Operation Manual

System Remote Mic Station

RM-6800



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 étre 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.
*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.

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Unpacking

Although your RM-6800 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

- SYSTEM MODE SETTINGS
You can set the operation mode (RM-6042, NRM-8000A, RM-6016 MODE) of RM-6800. You can use the NPX-SYSTEM 6000 System by using this function.

- GOOSENECK MICROPHONE
You can use the gooseneck microphone to broadcast paging in each area.

- 0~9 KEY, ALL, TALK, CHIME BUTTON
You can select the broadcasting area simply by using the 0~9 key and the All button. In addition, you can set the operation mode of the Talk button and the Chime button.

- 2.43 INCH OLED DISPLAY
You can check and set the status of the device through the display.

- OUTPUT LEVEL METER
You can check the output level through the level meter.

- MONITOR SPEAKER
You can check the current output in real time through the monitor speakers.

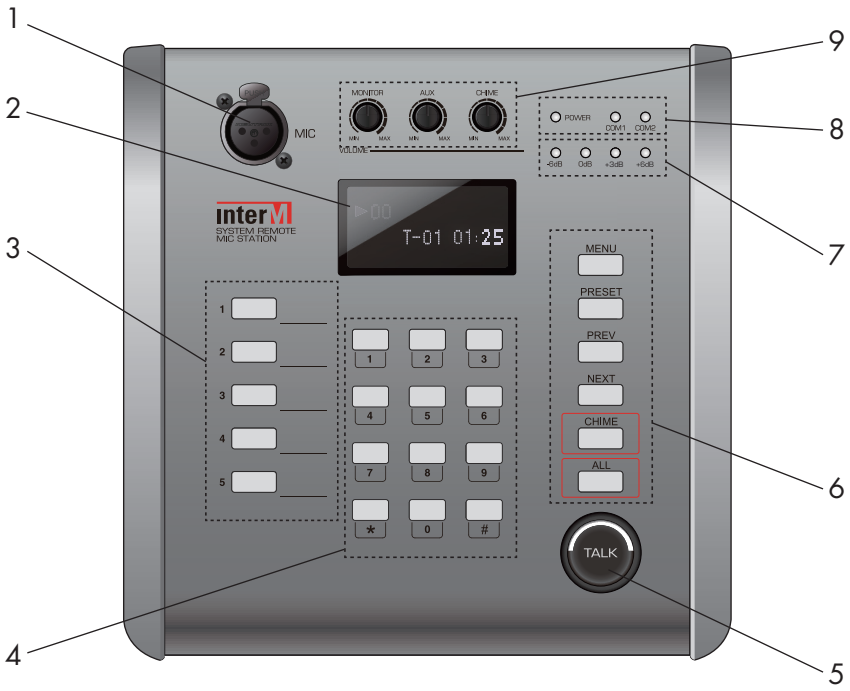
- INPUT/OUTPUT ADJUSTMENT VOLUME
You can adjust the MIC input gain and monitor speaker output, chime, and AUX volume.

- DC 24V POWER INPUT
Since there is a DC 24 V power input terminal, you can input the power using the adaptor.
※When NPX-8000 is connected to the COM1 terminal, a DC 40V power is supplied to the COM1 terminal. (However, when using this device in NRM-8000A MODE at a distance of 300 m or more, connect the adaptor.)

Contents and Accessories

1. **DC Adapter x 1EA**
2. **Gooseneck Microphone x 1EA**
3. **8P Terminal Block x 2EA**
4. **3P Terminal Block x 1EA**
5. **User Manual x 1EA**

Front Panel



1. MIC INPUT TERMINAL
This is the terminal to connect the gooseneck microphone.

2. OLED DISPLAY
The organic light-emitting diode (OLED) displays the current status and settings of the device.

3. PRESET CALL SPEED BUTTON
This button is used to load the preset saved by user.

4. 0~9 / * / # BUTTON
You can use the buttons to select the number of broadcasting areas or various modes.

5. TALK BUTTON
Press the button to start broadcasting after selecting a broadcasting area. Refer to the 5. Talk Type Settings on page 18 of this manual for detailed information about the Talk button settings.

6. MENU / PRESET / PREV / NEXT / CHIME / ALL BUTTON
1) MENU / PRESET/ PREV / NEXT: These are the buttons to check the status of system settings and PRESET settings.

2) CHIME: This button is used to operate CHIME manually. Refer to the 4. Chime Set on page 16 of this manual for detail information about the CHIME settings.
3) ALL: This button is used to select all the broadcasting areas.

7. LED INDICATOR

You can check the output level through the level meter.

