Operation Manual

RM-8000 Remote MIC Station

interM

Warning

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
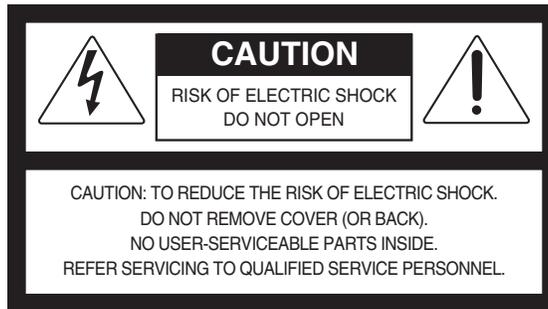
WARNING

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

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

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 étre insérées à fond sans en laisser aucune partie à découvert.

*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 vases, shall be placed on the apparatus.
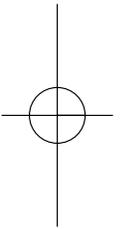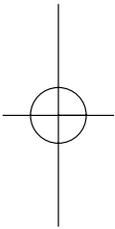*Worded: "WARNING FOR YOUR PROTECTION PLEASE READ THE FOLLOWING-WATER AND MOISTURE: Unit should not be used near water(e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so than objects do not fall and liquids are not spilled into the enclosure through openings."

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.

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

Contents

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!

Unpacking

Please take a few minutes to read this manual to familiarize yourself with important information regarding installation, product features, and operation.

As with most electronic devices, ORIGINAL PACKAGING (OR EQUAL) IS REQUIRED in the unlikely event that the product needs to be returned for servicing.

Short Form Instructions

1. Do not connect the unit to the AC mains until some preliminary settings are completed. AC mains should only be switched on later in this procedure. Ensure that the AC mains power and phantom power switches are in the OFF position.
2. Set all the output volume lever down to the minimum.

3. Connect each zone OUTPUT of the PX-8000 to the corresponding zone of an amplified loudspeaker system.

4. Connect the LOCAL AUDIO SOURCES (tape deck, CD player, tuner, etc..) to the BGM inputs on the PX-8000 and turn the input gain control knobs (on the rear panel) to half way.

5. Connect the AC mains power cord to the PX-8000 and switch the AC mains power to the ON position. Switch ON the PHANTOM POWER if condenser microphones will be used with this system.

6. Press the BGM select button located on the front panel until the illuminated number displays the desired input channel number for the local audio source.

7. Slowly side the output volume lever up on the front panel to increase the volume being sent to the amplifier for the loudspeaker system until the desired level is reached. Obviously, if there is distortion, feedback, or other cause for concern, reduce the signal level of the input or the output.

8. Connect one or more LM-8000 to each of the ZONE connectors as needed. There is no need to set the address. Connect a remote audio source or remote microphone to the LM-8000. Use the gain and BGM select button on the unit instead of the ones located on the PX-8000. The LM-8000 has a higher priority than the PX-8000 and will override the gain and BGM Selection of the PX-8000.

9. Connect one or more (maximum 4) RM-8000 units to the remote mic input connector on the back of the PX-8000. Connect a microphone to each RM-8000. Select one or more zones using the selectors on the front of the RM-8000. Speak into the microphone and adjust the signal level.

10. Set the level for each zone as desired by using the zone gain control on the PX-8000 or by using the gain control of the LM-8000, if so equipped.the PX-8000 to the corresponding zone of an amplified loudspeaker system.

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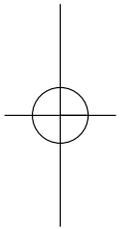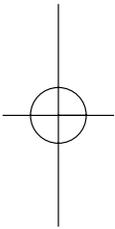
Installation

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

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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.

