Operation Manual

EVAMATRIX System Remote Mic Station

RM-VA1000



interM

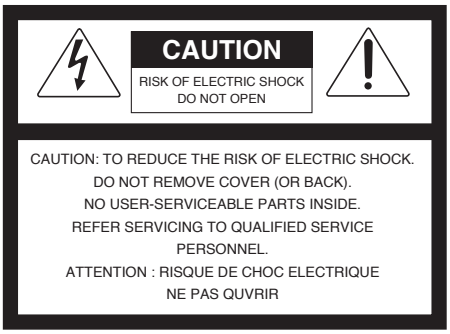
Welcome

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

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.

Contents

Unpacking 2

Installation
- Environment 2
- Important Safety Instructions 2

Features 3

Contents and Accessories 3

Front Panel 4

Rear Panel 6

How To Set Up The Device And Precautions 8

Applications 17

Block Diagram 18

Specifications 19

Service
- Procedures 21
- Schematic 21
- Parts List 21

Variations and Options 21

Warranty 21

Unpacking

Although your RM-VA1000 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.


S3125A

Features

- PAGING BROADCAST THROUGH NETWORK
RM-VA1000 can connect to our EVAMATRIX System to broadcast paging.
It operates in VA Mode (emergency broadcasting) or PA Mode (normal broadcasting) depending on the menu settings.

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

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

- 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.

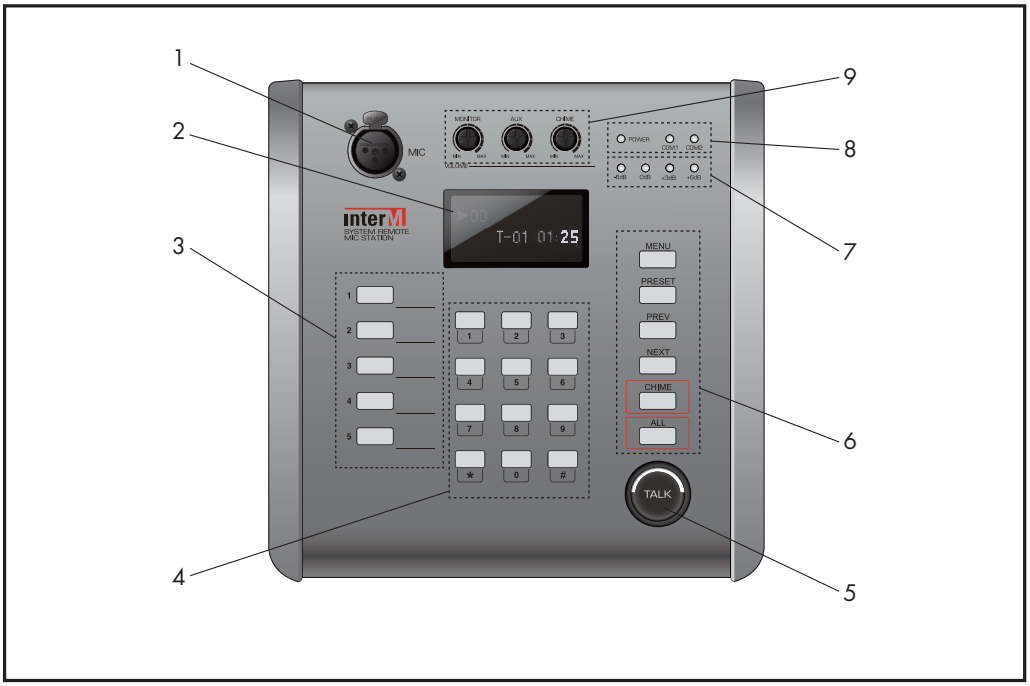
- INPUT/OUTPUT ADJUSTMENT VOLUME
You can adjust the MIC input gain and monitor speaker output, chime, and AUX volume.

- DC 24 V POWER INPUT
Since there is a DC 24 V power input terminal, you can input the power using the adapter.

Contents and Accessories

1. **DC Adapter x 1EA**
2. **Gooseneck Microphone × 1EA**
3. **User Manual × 1EA**
4. **Emergency Broadcasting Label X 1EA**
5. **Emergency Broadcasting Rear Cover X 1EA**
6. **2P Euro Terminal X 1EA**
7. **AC Cord 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. INPUT SHORTCUT KEY
- When operating in VA Mode
  1: Selects Alarm Message emergency broadcast.
  2: Selects Alert Message Alarm Message emergency broadcast.
  3: Selects Mic Talk Alarm Message emergency broadcast.
  4: Stops the buzzer beep sound.
- When operating in PA Mode
  1~5: Converts to Number input screen

4. 0 ~ 9 / * / # KEY
They are used to input a number and password.

