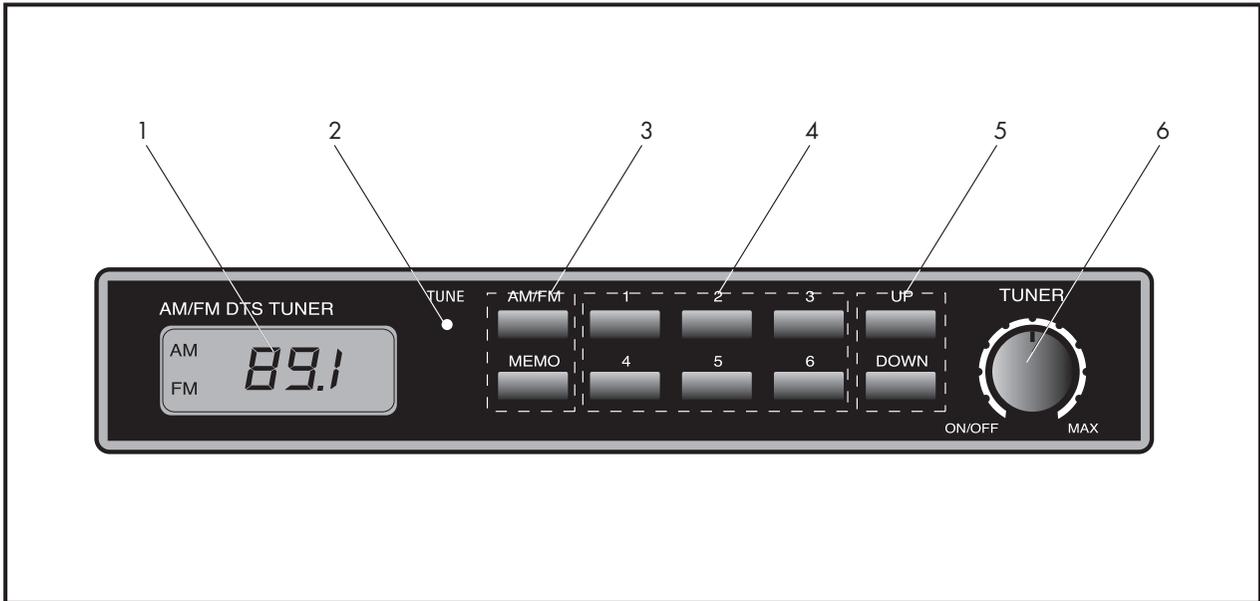
7. POWER SWITCH

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.

Tuner Section (PA-1000BR ONLY)



1. TUNING FREQUENCY DISPLAY

Displays the current frequency of the tuner.

2. TUNING LED

This indicator lights when the digital tuner has locked onto a signal.

3. AM/FM BAND SELECTOR AND MEMORY SWITCHES

This AM/FM Band Selector Switch is used to select the AM or FM frequency band. Pressing the Memory Switch followed by one of the six Address Select switches will enter the currently selected frequency into the designated memory address.

4. ADDRESS SELECT SWITCHES

These switches select between the six memory address banks used to store radio frequency presets. Each bank can hold up to five individual presets – three FM (F1, F2, F3) and two AM (A1, A2), for a total of 30 presets.