- AVOID EXCESSIVE HEAT, HUMIDITY, DUST AND VIBRATION
  Keep the unit away from locations where it is likely to be exposed to high temperatures or humidity-such as near radiators, stoves, etc. Also avoid locations which are subject to excessive dust accumulation, or to vibration that could cause mechanical damage.
- AVOID PHYSICAL SHOCKS
  Strong physical shocks to the unit may cause damage. Handle the unit with care.
- DO NOT OPEN THE CASE OR ATTEMPT REPAIRS OR MODIFICATIONS YOURSELF
  This product contains no user-serviceable parts. Refer all maintenance to qualified Inter-M service personnel. Opening the case and/or tampering with internal circuitry voids the warranty.
- ALWAYS POWER OFF BEFORE MAKING CONNECTIONS
  Always turn the AC mains OFF before connecting or disconnecting cables. This is important to prevent damage to the unit itself as well as other connected equipment.
- HANDLE CABLES CAREFULLY
  Always plug and unplug cables (including the AC mains power cord) by gripping the connector, not the cord.
- CLEAN WITH A SOFT DRY CLOTH
  Never use solvents such as benzine or paint thinner to clean the unit. Wipe clean with a soft, dry cloth.

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Features

❑ Convenient installation and construction without need of ID setting.

❑ Selection of various Chime broadcastings for MIC broadcasting (PRE/POST).

❑ Convenient priority broadcasting.

❑ Adoption of output signal level display.

❑ Adoption of RS-422 communication method to support a long distance.
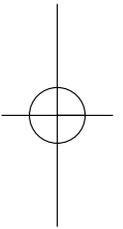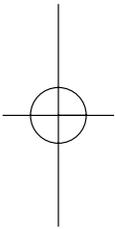
Front Panel
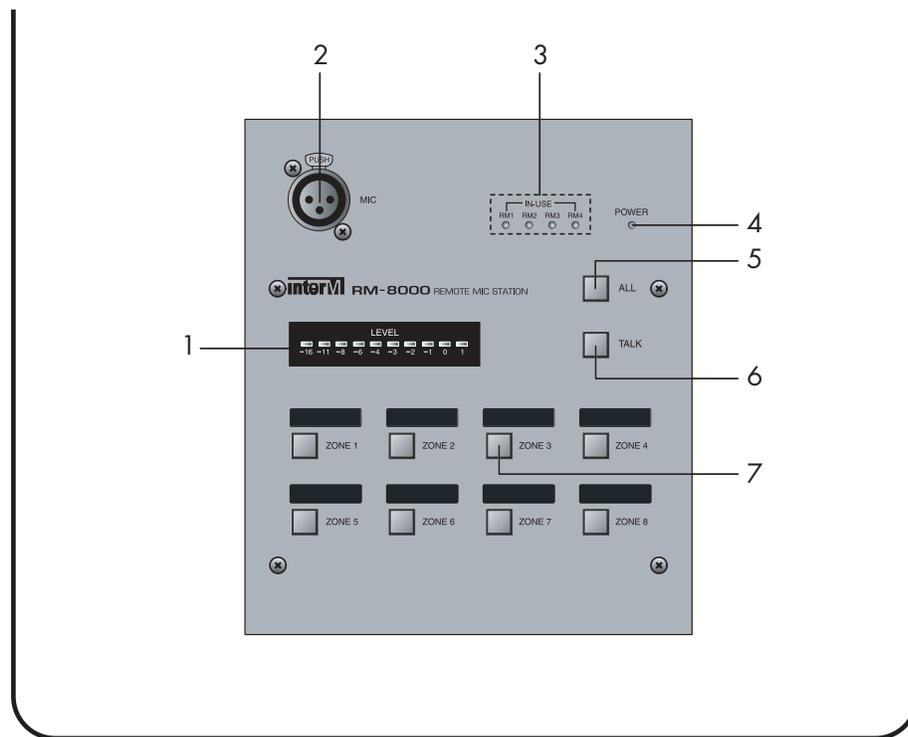
1. LEVEL METER
Displays level of the output volume in MIC broadcasting.