5. TALK KEY

It starts broadcasting after selecting a broadcast area.

6. MENU / PRESET / PREV / NEXT / CHIME / ALL KEY

1) MENU / PREV: They are used to go to MENU and the standby screen.
2) PREV / NEXT: When 8 or more numbers are registered in the number input screen, they are used as scroll keys.
3) CHIME: It operates the CHIME to notify the start or end of the broadcast.
   ※It doesn't work in VA Mode. For more information about Chime Set, refer to 7. SET menu.
4) ALL: This key is used to select all the broadcasting areas.
5) PRESET: It doesn't work in VA Mode.

7. LED INDICATOR

You can check the output level through the level meter.

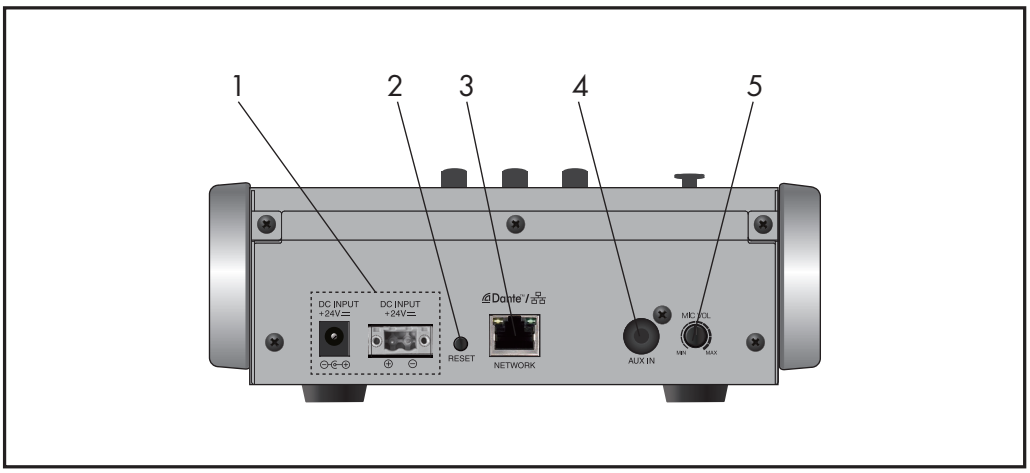
8. POWER AND COMMUNICATION LED INDICATOR

It is the LED that shows the power status and communication status. The Power LED is on when power is supplied, and the communication LED displays the network operation status.
COM1 : LINK/ACT (Flashes when the Ethernet link is up and activity is detected.)
COM2 : GIGA SPEED (Lights up when Ethernet is connected at gigabit speed.)

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.

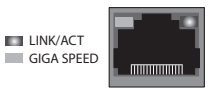
2. RESET SWITCH

Press more than 10 seconds to reset the device to the factory settings.

3. NETWORK CONNECTING TERMINAL

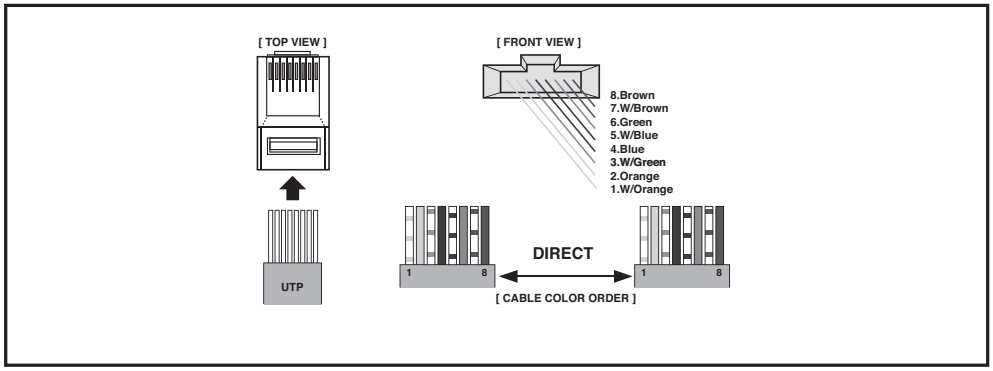
It is a terminal to connect the device to the network. You can control the broadcasting by using integration software.

