

# 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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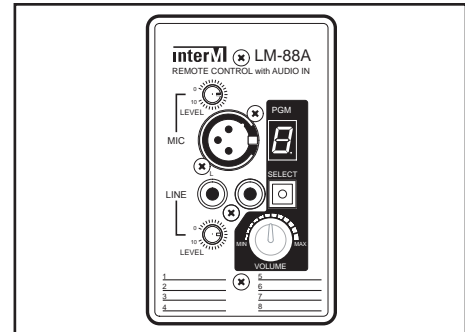
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# Operating Manual

## LM-88A Remote Controller with Audio Input



# interM

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## Welcome

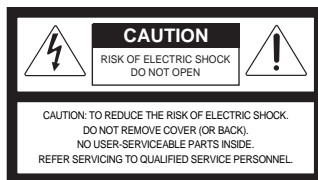
### A personal welcome to you from the management and employees of Inter-M

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



### 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 être 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 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 than objects do not fall and liquids are not spilled into the enclosure through openings."

## 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. Turn all GAIN level control knobs on the PX-0288 counter-clockwise to the "0" position.
3. Connect each zone OUTPUT of the PX-0288 to the corresponding zone of an amplified loudspeaker system.
4. Connect the LOCAL AUDIO SOURCES (tape deck, CD player, tuner, etc...) to the program inputs on the PX-0288 and turn the input gain control knobs (on the rear panel) to half way between "0" and "10".
5. Connect the AC mains power cord to the PX-0288 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. Depress the program select (PGM SELECT) button located on the front panel until the illuminated number displays the desired input channel number for the local audio source.
7. SLOWLY turn the ZONE gain control knobs clockwise to increase the level of the signal 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 LM-88A or PS-88A to each of the ZONE CONTROL connectors as needed. Assign it the correct zone address using the switches on the back. Connect a remote audio source or remote microphone to the LM-88A. Use the gain and program select controls on the remote instead of the ones located on the PX-0288. The LM-88A and PS-88A have a higher priority than the PX-0288 and will override the gain and program select settings on the PX-0288.
9. Connect one or more (maximum 4) RM-88 units to the remote mic input connector on the back of the PX-0288. Connect a microphone to each RM-88. Select one or more zones using the selectors on the front of the RM-88. Speak into the microphone and adjust the signal level (on the PX-0288, LM-88A, or PS-88A) accordingly.
10. Each of the eight output zones may source any one of the eight program inputs on the PX-0288. The LM-88A remote provides two additional inputs enabling its zone to have up to ten input sources.
11. Set the levels for each zone as desired by using the zone gain control on the PX-0288 or by using the gain control on the LM-88A or PS-88A, if so equipped.

# 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.

## Safety

1. Read these instructions.
2. Follow all instructions.
3. Keep all warnings.
4. Do not use this apparatus near water.
5. Clean only with a damp cloth.
6. Do not block any of the ventilation openings.
7. 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 is provided for your safety. When 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. Use only the attachments/accessories specified by the manufacturer.
12. Use only with a 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



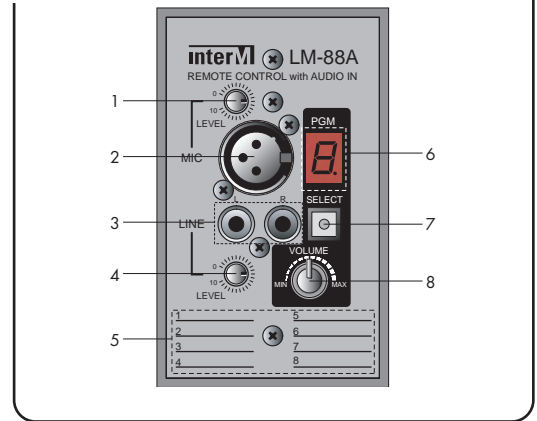
any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- 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.

## Features

- ┌ This product can select the desired Local BGM sound source in a remote zone, let alone controlling its volume.
- ┌ The product displays the current broadcasting status in Segment so that the user can quickly figure out the priorities and sound sources.
- ┌ Equipped with Remote MIC or BGM connection port, the product is able to provide separate broadcasting to the zone where it is installed.

## Front Panel



Each Remote requires an exclusive address that is not shared with any other remote. Using the legend below assign each remote a zone address that matches the assigned output zone the remote is connected to on the rear of the PX-0288. Do not assign the same address to more than one remote.

Output Zone	Switch No. 1	Switch No. 2	Switch No. 3
Zone 1	Off	Off	Off
Zone 2	On	Off	Off
Zone 3	Off	On	Off
Zone 4	On	On	Off
Zone 5	Off	Off	On
Zone 6	On	Off	On
Zone 7	Off	On	On
Zone 8	On	On	On

- PIN Legend (RJ-45, UTP Cat5)

PIN Number	PIN NAME	Functions
1	Tx-	RS-422 Negative Transmit
2	Tx+	RS-422 Positive Transmit
3	Rx-	RS-422 Negative Receive
4	Rx+	RS-422 Positive Receive
5	D-GND	Digital Ground
6	DC-INPUT	Power Supply
7	Audio+	Balanced Audio Hot
8	Audio-	Balanced Audio Cold

**1. MIC GAIN CONTROL**

This controls the level of the REMOTE MICROPHONE INPUT signal. Turned fully counterclockwise is "MINIMUM" or no signal and turned fully clockwise is "MAXIMUM" or full signal.