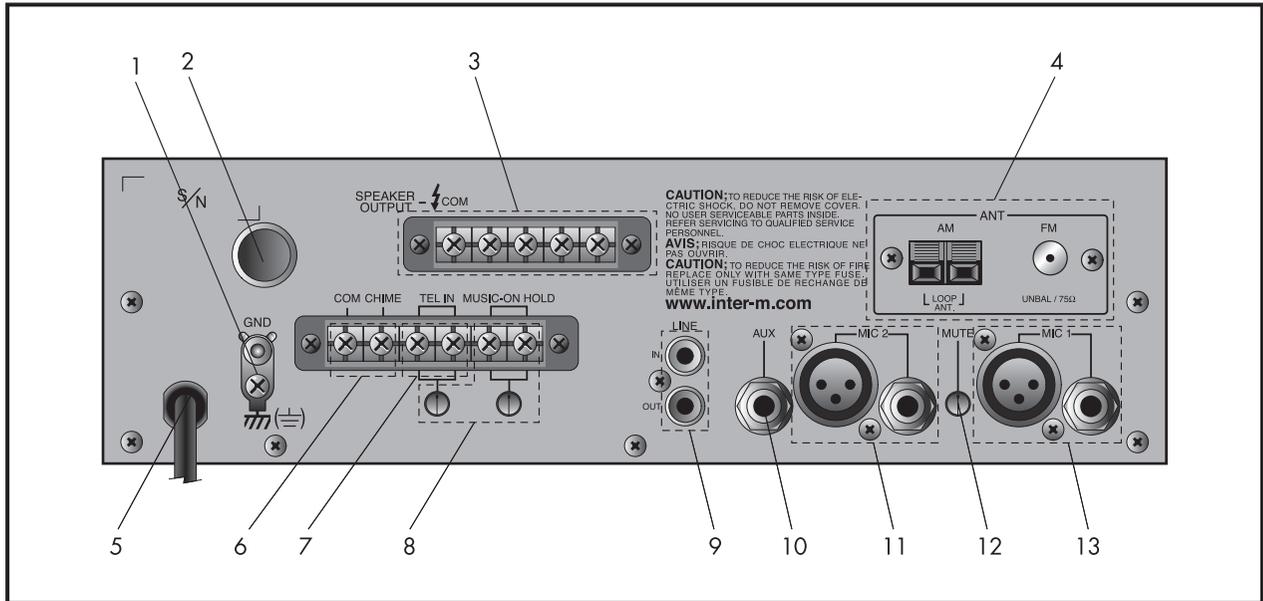
5. UP AND DOWN SWITCHES

Pressing these switches will move the tuner to the next active frequency. Holding the switch down for more than one-half second will activate "Auto-Scan" mode, causing the tuner to scan, pausing for a few seconds at each active frequency. Pressing the Up or Down switch again will de-activate "Auto-Scan" mode.

6. TUNER LEVEL

This knob controls the tuner output level. Rotating the knob fully counter-clockwise switches the tuner section off.

Rear Panel



1. 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.

2. 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.

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. AM/FM ANTENNA TERMINALS (PA-1000BR ONLY)

The FM terminal accepts a 75 Ohm Coaxial cable that terminates at an FM antenna.

The AM terminal accepts the lead wires of the provided AM antenna (or other suitable antenna). Antenna position may affect performance so it may be necessary to reposition the antenna for the best reception.

5. AC POWER CABLE

Connect this cable to your AC outlet.

6. EXTERNAL CHIME TERMINAL

These terminals are provided for connection of an external chime generator, such as the Inter-M PE-9103N. It may also be used for remote control of the chime signal.

7. 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.

8. MUSIC-ON-HOLD/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.

The Music-on-Hold Control regulates the volume of the signal from the internal tuner (PA-1000BR only), as fed to the telephone connection.

9. LINE IN/OUT JACKS

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

10. 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.

11. MIC 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 2 Level control.

12. 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.

13. MIC 1 INPUTS

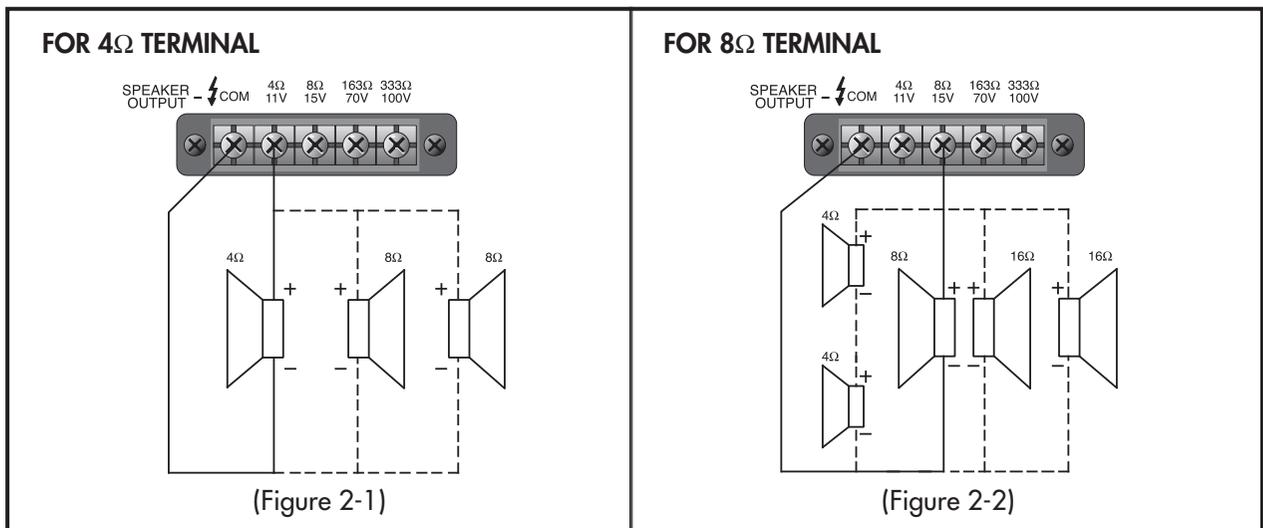
Inputs on balanced XLR and 1/4" phone jacks accept a standard mic-level or line-level input. The level of this input is controlled by the front-panel Mic 1 Level control.