※ For more information on how to set up, refer to the integration software manual. Download the manual at home page. (www.inter-m.net)



<100 Base-T>		<1G Base-T>	
PIN NO	Function	PIN NO	Function
1	TXN	1	MX(0)+
2	TXP	2	MX(0)-
3	RXN	3	MX(1)+
4	NA	4	MX(1)-
5	NA	5	MX(2)+
6	RXP	6	MX(2)-
7	NA	7	MX(3)+
8	NA	8	MX(3)-

※ Communication Cable Standards



4. AUX INPUT TERMINAL

You can use this terminal to use the AUX IN jack to input an external sound source and broadcast through RM-VA1000.

5. MIC GAIN ADJUSTMENT VOLUME

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

How To Set Up The Device And Precautions

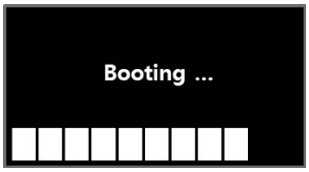
1. BOOT SCREEN: AFTER THE POWER IS SUPPLIED, AN APPROPRIATE DESCRIPTION IS DISPLAYED ON THE BOOT SCREEN

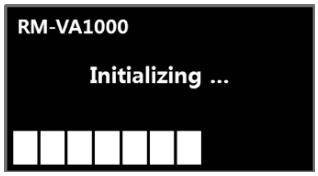
- INITIAL SCREEN

1) A "Welcome" message is displayed on the OLED screen when powering up and initializing the operating system (OS).
2) When the app starts after OS initialization, the message disappears and then reappears after 5 seconds.



3) After displaying the "Welcome" message again, the "Booting …" "Initializing …" message is displayed on screen.





- STANDBY SCREEN

1) When booting is completed, the standby screen is displayed with the device's IP information.



※ The default IP is 192.168.1.99. You can modify the IP in the device's web page.

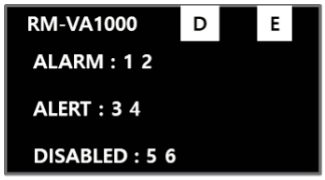
2) To use the RM-VA1000 device, the API Key of the EVAMATRIX integrated management software should be registered.
※ For more information, refer to the software manual.
3) The device and source (RM) should be registered by using the EVAMATRIX integrated management software.
4) Set the PA Event at the Event & Preset (PA&VA) menu in the EVAMATRIX integrated management software.

5) Fault/emergency broadcasting status is displayed when the RM-VA1000 is in VA Mode.

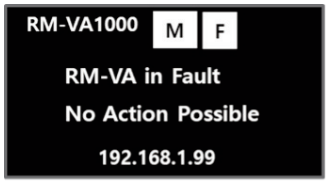


M: RM MIC Fault (No microphone is attached to the RM-VA1000).
F: RM Network Fault (Cannot communicate with EVAMATRIX server), EVAMATRIX Synthesis Fault.
E: Emergency broadcasting is activated (EVAMATRIX has an active emergency broadcasting).
D: Display Disarmed Zone

6) A buzzer rings when there is a Fault (When the buzzer setting is active).
7) When RM-VA1000 is set to VA Mode and connected to EVAMATRIX, the following is displayed when emergency message broadcasting or Disarmed zone is set.



8) When RM-VA1000 is set to VA Mode and the RM-VA1000 Ethernet cable is disconnected during EVAMATRIX linkage, the following is displayed.



2. USER AUTHENTICATION: WHEN OPERATING IN VA MODE, USER AUTHENTICATION IS REQUIRED DEPENDING ON THE ACCESS LEVEL

- ACCESS LEVEL PASSWORD INPUT SCREEN

1) When selecting the emergency broadcast (Access Level 2) or setting menu (Access Level 3) from the standby screen, you are required to input corresponding data.



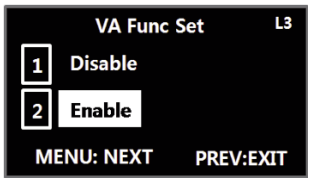


2) Input 4-digit number with the numeric keys from 0 to 9.
3) All the Access Levels 2 ~ 4 are set to "0000" by default.
※ You can change the data at the System Management menu in the EVAMATRIX integrated management software.
4) When selecting the PREV key, the standby screen is displayed.