**2. REMOTE MICROPHONE INPUT**

This 3-conductor balanced XLR type jack accepts a balanced microphone for use with or without the stereo input. Signal applied to this input will mute the local input signal from the PX-0288.

**3. REMOTE AUDIO SOURCE STEREO INPUT**

These 2-conductor unbalanced RCA type jacks are available to connect Line level sources such as tape decks, CD players, and tuners. The Left and Right signals are combined internally and are then available as a mono source to the system. Signal applied to these inputs will mute the local input signal from the PX-0288.

**4. REMOTE BGM GAIN CONTROL**

This controls the level of the REMOTE AUDIO SOURCE STEREO INPUT signal. Turned fully counterclockwise is "MINIMUM" or no signal and turned fully clockwise is "MAXIMUM" or full signal.

**5. LABEL AREA**

This area is provided to allow each local audio source to be labeled according to the needs of each installation.

**6. INPUT SELECTION DISPLAY**

This displays the number of the input channel which has been selected for the zone.

Remote Mic Station	Fire Alarm	Paging	Enable
R	F	P	.(DOT)

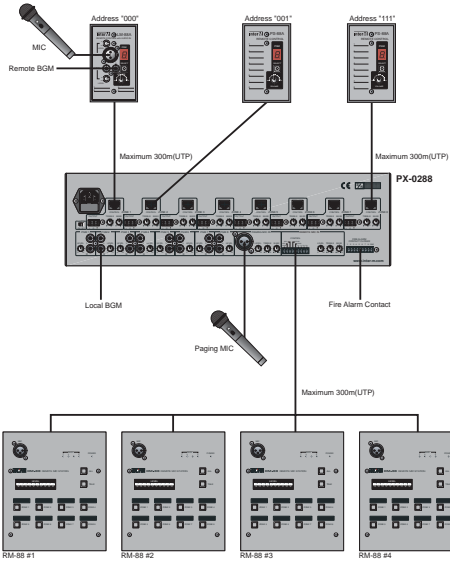
**7. INPUT CHANNEL SELECTOR SWITCH**

This selects which input will supply each zone. A different input will be selected with each press of the button.

**8. OUTPUT BGM GAIN CONTROL**

This controls the volume level of the zone for which the remote has been assigned. Turned fully counterclockwise is "MINIMUM" or no signal and turned fully clockwise is "MAXIMUM" or full signal.

## Applications



## Operation

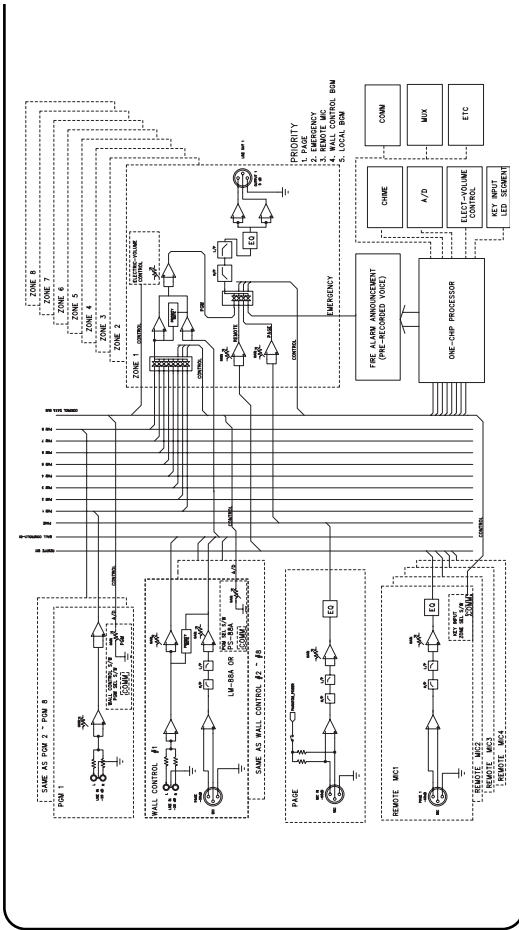
### 1. ADDRESS AND PRE-ANNOUNCE CHIME SETUP

- Assign the appropriate address and chime using the DIP switches on the rear of the LM-88A/PS-88A.

### 2. AUDIO SOURCE SELECTION

- Set the Remote Control Switch (on the PX-0288) to the "Enable" position for the corresponding zone.
- Select the desired input from the 8 Local audio sources (connected to the PX-0288) using the Input Selection Switch on the LM-88A/PS-88A.
- Adjust the volume of the zone using the gain control knob on the LM-88A/PS-88A.
- Use of remote sources (sources connected to the remote) will take priority over the local sources (sources connected to the PX-0288) causing the local sources to be muted.

## Block Diagram



## Specifications

### ELECTRICAL

MIC Input .....	-50dB (Balanced)
Line Input .....	-20dB
Serial Interface (RS-422)	
Communication Speed .....	9600 bps
Full Duplex, Multi-Drop method	
Data 8bits, Stop 1bit, Start 1bit, non parity	
Communication Distance ....	Maximum 300m (using UTP Cat5)

### GENERAL

Weight .....	130g/0.28lb
Dimensions .....	69.8(W)x114.3(H)x59(D)mm/2.75(W)x4.5(H)x2.32(D)in



## 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.

## Note

Note