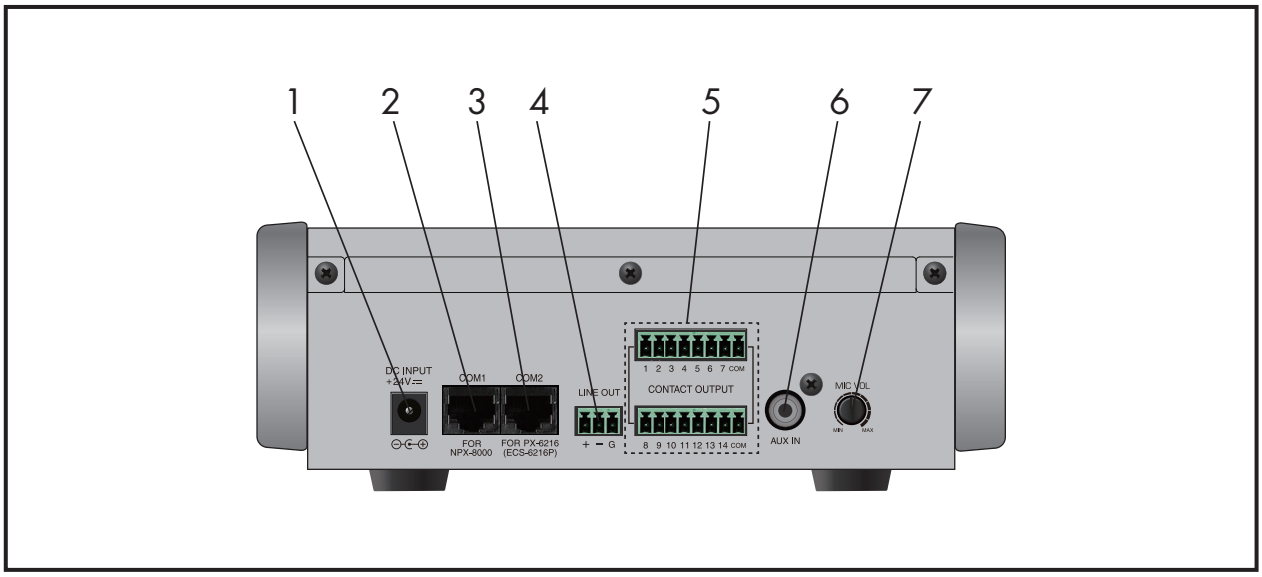
8. POWER AND COMMUNICATION LED INDICATOR

It is the LED that shows the power status and communication status. The power LED is lit when power is applied, and the communication LED blinks when communicating with the system.

9. MONITOR / AUX / CHIME VOLUME

This volume controls the MONITOR/AUX/CHIME output.

Rear Panel



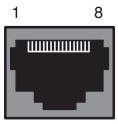
1. DC 24V INPUT TERMINAL

This is a DC 24 V power supply terminal. You can input power by using the adaptor.

※ When NPX-8000 is connected to the COM1 terminal, a DC40V power is supplied to the COM1 terminal.
(However, when using this device in NRM-8000A MODE at a distance of 300 m or more, connect the adaptor.)

2. COM1 TERMINAL

COM1 – When using in NRM-8000A mode, this terminal is used to connect the NPX-8000 to this device.
<PIN OUT SPECIFICATIONS>

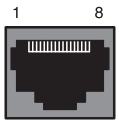


PIN NO.	Function
1	CAN H
2	CAN L
3	N.C
4	+40V
5	GND
6	N.C
7	Audio Out+
8	Audio Out-

3. COM2 TERMINAL

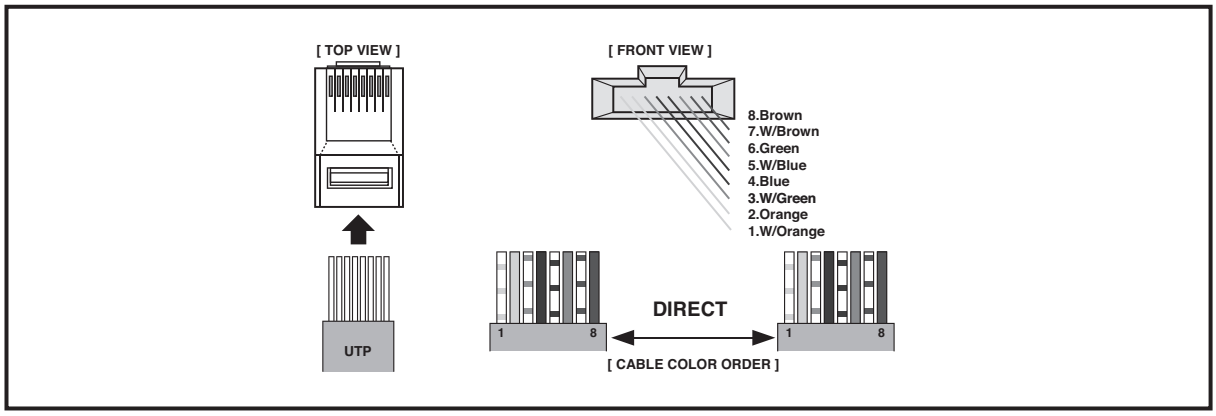
COM2 – When using in RM-6024 mode, this terminal is used to connect the PX-6216/ECS-6216P to this device.

<PIN OUT SPECIFICATIONS>



PIN NO.	Function
1	RS-422 Rx+
2	RS-422 Rx-
3	RS-422 Rx-
4	Live Data
5	GND
6	RS-422 Rx+
7	Audio Out+
8	Audio Out-

※ Communication Cable Standards



※ When connecting the system, be sure to use a direct cable.
※ It is recommended that you use a DCR100 m/9.8 Ω or less cable.

4. AUDIO OUTPUT TERMINAL

This is an AUDIO output terminal. When using in RM-6016 mode, connect to the REMOTE INPUT terminal in EMERGENCY PANEL (EP-6216).

5. CONTACT CLOSURE OUTPUT TERMINAL

When using in RM-6016 mode, this is used as the contact closure output terminal. It is connected to REMOTE1 or REMOTE2 in PX-6116 (allowed to broadcast to up to 14 areas).