3. SETTING VA / PA MODE: YOU CAN SEE HOW TO SET THE VA / PA MODE OF THE DEVICE

- VA FUNC SET MENU

1) You can select the MENU key on the standby screen to enter the Set menu.
   ※ For more information, refer to 7. SET menu.
2) Move to the VA Func Set screen in the SET menu.



3) Select the No. 1 key to disable the function. It works in PA Mode.
4) Select the No. 2 key to enable the function. It works in VA Mode.
5) When selecting the PREV key, the standby screen is displayed.

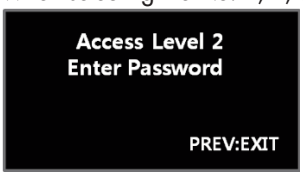
4. INPUT SHORTCUT KEY

1) The 1 ~ 5 key on the front left side.
2) Functions are classified according to the operation of PA Mode and VA Mode.



- WHEN OPERATING IN VA MODE

1) Select the No. 1 key for Alarm Message emergency broadcast.
2) Select the No. 2 key for Alert Message emergency broadcast.
3) Select the No. 3 key for Mic Talk emergency broadcast.
4) Select the No. 4 key to stop the buzzer sound.
5) Select the No. 1, 2, or 3 key for emergency broadcast.
6) When selecting the No. 1, 2, or 3 key, the Access Level 2 Password Input screen is displayed.



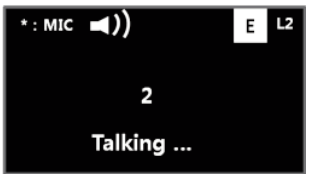
7) If you provide the correct password, your desired Alarm Zone Input screen is displayed.



8) Use the 0 ~ 9 key to input your desired zone and select the Talk Key to broadcast.
※ Refer to 5. ENTER NUMBER Screen in this manual.







9) The indicator of the emergency broadcast status is displayed on the screen.
10) You can modify the MIC Mute On/Off settings by using the * key.
11) If the Talk Key is selected during a broadcast, the broadcast ends and the screen goes to the standby screen.

- WHEN OPERATING IN PA MODE

1) Press a key from No. 1 to No. 5 the corresponding number is input.
2) The following screen is displayed when selecting key No. 2 of 1 ~ 5 keys.



3) You can start broadcast by select the Talk Key.



4) You can modify the MIC Mute On/Off settings by using the * key.
5) You can modify the AUX Mute On/Off settings by using the # key.
6) You cannot set Mute as On for both MIC and AUX at the same time.
7) If the Talk Key is selected during a broadcast, the broadcast ends and the screen goes to the standby screen.

5. ENTER NUMBER SCREEN

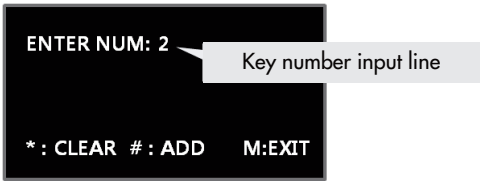
1) Input screens are classified according to the operation of PA mode and VA Mode.

2) In PA mode, it is the RM key event number set in the Event & Preset (PA & VA) menu of the EVAMATRIX Integrated Management Software.
3) In VA mode, it is the number of the Alarm Zone.

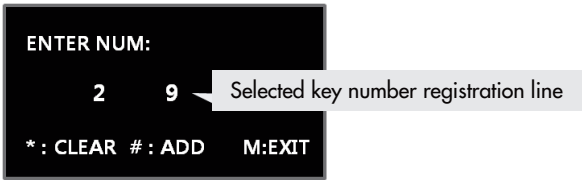




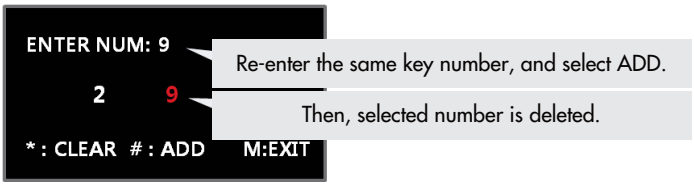
4) When you select any number key on the standby screen in PA mode, it switches to the ENTER NUMBER screen, which displays your input number.
5) When you select a key from No. 0 to No. 9 in VA mode, the screen is not switched to your input screen.
It is allowed to switch to the input screen when an emergency broadcast among No. 1, 2, and 3 on the left is selected.
※ Refer to 4. INPUT SHORTCUT KEY in this manual.
6) Press the MENU key on the Number Input screen to switch to the standby screen (M: EXIT).