Connecting Speakers (EC & Associated Version)

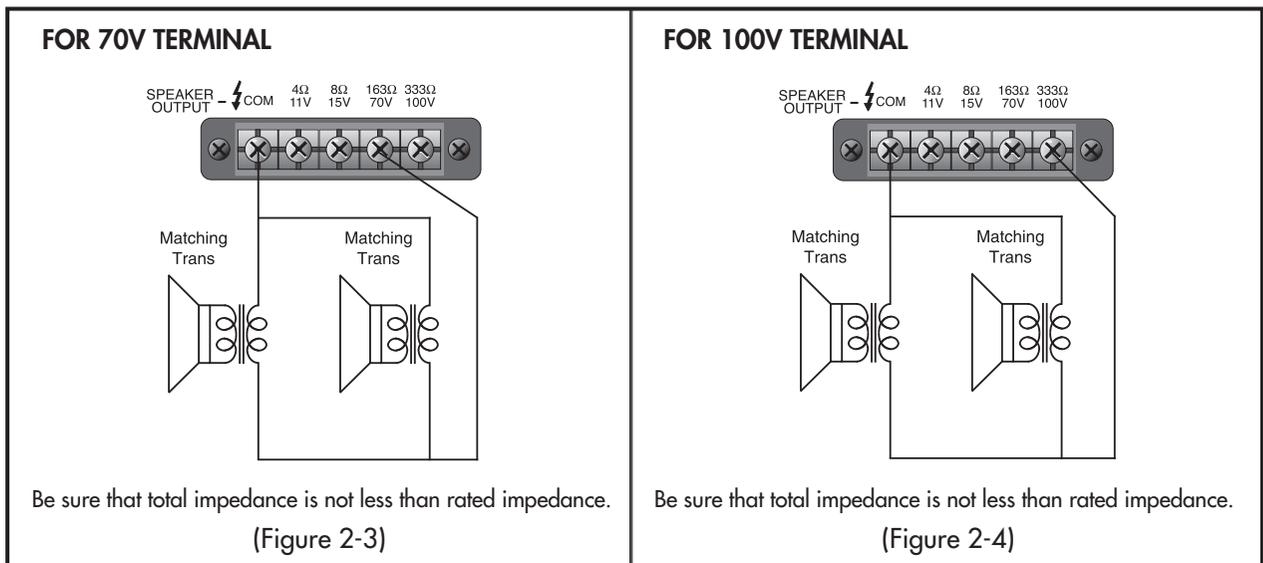
Before connecting speakers disconnect the AC power cable. Make certain that the total impedance is not less than the rated impedance indicated.

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 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.