2. MIC JACK
A terminal to connect Condenser MIC.
Dynamic MIC can be used.

3. IN-USE LED
Displays the using status of 4 Remote MIC Stations.

4. POWER LED
If power supply is applied, the Power LED turns on.

5. ALL
Has toggle function as a switch to select all broadcasting areas.

6. TALK

Broadcasts with the button pressed, as a switch to start broadcasting after selecting the broadcasting area. Release the button to end broadcasting. During broadcast, "R" is displayed on the relevant display of both PX-8000 and LM-8000.

7. AREA SELECTION BUTTON

Turns on if pressing the switch to select the area to broadcast and turns off if pressing it again.
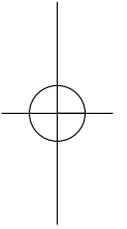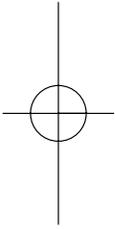
Rear Panel
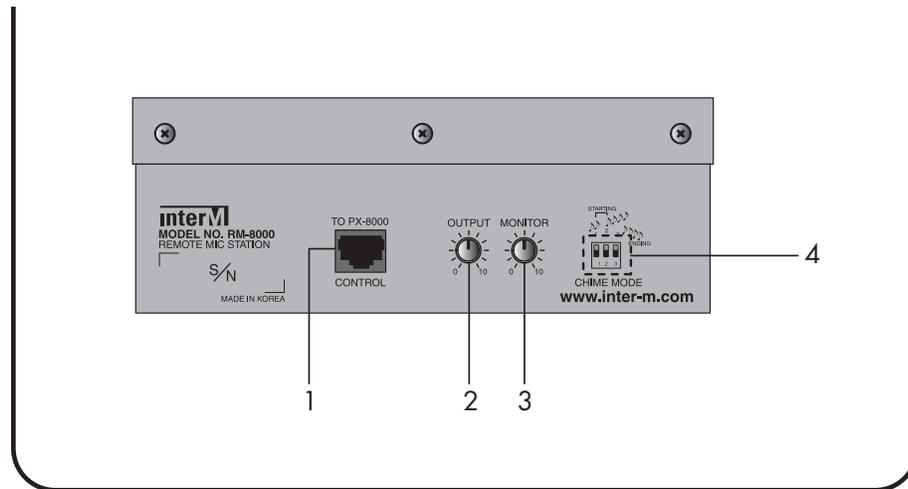
1. MODULAR JACK
Terminal to connect to PX-8000 using CAT5.

PIN Number	Functions	Color
1	Tx-	BLU
2	Tx+	BLU/WHT
3	Rx-	GRN
4	Rx+	GRN/WHT
5	GND	ORG
6	VCC	ORG/WHT
7	Audio+	BRN
8	Audio-	BRN/WHT

2. OUTPUT VOLUME
Volume to adjust sound volume of MIC and chime broadcasting.

3. MONITOR SPEAKER VOLUME
MON SPK (Monitor Speaker): Volume to adjust sound volume of the built-in Monitor Speaker.

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4. CHIME MODE DIP S/W

Switch to select Chime Mode. Setting and operation is same as PAGING MIC chime function of PX-8000.

A. SWITCH1 ON : Chime increased by 2 tones for starting is broadcast when pressing the TALK button.

B. SWITCH2 ON : Chime increased by 4 tones for starting is broadcast when pressing the TALK button.

C. SWITCH3 ON : Chime decreased by 4 tones for ending is broadcast when releasing the TALK button.

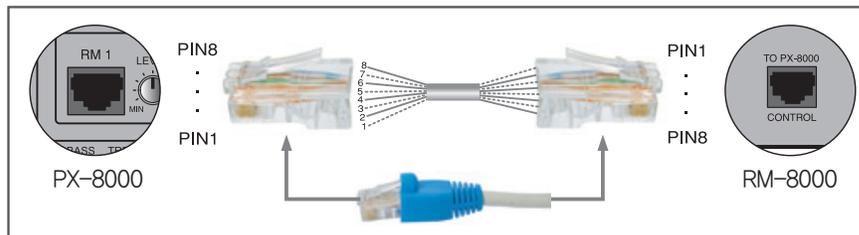D. SWITCH1, 2 ON : Same as for SWITCH1 ON.
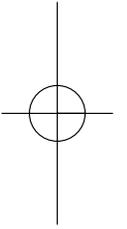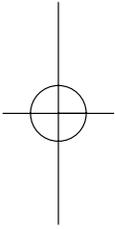
Priority of Broadcasting