6. AUX INPUT TERMINAL

You can use this terminal to use the AUX IN jack to input an external sound source and broadcast through the RM-6800.

7. MIC GAIN ADJUSTMENT VOLUME

This is the volume that adjusts the input GAIN of the microphone.

How To Set Up The Device And Precautions

1. BOOT SCREEN: AFTER THE POWER IS SUPPLIED, AN APPROPRIATE DESCRIPTION IS DISPLAYED ON THE BOOT SCREEN.

- INITIAL SCREEN

1) When power is supplied, the "Booting ... " message will be displayed on the screen after several seconds.



2) If Factory Reset or the model name you want to use is not designated, the RM Model Set screen is displayed.
3) The selectable models are RM-6024 and RM-6016, the RM models used in the 6000 System, and NRM-8000A, the RM model used in the NPX system.



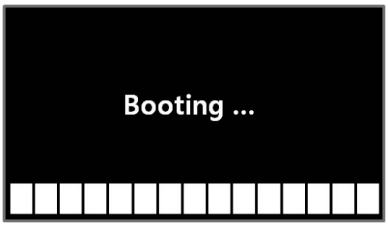
※ NRM-8000A: RM used in the NPX System (CAN communication)
※ RM-6024: RM used to make the 6000 System unified/octuple (RS-422 communication)
※ RM-6016: RM used in the 6000 Analog System (contact control type)

4) Make your selection with the Number Key and input the # key.
5) The selected model is saved.
6) It is not displayed at the next boot after being set.
7) If you selected RM-6024 and NRM-8000A, you should set the ID for the device.
8) If you selected NRM-8000A, the NPX-8000 must be connected with the COM1 terminal. (The ID is set by communicating with the Main System.)



9) Set the ID according to the 6000 System and NPX System.
※ ECS-6216P: 1 or 9, PX-6216: 1~8, NPX-8000: 1~4
When connecting RME to ECS-6216P (in case of the RM of RME connected to ECS-6216P Port1: 1~8, in the case of the RM of RME connected to ESC-6216P Port2: 9~16)

10) * When selecting a key, ID is incremented by 1 and selected with # key.
11) It is not displayed at the next boot after being set.
12) When completing setting the RM model and RM ID, the initial Booting Progress screen is displayed as shown below.



- LINK ERROR SCREEN

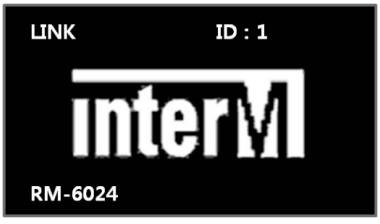
1) If not connected to the main system correctly, the LINK ERROR screen will be displayed.
2) If you selected the RM-6016 model, the LINK ERROR screen will not be displayed. It is applied if your selected models are RM-6024 and NRM-8000A.



3) When the corresponding screen is displayed, check the communication port (COM1: NPX, COM2: 6000 System) and RM ID, cable, etc. according to the configured model.
4) On the LINK ERROR screen, you can go to the setting menu. In the case of RM-6024, you can change the RM ID. (In the case of NRM-8000A, you cannot change the RM ID since communication is not available.)

- STANDBY SCREEN

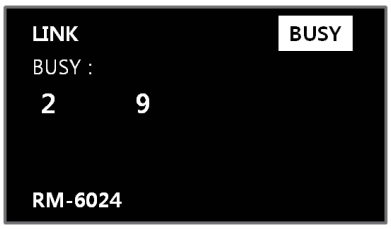
1) After completing booting, if it communicates normally with the main system, the "LINK" status and ID will be displayed on the top of the LCD.
2) In the case of RM-6016, the "LINK" status and ID are not displayed.



3) When a high-priority broadcast is being made, a "BUSY" status is displayed on the standby screen.



[ECS-6216P]



[PX-6216 or NPX-8000A]

4) If there is no input for 30 seconds on the standby screen, it switches to the sleep screen.



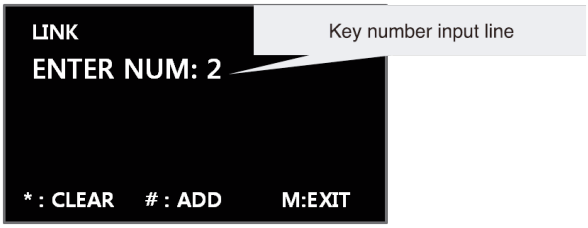
5) If you select any key on the front panel in sleep status, it will switch to the standby screen.

2. BROADCASTING FUNCTION: THIS FUNCTION ALLOWS YOU TO SELECT THE AREA TO BROADCAST.
- NUMBER INPUT SCREEN

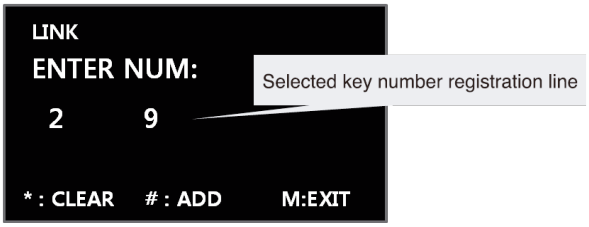
1) When you select any number key on the standby screen, it switches to the number input screen, which displays your input number.
2) In the RM-6024 operating mode, this is an RM key number that can be set in the PC program (MS-6100/6800).