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



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



12) When inputting a number to broadcast on the input screen, you can broadcast it by selecting the Talk Key.

6. ENTER PRESET SCREEN

1) Press the PRESET key at the standby screen to enter.
2) The menu is different from the VA Mode and PA Mode.
3) When the mode is set to the VA Mode, this function does not apply.



4) To set presets, select TYPE to preset 1~256 to the PA event list from Event & Preset (PA&VA) menu of the EVAMATRIX management software.





5) Enter the preset number set from 4), then press TALK key to call the preset.



6) Press TALK key again to return to the standby screen.

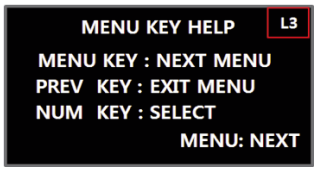
7. SET MENU: REFER TO THE FOLLOWING DESCRIPTION WHEN SELECTING THE MENU KEY ON THE STANDBY

- IN VA MODE, THE ACCESS LEVEL 3 PASSWORD INPUT SCREEN IS DISPLAYED.



1) Enter the Access Level 3 Password.
2) Enter a 4-digit number with the numeric keys from 0 to 9.
3) If you provide a wrong password, an "Invalid Password" message is displayed and the standby screen is displayed.
4) When selecting the PREV key, the standby screen is displayed.

- IN VA MODE, THE ACCESS LEVEL 3 PASSWORD INPUT SCREEN IS DISPLAYED.



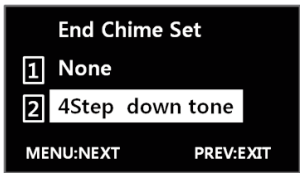
1) Refer to the description about the keys used in the SETUP menu.
2) Select the MENU key to go to the next menu.
   The menus are displayed in the order of Start Chime Set -> End Chime Set -> Talk Type -> Aux-In Set -> VA Func Set -> Buzzer Set -> NETWORK INFO -> Firmware Version.
3) When selecting the PREV key, the standby screen is displayed.
4) Select the NUM key to change the Setup status.
5) The L3 means an access level in VA mode operation (displayed the same as in the SETUP menu).

- START CHIME SET SCREEN



1) Select the No. 1 key for None.
   ※ If set to None, Start Chime does not sound when you select the Chime Key.
2) Select the No. 2 key for 2Step up tone.
   ※ If 2step up tone is set, Start Chime sounds in the 2Step up tone when you select the Chime Key.
3) Select the No. 3 key for 4Step up tone.
   ※ If 4step up tone is set, Start Chime sounds in the 4Step up tone when you select the Chime Key.
4) In VA mode, the Chime Key does not work.
5) Select the MENU key to go into the next menu.

- END CHIME SET SCREEN



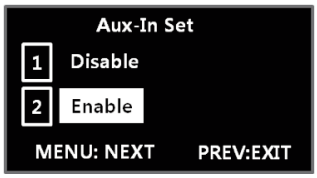
1) Select the No. 1 key for None.
   ※ If set to None, End Chime does not sound when you select the Chime Key.
2) Select the No. 4 key for 2Step up tone.
   ※ If 4step down tone is set, End Chime sounds in the 4Step down tone when you select the Chime Key.
3) In VA mode, the Chime Key does not work.
4) Select the MENU key to go to the next menu.

- TALK TYPE SET



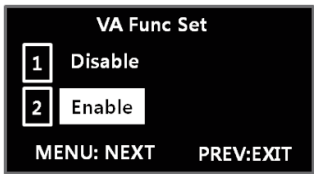
1) Select the No. 1 key to toggle.
   ※ If set to Toggle, press the Talk Key button once to enable RM broadcasting. Press the Talk Key button once again to end the broadcast.
2) Select the No. 2 key to enable Push to Talk.
   ※ If set to Push to Talk, broadcasting in done only while the Talk Key is pressed.
   If selecting Talk Key OFF, the broadcast is ended.
   It is not applied in VA mode.
3) Select the MENU key to go to the next menu.

- AUX-IN SET SCREEN



1) Select the No. 1 key to disable the function. The Aux-In function is not available.
2) Select the No. 2 key to enable the function. The Aux-In function is available.
   ※ It is not applied in VA mode.
3) Select the MENU key to go to the next menu.