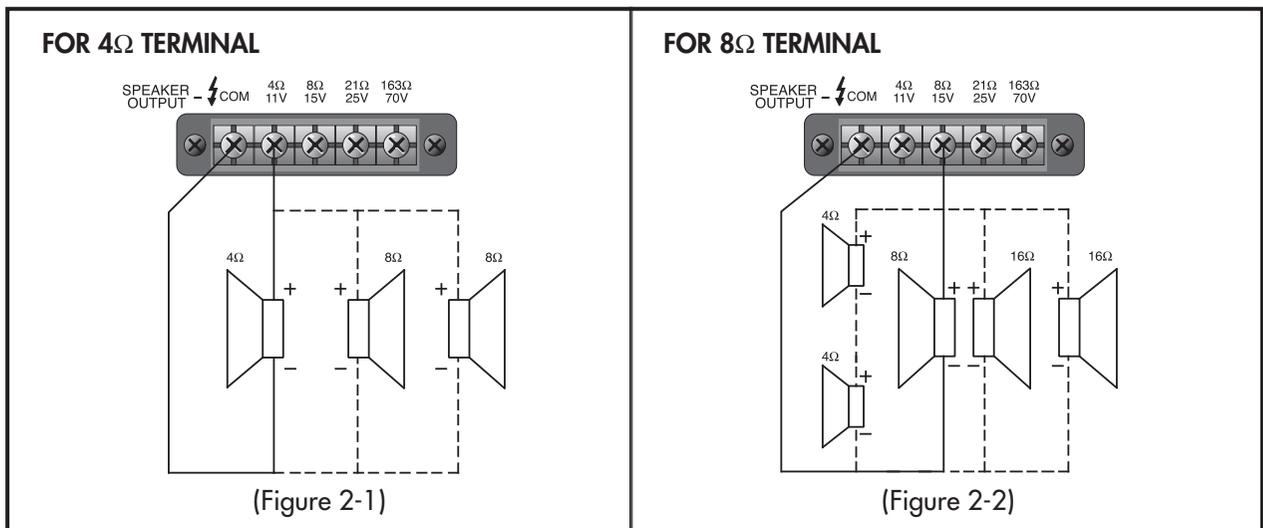


Connecting Speakers (USA/CANADA & Associated Version)

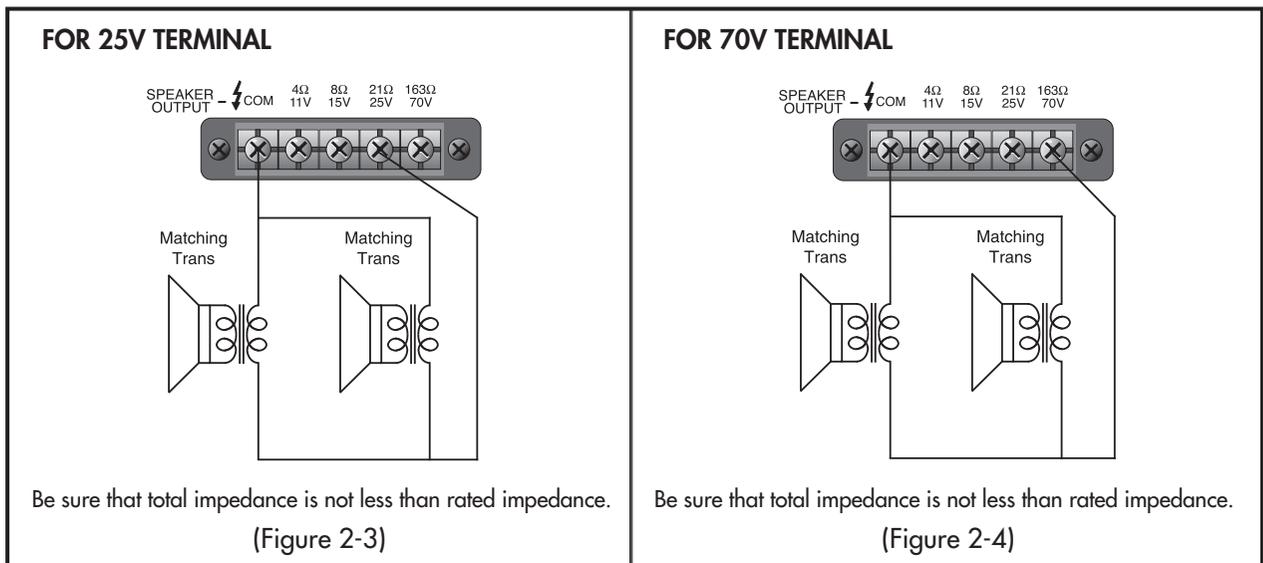
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For 4Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 4Ω terminal. See Figure 2-1 below.

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 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.



Application of The Antenna (PA-1000BR ONLY)

- FM RECEIVING ANTENNA

The electric wave of FM broadcasting is weakening in hills and valleys, around buildings and in iron-reinforced buildings.