In NRM-8000A operating mode, this is the output zone number
In RM-6016 operating mode, this is the contact closure output number.

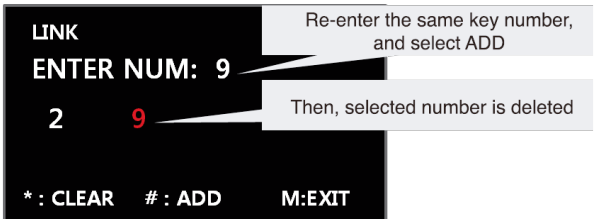
3) Press the MENU key on the Number Input screen to switch to the standby screen. (M: EXIT)



4) Enter the number to broadcast.
5) If you input a wrong number while inputting the number, select the * key to delete the wrong number (Backspace function).
6) After entering the number to broadcast, you can complete your input by selecting the # key (Add).
7) You can repeat the step 4) and 6) to register multiple numbers.

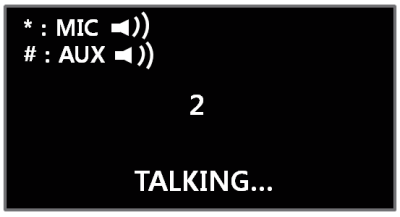


8) If you want to cancel after adding a number to broadcast, re-enter the same number to remove it (Remove).

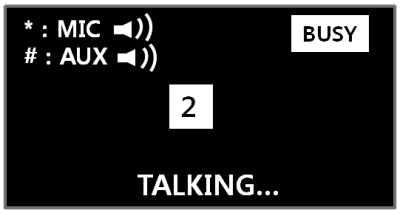


9) When inputting a number to broadcast on the input screen, you can broadcast by selecting this is the Talk key.

- TALK SCREEN



1) You can modify the MIC Mute On/Off settings by using the * key.
2) You can modify the AUX Mute On/Off settings by using the # key.
3) You cannot set Mute as On for both MIC and AUX at the same time.
4) When the priority broadcast is progressed according to the priority of broadcasting, it switches to the standby screen (if ECS-6216P is connected) or "BUSY" is displayed on the Talk screen (if PX-6216 and NPX-8000 are connected).



5) According to the talk type during the broadcast, when the Talk button is operated, the standby screen is switched after the broadcast ends.

※ For information about setting the talk type, refer to page 18 of this manual.

- BUSY MESSAGE SCREEN

1) When the key is pressed in the Busy status according to the system priority broadcast on the standby screen, the message "The other source is broadcasting" (ECS-6216P) or "BUSY ZONE" (PX-6216 or NPX-8000) is displayed.



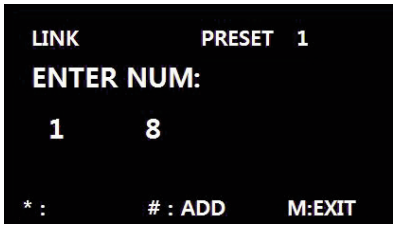


3. PRESET CALL SPEED KEY: PRESET CALL OR INPUT SHORTCUT KEY FUNCTION

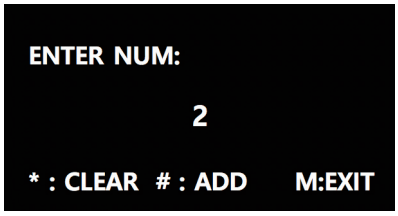
1) The 1 ~ 5 key on the front left side of RM-6800.



2) When NRM-8000A is used, the preset of the corresponding number is loaded and displayed.
3) The following screen is displayed when selecting key 1 of left 1 ~ 5 keys.



4) In the mode using RM-6016 or RM-6024, the corresponding number is input.
5) The following screen is displayed when selecting key 1 of left 1 ~ 5 keys.



4. CHIME SET: YOU CAN SET THE CHIME BUTTON OPERATION

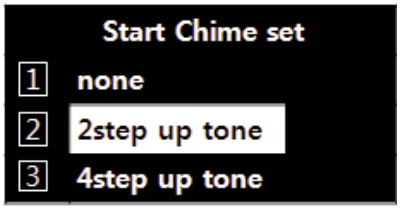
- CHIME SET



1) Press the MENU button on the standby screen to display the MENU KEY HELP screen.

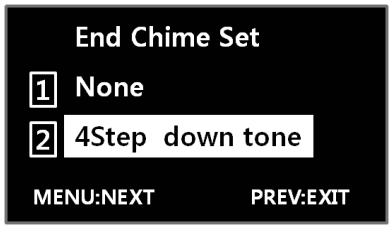
2) If you select the MENU button on the MENU KEY HELP screen, you can go to the Chime Set screen.
3) Press the number button 1 to select Auto mode.
※ In Auto mode, Chime is automatically output when you press the Talk button to start broadcasting.
4) Press the number button 2 to select Manual mode.
※ In Manual mode, Chime is output when you press the Chime button.
5) If you select the MENU button on the Chime Set screen, the Start Chime Set screen is displayed.
6) If there is no input for 10 seconds on the settings screen, it returns to the standby screen.

- START CHIME SET



1) Press the number button 1 to select none.
※ If none is set, Chime is not output before starting broadcast.
2) Press the number button 2 to select the 2Step up tone.
※ If 2step up tone is set, Chime is output in the 2Step up tone.
3) Press the number button 3 to select the 4Step up tone.
※ If 4step up tone is set, Chime is output in the 4Step up tone.
4) If you select the MENU button on the Start Chime Set screen, the End Chime Set screen is displayed.
5) If there is no input for 10 seconds on the settings screen, it returns to the standby screen.