This system broadcasts according to following priority:
PAGING MIC > FIRE ALARM (REC&PLAY IC) > RM-8000 MIC > LM-8000 > PX-8000 BGM

Operation

❑ **RM-8000 CONNECTION**
 - Connect to the RM-8000 connection hole on the rear side of PX-8000 using a CAT5 (UTP) wiring material.

 - Immediate broadcasting is allowed without separate ID setting.
 - 4 sets of RM-8000 can be connected.
 - If powering on, buttons sequentially turn ON/OFF simultaneously with power LED turned on.
 - Flashing of buttons mean defect of the unit or connection status, thus check connection status and the unit.

❑ **RM-8000 MIC BROADCASTING**
 - Connect a MIC to the MIC input jack. Both dynamic MIC and condenser MIC can be used.
 - Set the Chime Mode Switch on the rear side of RM-8000.
   1) SWITCH1 ON : Chime increased by 2 tones for starting broadcast is emitted when pressing the TALK button.

2) SWITCH2 ON : Chime increased by 4 tones for starting broadcast is emitted when pressing the TALK button.

3) SWITCH3 ON : Chime decreased by 4 tones for ending broadcast is emitted when releasing the TALK button.

4) SWITCH1, 2 ON : Same as for SWITCH1 ON.

- The button turns on if pressing the relevant button of the area to broadcast. All zones of the PX-8000, where the relevant RM-8000 is connected, are selected if pressing the ALL button.

- MIC broadcasting is done with the TALK button pressed. In this case, perform broadcasting after checking start of Chime broadcasting using a built-in monitor speaker.

- Adjust MIC output volume of RM-8000 and input volume of PX-8000 while listening to broadcasting volume or checking the level meter.

- "R" is displayed on the BGM display window of PX-8000 and LM-8000 of the broadcasting area.

- Release the TALK button pressed to end broadcasting. TALK button is on PTT method.

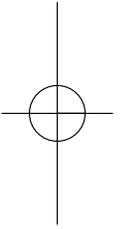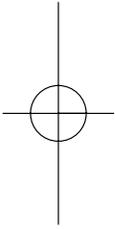- Check ending of Chime broadcasting using a built-in monitor speaker.

❑ **RM-8000 PRIORITY BROADCASTING**
- Broadcasting of any RM-8000 is allowed in the non-broadcasting area.

- Zone being broadcasting has priority with the order of RM1 > RM2 > RM3 > RM4.