- INSTALLATION OF ANTENNA EXCLUSIVELY FOR FM

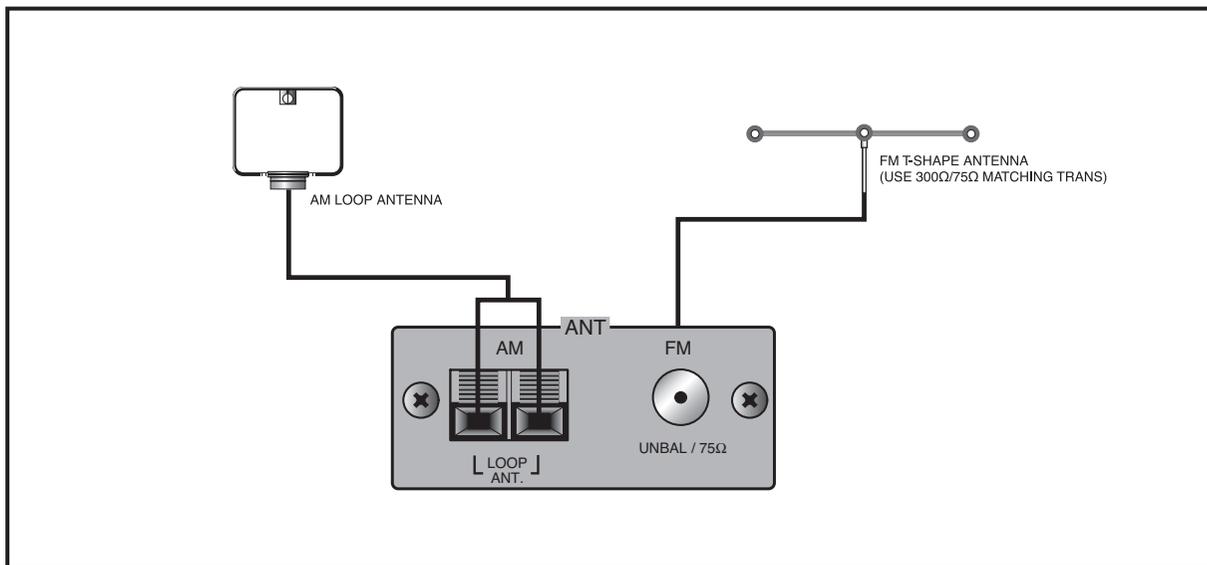
Listening to the broadcasting, fix the antenna after deciding the location and the direction so that the reception may be optimized.

- INSTALLATION OF ANTENNA USING THE COAXIAL CABLE

Noisy reception may occur in built-up areas and factory sites as well as around power cables. This may be the case even when an antenna is used exclusively for FM. In these regions, install the antenna using 75Ω coaxial cable.

- INDOOR ANTENNA

In the regions where FM broadcasting is heard comparatively well due to the near distance to the station or wooden structure, you can receive broadcasting of good quality by using T-type antenna.(using matching trans: $300\Omega/75\Omega$)



- AM LEAD ANTENNA

Fix one end of a six to eight metre length of vinyl-coated single cable to the AM terminal and the other end to a high place like a wall.