- END CHIME SET

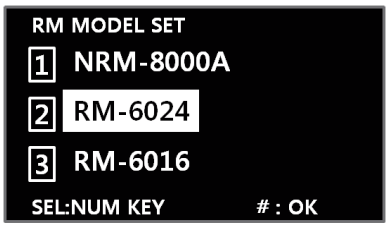


1) Press the number button 1 to select none.
※ If none is set, Chime is not output after ending broadcast.
2) Press the number button 2 to select the 4Step down tone.
※ If 4Step down tone is set, Chime is output in the 4Step down tone.
3) If you select the MENU button on the End Chime Set screen, the Talk Type Set screen is displayed.
4) If there is no input for 10 seconds on the settings screen, it returns to the standby screen.

5. TALK TYPE SET: YOU CAN SET HOW THE TALK BUTTON WORKS.

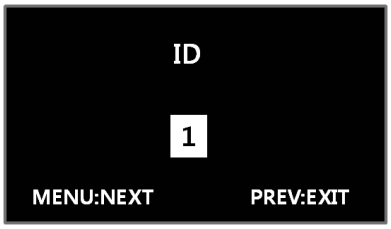


1) Press the number button 1 to select Toggle.
   ※ If set to Toggle, press the Talk button once to enable RM broadcasting. Press the Talk button once again to end the broadcasting.
2) Press the number button 2 to select Push to Talk.
   ※ If set to Push to Talk, the RM broadcast is output only while you press and hold the Talk button after selecting Zone. If the Talk button is Off, the broadcasting is ended.
3) Press the NEXT button for more than 5 seconds to switch to the RM Model Set screen.
   (Hidden Menu)



4) You can select the RM model you want to use on the RM Model Set screen.
   ※ NRM-8000A: RM used in the NPX System (CAN communication)
   ※ RM-6024: RM used to make the 6000 System unified/octuple (RS-422 communication)
   ※ RM-6016: RM used in the 6000 Analog System (contact control type)
5) After setting the RM model, system reboot will proceed.
6) Press the PREV key on the RM Model Set screen to switch to the Talk Type Set screen.

6. ID SET: YOU CAN CHECK AND CHANGE THE DEVICE ID.



1) On the Talk Type Set screen, press the MENU button to go to the ID screen.
2) The current device ID is displayed. Press the NEXT button for more than 5 seconds to switch to the corresponding screen to change the ID.
   (Hidden Menu)



3) You can change the ID on the Device ID Set screen. Press the * button to increase the ID and press the # button to complete the settings.
4) Set the ID according to the 6000 System and the NPX System.
   ※ ECS-6216P: 1 or 9; PX-6216: 1~8; NPX-8000: 1~4
   When connecting RME to ECS-6216P (in the case of the RM of RME connected to ECS-6216P Port1: 1~8; in the case of the RM of RME connected to ESC-6216P Port2: 9~16)

7. FIRMWARE VERSION AND FACTORY RESET: YOU CAN CHECK THE FIRMWARE VERSION AND RESET THE SETTINGS DATA.

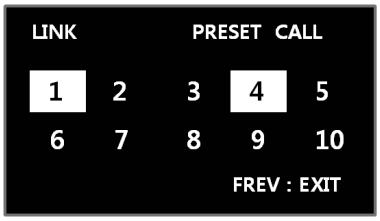


1) Press the MENU button on the ID screen to check the firmware version.
2) Press the MENU button on the Firmware Version screen to switch to the Chime Set screen, where you can switch from the MENU screen to standby screen by pressing the PREV button.
3) If you press the NEXT button for more than 5 seconds on the Firmware Version screen, the "Factory reset?" message appears.
   (Hidden Menu)

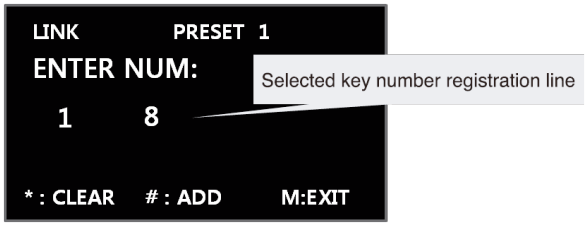


4) Press the # button on the "Factory reset?" message screen to switch to the reset confirmation screen, where you can cancel the Factory Reset by pressing the PREV button.
5) Press the # button on the "Reset?" screen to reset all the saved data and reboot the product.

8. PRESET FUNCTION (NRM-8000A OPERATING MODE)



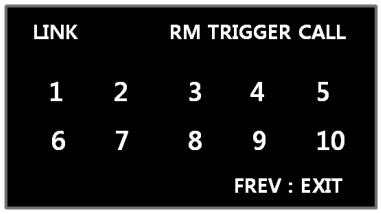




You can use the Preset function (not available in RM-6016 / RM-6024 mode.)
1) Press the PRESET button to go to the Preset Operation screen.
2) In RM-6016 / RM-6024 operating mode, the standby screen appears after displaying the “Invalid Function” message.
3) It can be used after setting RM Preset data in MP-8000.
4) The number of the current Preset is displayed on the display screen with a white background.