- VA FUNC SET SCREEN

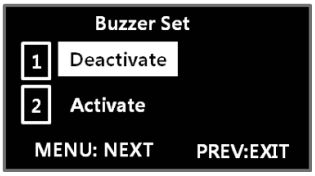


1) Select the No. 1 key to disable the function. It works in PA Mode.
2) Select the No. 2 key to enable the function. It works in VA Mode.

※ If you select Enable in the Disable status, the password input screen for Access Level 3 is displayed.

3) Select the MENU key to go to the next menu.

- BUZZER SET SCREEN



1) If you select the No. 1 key to deactivate the Buzzer.
2) If you select the No. 2 key to activate the Buzzer.
※ In PA mode, the Buzzer does not work.
3) Select the MENU key to go to the next menu.

- NETWORK INFO SCREEN



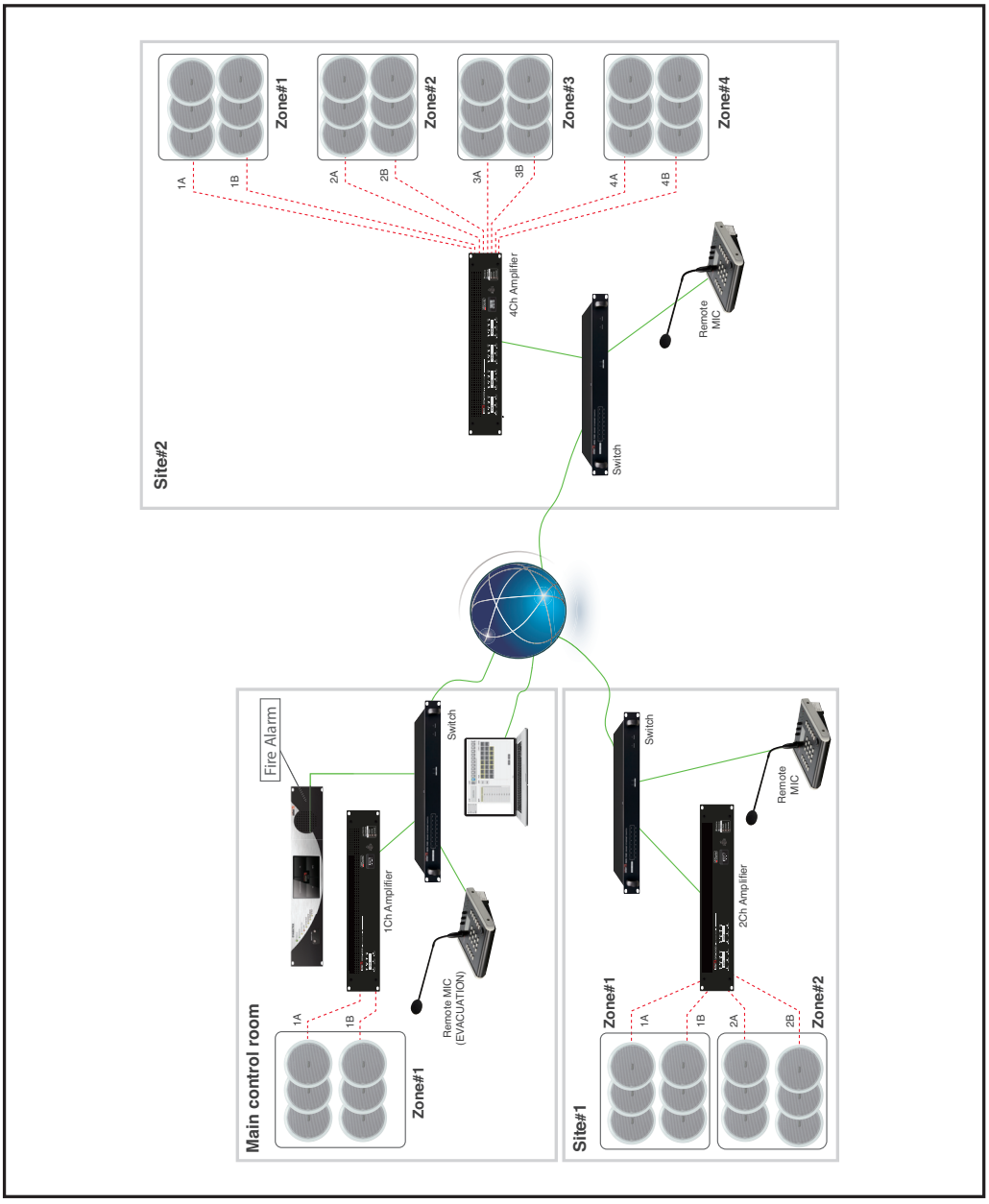
1) You can check the network information of the device.
2) Select the MENU key to go to the next menu.