- AM OUTDOOR ANTENNA

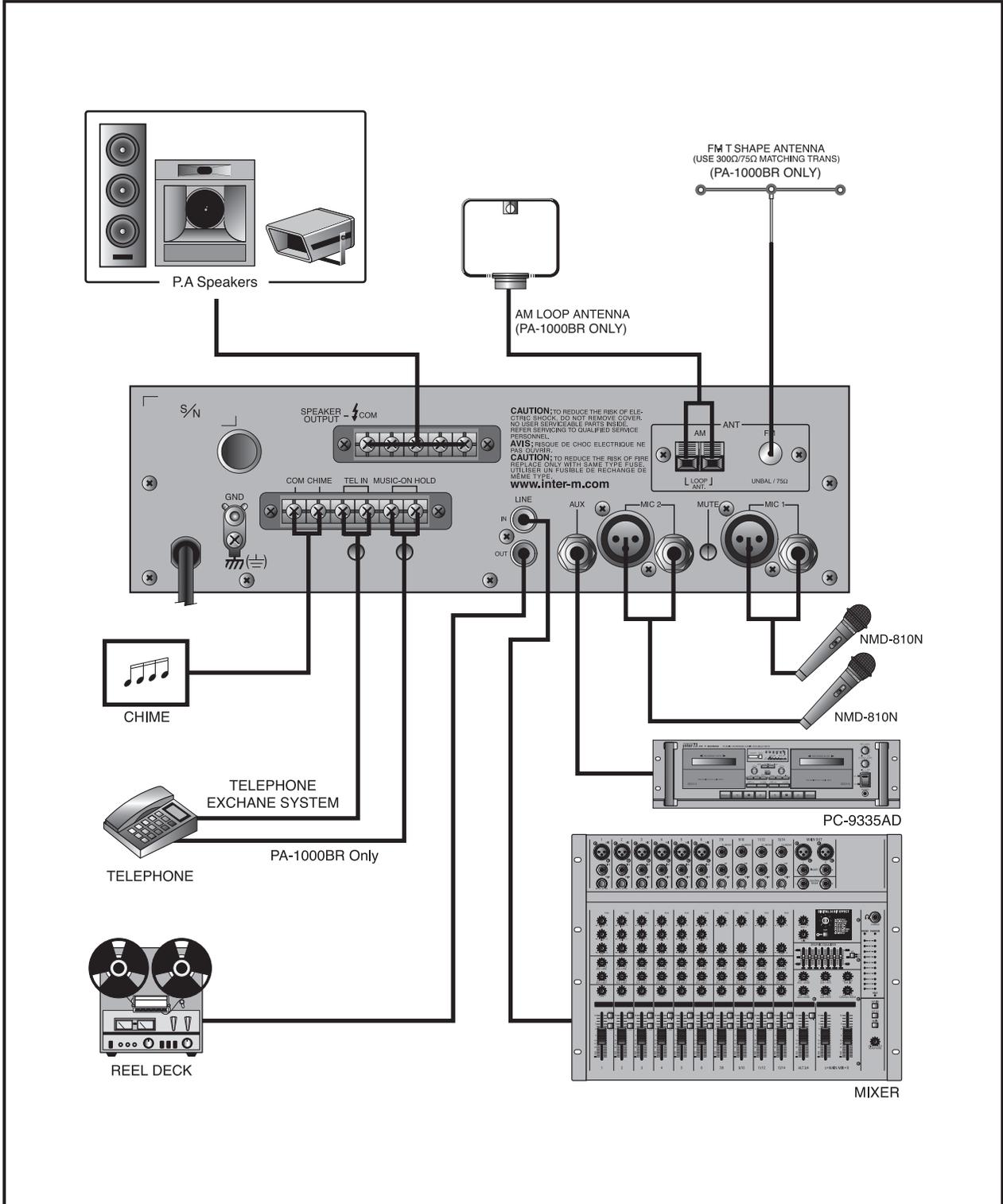
Install the vinyl-coated cable to an outdoor place if the AM reception is not good enough.