5) If you want to call a preset number in white, press the corresponding number button.
6) The 10th PRESET can be selected by inputting the 0 key.
7) If you press a number button, the "Load preset 'number'?" message is displayed.
8) Press the # button on the "Load preset 'number'?" message screen to load saved preset data, and designated zone(s) is(are) displayed on the Number Input screen. If you press the Talk button in this status, you can broadcast to that zone.

9. RM TRIGGER FUNCTION (NRM-8000A OPERATING MODE)







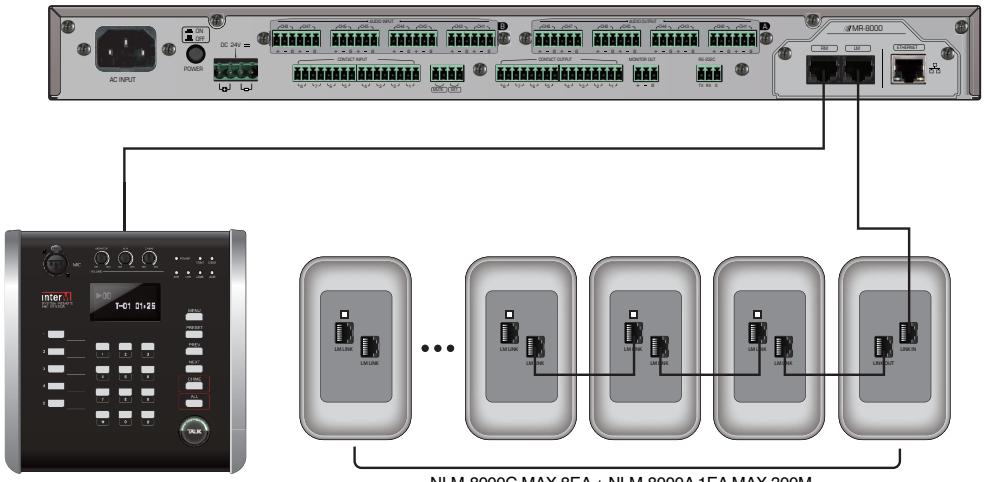
You can play the sound source file(s) in the NPX-8000 SD memory card.

1) Set the sound source file path and broadcasting zone from 1 to 10 on MP-8000 in the same way as the Preset Data setting.
2) Press the PRESET button again on the Preset Set screen to go to the RM Trigger operation screen.
3) You can check the call confirmation message screen by using the number buttons on the screen where the "RM TRIGGER CALL" message is displayed.
4) The 10th RM TRIGGER can be selected by pressing the 0 key.
5) Press the # button to switch to SD Card Play screen.
6) If the RM Trigger has not been set, the corresponding status message is displayed and the standby screen appears.
7) If the zone is operating according to the priority, a corresponding message will be displayed.
8) This operation is terminated when playback of a sound source ends or when a high-priority broadcast is output.

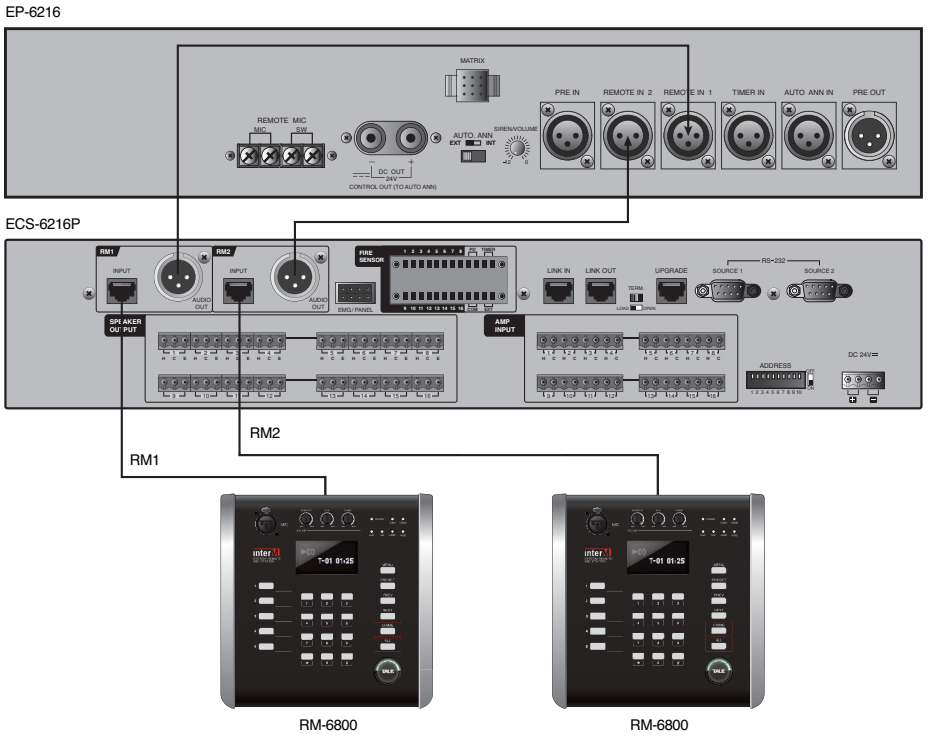
※ The priority can be set and confirmed in the Windows program (MP-8000).