- FIRMWARE VERSION SCREEN

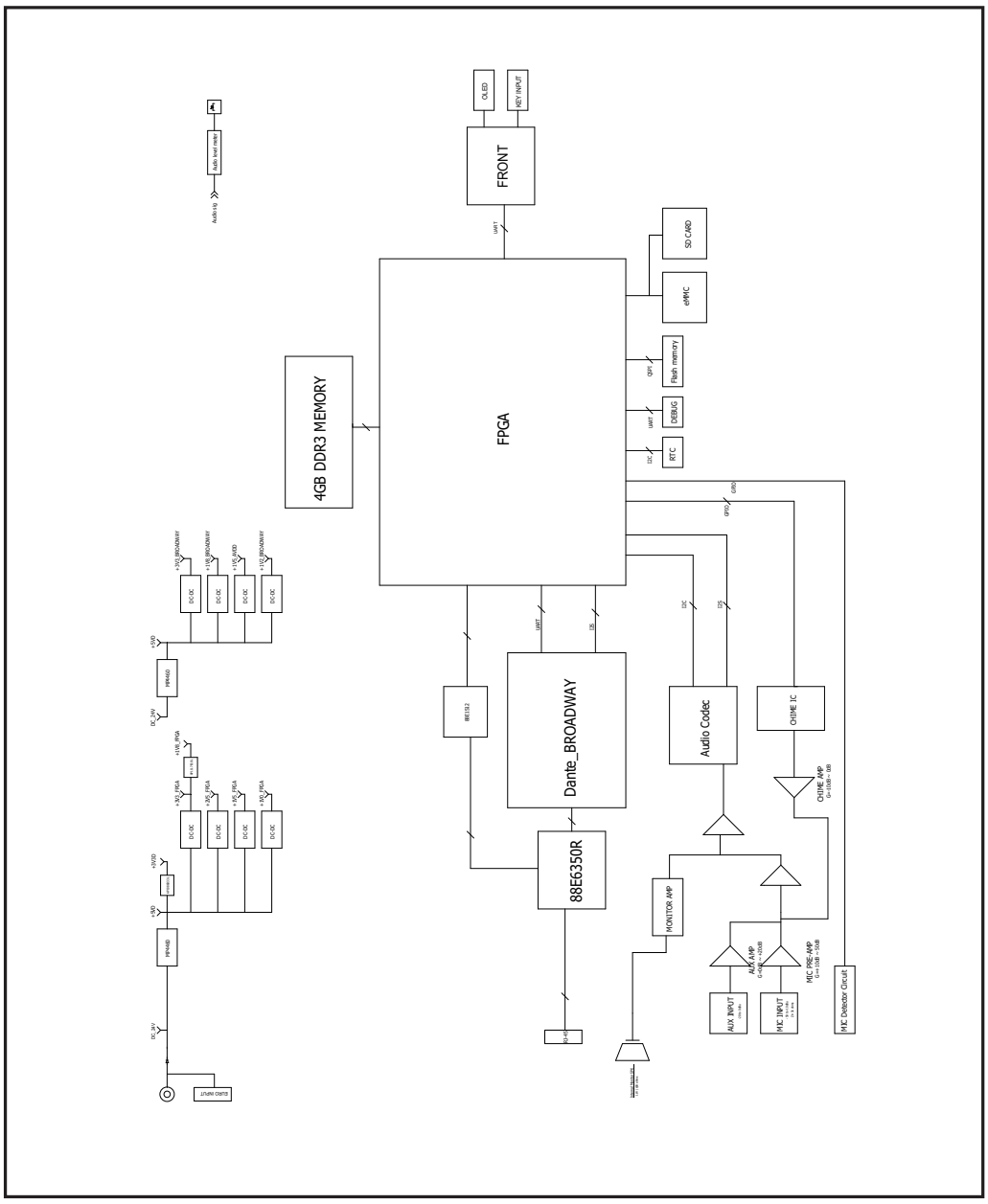


1) You can check the firmware version. (M: Main, F: Front)
2) Select the MENU key to go to the Start Chime Set menu.
3) When selecting the PREV key, the standby screen is displayed.