- AM LOOP ANTENNA

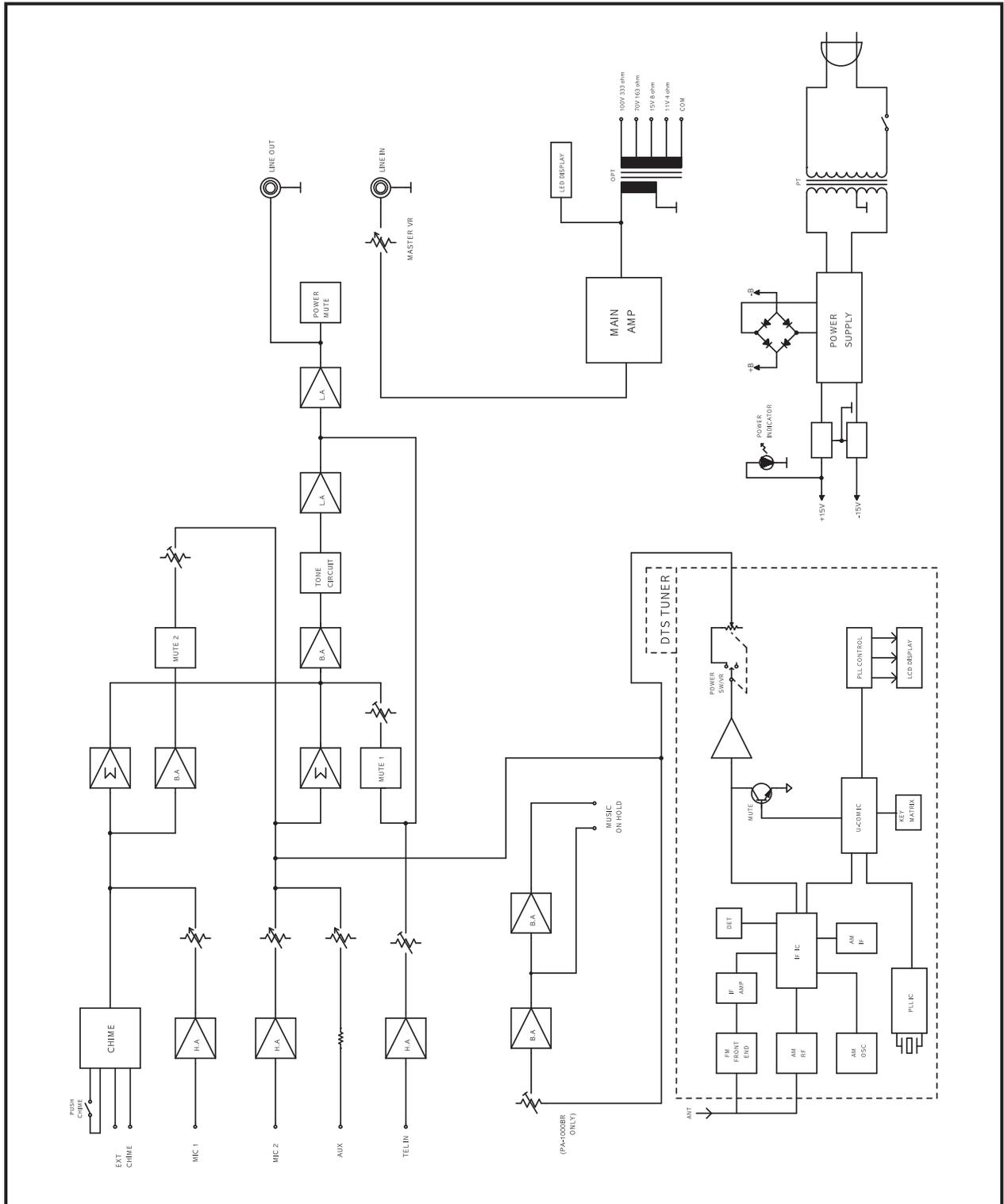
Connecting the feeder of the loop antenna of the terminal of 300Ω .

Listening to the broadcasting, fix it after deciding the location and the direction so that the receipt condition may be optimum.

Applications



Block Diagram



Specifications

		PA-1000B	PA-1000BR	
Rated Output Power		30W (RMS)		
Frequency Response		120Hz-15kHz		
T.H.D (at 1kHz Rated Output)		Less than 1%		
Tone Control (100Hz, 10kHz)		±10dB		
Input Sensitivity /Impedance	Mic 1 and 2	1mV/10kΩ, Balanced Phone, 0.3mV/600Ω, Balanced XLR		
	Aux In	0.775V/10kΩ		
	Tel In	EC & Associated	0.775V/600Ω	
		USA/CANADA & Associated	0.3V/600Ω	
	Amp In	1V/10kΩ		
Line Out/Impedance		1V/600Ω		
Music On Hold/Impedance		0.775V/600Ω		
TUNER SECTION (PA-1000BR Only)				
Tuning Range	EC & Associated	-	FM : 87.5-108.0MHz, AM : 522-1620kHz	
	USA/CANADA & Associated	-	FM : 87.5-108.0MHz, AM : 530-1720kHz	
Antenna Input		-	FM : 75Ω Unbal, AM : Low Impedance Loop Antenna	
Usable Sensitivity		-	FM: Less than 10uV, AM: Less than 100uV	
S/N		-	FM : Better than 50dB, AM : Better than 40dB	
Operating Temperature		-10°C ~ +40°C		
Power Source		100-120VAC or 220-240VAC; 50/60Hz (Supplied AC mains transformer depends on country requirements)		
Power Consumption		45W	55W	
Weight		4.6kg/10lb	4.8kg/11.5lb	
Dimensions		300(W) x 88(H) x 260(D)mm/11.8(W) x 3.5(H) x 10.2(D)in		

* Specifications and design subject to change without 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.

interM



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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