Applications

Application (1)



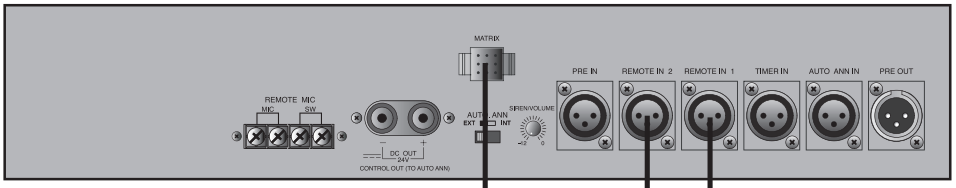
Application (2)



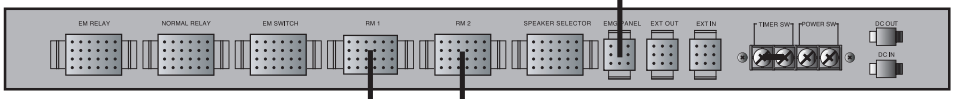
Applications

Application (3)

EP-6216



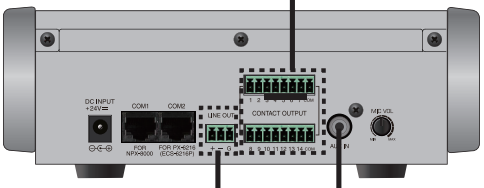
PX-6116



Source Device



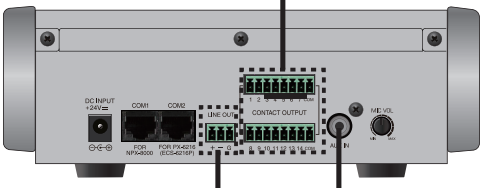
RM-6800



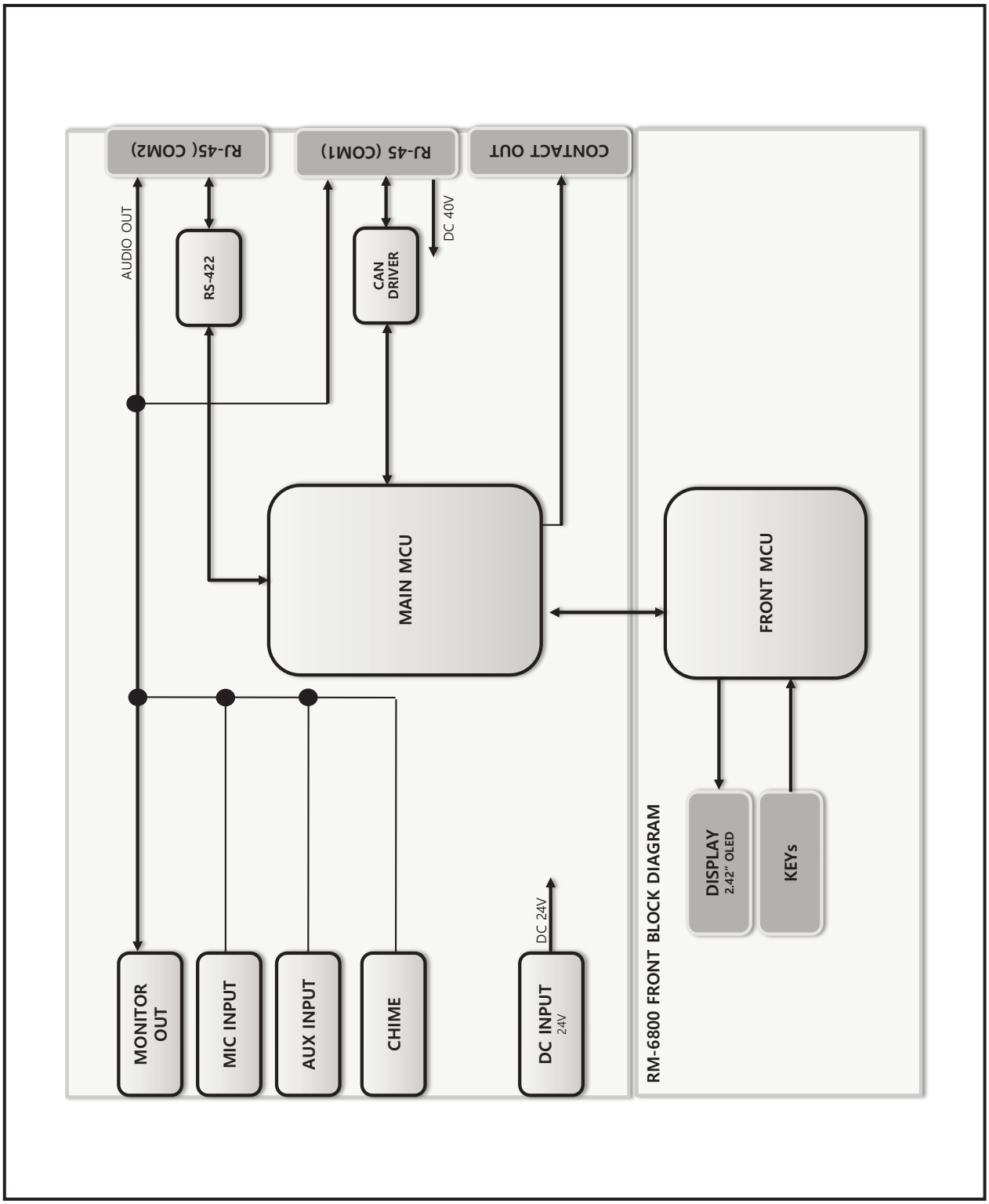
Source Device



RM-6800



Block Diagram

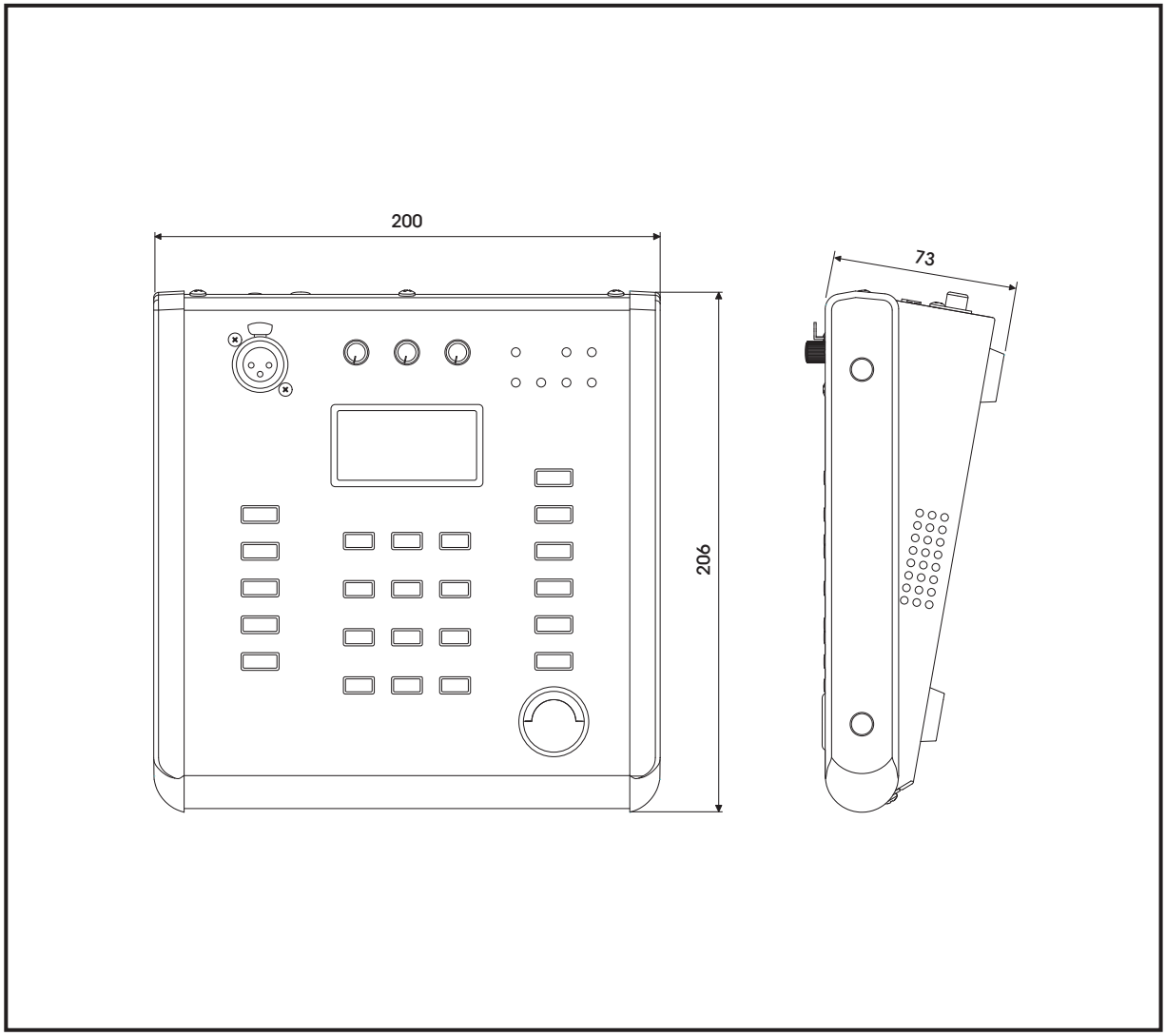


Specifications

		RM-6800
Audio Feature		
MIC	Input Sensitivity	-50dBV
	Signal-to-noise Ratio (<22 kHz LPF)	Better than 70dB
	THD (<22 kHz LPF)	Less than 0.1%
	Frequency Response (100 Hz ~ 18 kHz)	0dBV ± 3dBV
AUX	Input Sensitivity	-10dBV
	Signal-to-noise Ratio (<22 kHz LPF)	Better than 80dB
	THD (<22 kHz LPF)	Less than 0.1%
	Frequency Response (100 Hz ~ 18 kHz)	0dBV ± 3dBV
Data Communication		
RM-6024 MODE	Communication Method	RS-422
	Communication Distance	MAX : 1km
NRM-8000A MODE	Communication Method	CAN (Controller Area Network)
	Communication Distance	MAX : 300m
RM-6016 MODE	Communication Method	Contact Closure
	Speaker Control Player	14CH
Operating Temperature		-10℃ ~ +40℃
Power Source		DC 24V (DC 40 V in NRM-8000A operating mode)
Power Consumption		MAX 10W
Weight (Set)		1.29kg/2.84lb
Dimensions (Set)		200(W) x 73(H) x 206(D)mm/7.9(W) x 2.9(H) x 8.1(D)in

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

※ DIMENSIONS



Service

Procedures
Take steps to insure the problem is not related to operator error or other products within the system. 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 or the authorized Inter-M Distributor for your specific country or region.

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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