Applications



Block Diagram

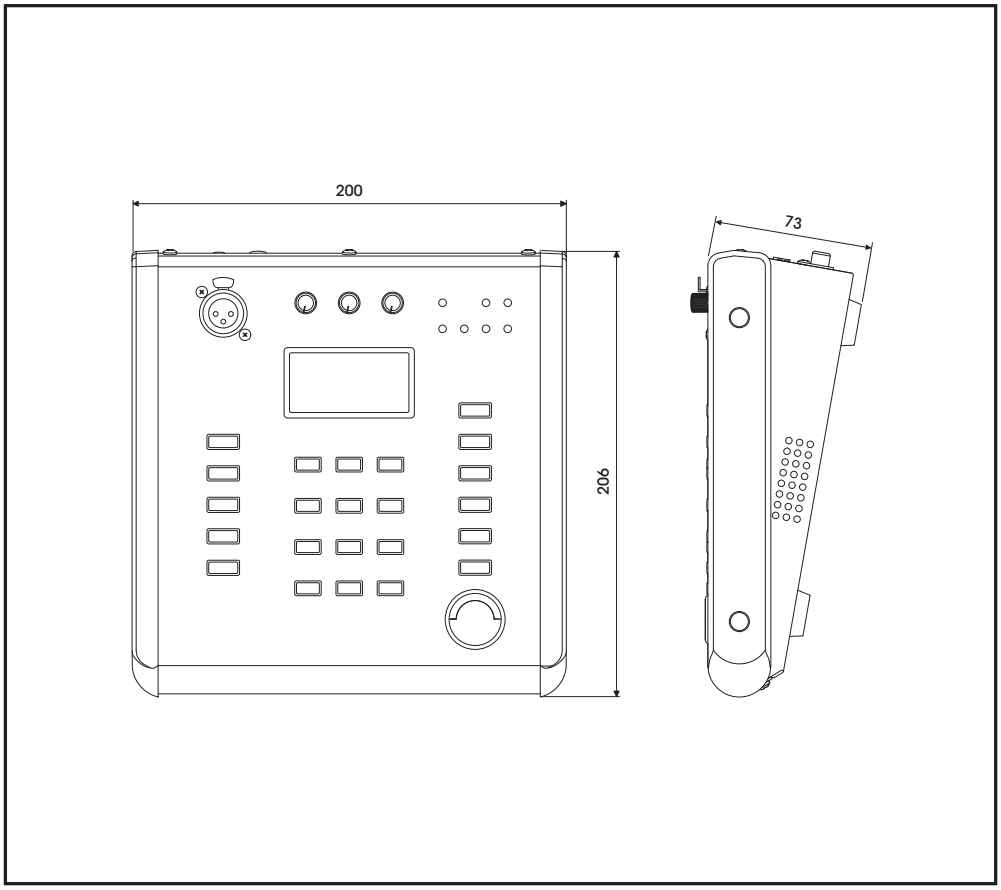


Specifications

		RM-VA1000
Audio Feature		
MIC	Input Sensitivity	-50dBV±3dB
	S/N (<20kHzLPF,A-wt)	More than 65dB
	THD (<22kHzLPF)	Less than 0.1%
	Frequency Response 100Hz ~ 18kHz (Input: -50dBV, 1kHz based)	0dB±3dB
AUX	Input Sensitivity	-10dBV±3dB
	S/N (<20kHzLPF, A-wt)	More than 75dB
	THD (<20kHzLPF)	Less than 0.1%
	Frequency Response 100Hz ~ 18kHz (Input: -10dBV, 1kHz based)	0dB ± 3dB
Data Communication		
Network Communications		100/1000 Base-t (RJ-45)
General Characteristics		
Operating Temperature		-10℃ ~ +40℃
Power source		DC24V
Power Consumption		MAX 12W
Weight (SET)		1.3kg/2.86lb
Dimensions (SET)		200(W) x 73(H) x 206(D)mm 7.87(W) x 2.87(H) x 8.11(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.

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.

Inter-M Americas, INC.
5666 CORPORATE AVE. CYPRESS, CA 90630
TEL : +1-714-828-2200, FAX : +1-714-828-2210
Home Page : http://www.inter-m.net, E-mail : info@inter-m.net

Inter-M Corporation
SEOUL OFFICE : 719, DOBONG-RO, DOBONG-GU, SEOUL, KOREA
TEL : +82-2-2289-8140~8, FAX : +82-2-2289-8149
Home Page : http://www.inter-m.com, E-mail : overseas@inter-m.com

MADE IN KOREA
March 2022 151240