- If the relevant area button turns off when pressing the broadcasting area button and then pressing
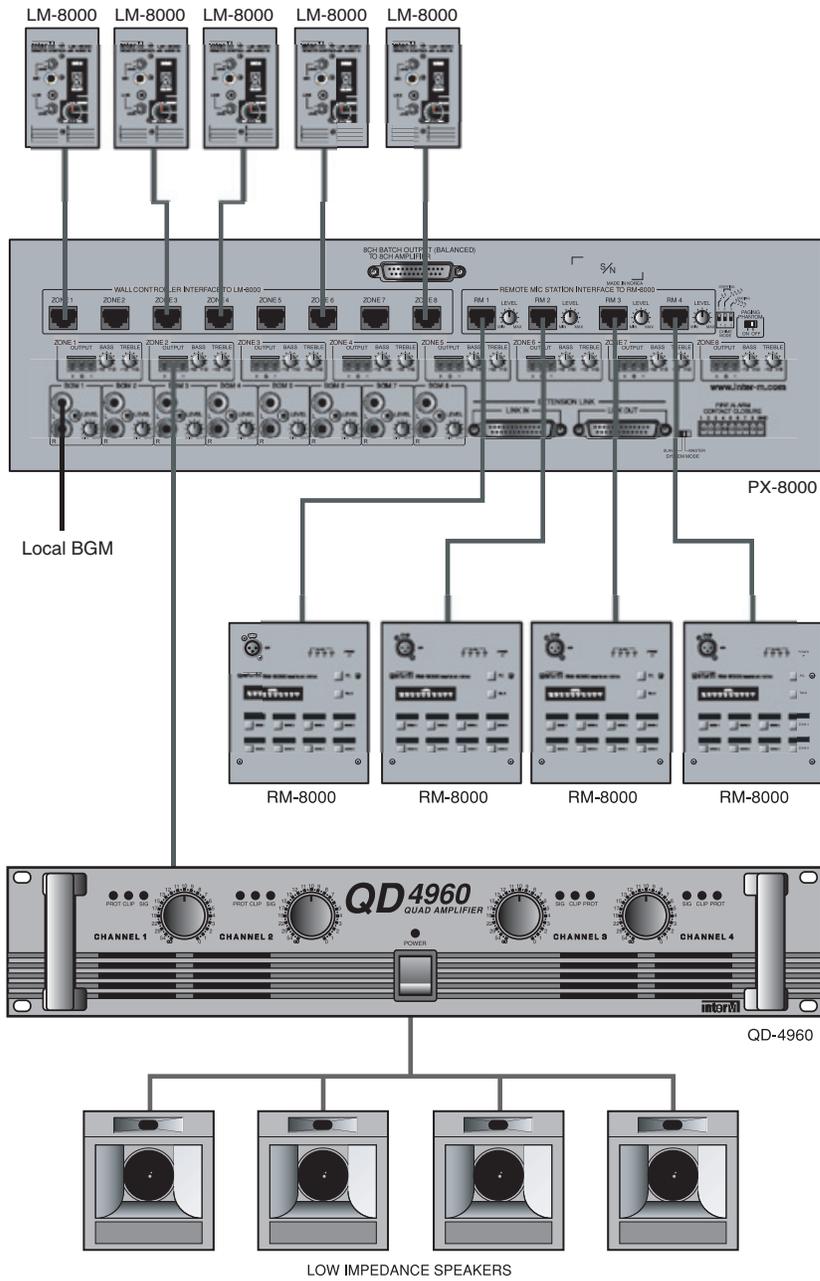
TALK button, other RM is already broadcast in the same area, and the user can know which RM-8000 is broadcasting with the [IN-USE LED] turned on.
- If the area button selected during broadcasting turns off and the other [IN-USE LED] turns on, the other RM-8000 with a high priority is broadcasting in the same area.

❑ **RM-8000 BROADCASTING IN LINKED SYSTEM**
If using the PX-8000 together, MIC broadcasting of the RM-8000 is not allowed to the output area of the other PX-8000. Broadcasting is allowed to only the output area of PX-8000 where the RM-8000 is connected.

Connections

LM-8000   LM-8000   LM-8000   LM-8000   LM-8000

PX-8000

Local BGM

RM-8000   RM-8000   RM-8000   RM-8000

QD4960 QUAD AMPLIFIER

QD-4960

LOW IMPEDANCE SPEAKERS

Block Diagram

Specifications

		RM-8000
Audio Input	MIC	-50dB(Balanced)
Frequency Response (100Hz ~ 10kHz)		±3dB
S/N		Better than 65dB
T.H.D.		Less than 0.05%
Serial Interface (RS-422)	Communication Speed	9600 bps
	Communication Distance	Maximum 300m (using UTP Cat5)
Operation Temperature		-10℃ ~ +40℃
Power Source		DC 24V, 300mA
Weight (SET)		1.5kg/3.2lb
Dimensions (SET)		200(W)x70(H)x206(D)mm 7.9(W)x2.8(H)x8.1(D)in

* Specifications and design subject to change without notice.

Service

Procedures

Ensure the problem is not related to operator error, or external system devices, 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.

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 or the authorized Inter-M Distributor for your specific country or region.

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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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