

# INTEGRATED VOICE EVACUATION SYSTEM

## VM-3000 Series

Thank you for purchasing TOA's VM-3000 Series.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

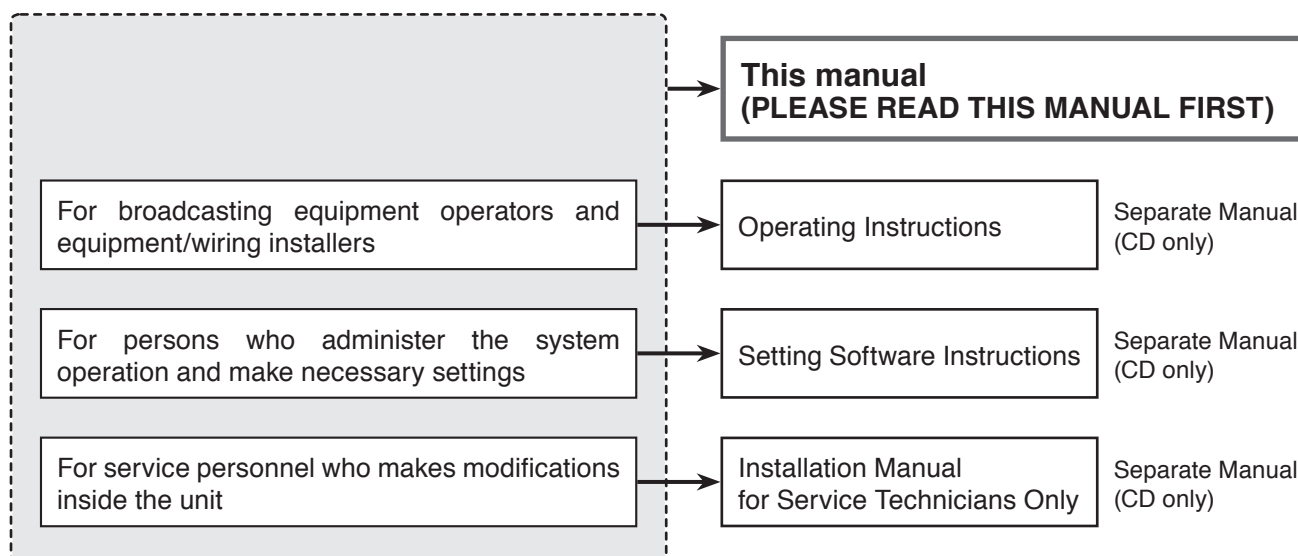
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### 1. COMPOSITION OF THE VM-3000 INSTRUCTION MANUAL

The VM-3000 system Instruction manual is divided into 4 parts.

Please read the proper manual for your purpose.



## 2. SAFETY PRECAUTIONS

These safety precautions apply to the models below which make up the VM-3000 System.

- VM-3240VA, VM-3360VA, VM-3240E, and VM-3360E (VM-3000 Series Amplifiers)
- RM-300MF, RM-320F, RM-200M, and RM-210 (Remote Microphones)
- VP-2241 and VP-2421 (VP Series Amplifiers)
- VX-2000DS and VX-200PS (Power Supply Units)

Safety precautions are described divided into the following categories: commonly applicable ones to all models and the ones only to the equipment groups shown above.

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

### Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

#### 2.1. Applicable to All Models



### WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

#### When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down and causing personal injury and/or property damage.
- Since the unit is designed for in-door use, do not install it outdoors. If installed outdoors, the aging of parts causes the unit to fall off, resulting in personal injury. Also, when it gets wet with rain, there is a danger of electric shock.
- Backup power shall be supplied from the stand-by power supply equipment designated by TOA. Using the equipment other than designated may cause fire.

#### When the Unit is in Use

- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to qualified service personnel.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.
- Do not touch a plug during thunder and lightning, as this may result in electric shock.



## CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

### When Installing the Unit

- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.
- Note correct polarity (positive and negative orientation) when connecting the power supply cord. Reversed polarity connections will cause damage to the unit.
- To avoid electric shocks, be sure to remove its power supply cord from the wall outlet when making connections.

### 2.2. Applicable to VM-3240VA, VM-3360VA, VM-3240E and VM-3360E



## WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

### When Installing the Unit

- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock.
- Be sure to ground to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.
- The apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- The socket-outlet shall be installed near the equipment and the plug (disconnecting device) shall be easily accessible.
- An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.
- Terminals with the symbols ⚡ and ⚠ are Hazardous Live and the external wiring connected to these terminals shall be installed by instructed person or shall be done with ready made cords or leads.
- The apparatus must be securely attached according to instruction manual to prevent injury.

### When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit.
  - If water or any metallic object gets into the unit
  - If the unit falls, or the unit case breaks
  - If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  - If it is malfunctioning (no tone sounds.)
- When replacing the fuse, be sure to use the supplied one. Using any other fuse than supplied may cause fire or electric shock.



## CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

### When Installing the Unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire. Also, periodically clean the ventilation slots of dust.
- Be sure to follow the instructions below when rack-mounting the unit. Failure to do so may cause a fire or personal injury.
  - Install the equipment rack on a stable, hard floor. Fix it with anchor bolts or take other arrangements to prevent it from falling down.
  - When connecting the unit's power cord to an AC outlet, use the AC outlet with current capacity allowable to the unit.
  - Rack-mounting screws are not supplied with the unit. Prepare them that are appropriate for the equipment rack.

### When the Unit is in Use

- Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.
- Do not operate the unit for an extended period of time with the sound distorting. Doing so may cause the connected speakers to heat, resulting in a fire.
- Contact your TOA dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

### 2.3. Applicable to RM-300MF, RF-320F, RM-200M, and RM-210



## **WARNING**

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

#### **When Installing the Unit**

- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock. (RM-300MF and RM-200M only)
- Install the unit only in a location that can structurally support the weight of the unit and the mounting bracket. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.
- Do not use other methods than specified to mount the bracket. Extreme force is applied to the unit and the unit could fall off, possibly resulting in personal injuries.
- Use nuts and bolts that are appropriate for the wall's structure and composition. Failure to do so may cause the remote microphone to fall, resulting in material damage and possible personal injury.
- Tighten each nut and bolt securely. Ensure that the bracket has no loose joints after installation to prevent accidents that could result in personal injury.



## **CAUTION**

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

#### **When the Unit is in Use**

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Use the specified AC adapter for the unit. Note that the use of other adapter may cause a fire. (RM-200M only)

## 2.4. Applicable to VP-2241, VP-2421, VX-2000DS and VX-200PS



### **WARNING**

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

#### **When Installing the Unit**

- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock.
- The apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- The socket-outlet shall be installed near the equipment and the plug (disconnecting device) shall be easily accessible.
- An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.
- Terminals with the symbol ⚡ are Hazardous Live and the external wiring connected to these terminals shall be installed by instructed person or shall be done with ready made cords or leads. (VP-2241, VP-2421, and VX-200PS only)
- Terminals with the symbols ⚡ and ⚠ are Hazardous Live and the external wiring connected to these terminals shall be installed by instructed person or shall be done with ready made cords or leads. (VX-2000DS only)
- The apparatus must be securely attached according to instruction manual to prevent injury.

#### **When the Unit is in Use**

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply cord and contact your nearest TOA dealer. Besides, disconnect batteries in the case of VX-2000DS. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit.
  - If water or any metallic object gets into the unit
  - If the unit falls, or the unit case breaks
  - If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  - If it is malfunctioning (no tone sounds.)
- When replacing the fuse, be sure to use the supplied one. Using any other fuse than supplied may cause fire or electric shock. (VX-2000DS only)



### **CAUTION**

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

#### **When Installing the Unit**

- Never connect nor disconnect the power supply cord with wet hands, as doing so may cause electric shock.
- When disconnecting the power supply cord, never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to disconnect its power supply cord. Moving the unit with the power cord connected may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire. Also, periodically clean the ventilation slots of dust.

- Be sure to follow the instructions below when rack-mounting the unit. Failure to do so may cause a fire or personal injury.
  - Install the equipment rack on a stable, hard floor. Fix it with anchor bolts or take other arrangements to prevent it from falling down.
  - When connecting the unit's power cord to power supply source, use the power source with current capacity allowable to the unit.
  - The supplied rack-mounting screws can be used for the TOA equipment rack only. Do not use them for other racks. (VP-2241, VP-2421, and VX-2000DS only)

#### **When the Unit is in Use**

- Do not operate the unit for an extended period of time with the sound distorting. Doing so may cause the connected speakers to heat, resulting in a fire. (VP-2241 and VP-2421 only)
- Contact your TOA dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely. (VX-2000DS and VX-200PS only)
- Switch off the power, and disconnect the power supply cord for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

### **3. GENERAL DESCRIPTION**

The VM-3000 Series Voice Alarm System is an integrated emergency/general announcement broadcast systems.

The Voice Alarm System Amplifier that plays the central role in the system is available in two models: VM-3240VA (240 W) and VM-3360VA (360 W). Using these amplifiers in conjunction with the VM-3240E (240 W) and VM-3360E (360 W) Extension Amplifiers allows larger systems to be built.

### **4. FEATURES**

- The VM-3240VA and VM-3360VA both have 6 speaker outputs. This can be expanded to up to 60 outputs by combining the amplifier with its corresponding extension amplifier, the VM-3240E or VM-3360E, respectively.
- Set data, log data and other Voice Alarm System Amplifier data can be accessed by way of the Ethernet.
- Up to 2 RM-300MF emergency broadcast Fireman's Microphones can be connected per Voice Alarm System Amplifier. Further, up to a total of 4 general broadcast-use RM-200M microphones and RM-300MF Fireman's Microphone can be connected.
- Connecting an external standby amplifier (VP-2241 and VP-2421) to both of the Voice Alarm System Amplifier and its Extension Amplifiers VM-3240E and VM-3360E enables background music (BGM)/paging broadcasts. The BGM/paging broadcast refers to simultaneous 2-channel broadcasts that allow paging calls (microphone announcements) to be made over other zones without interrupting current BGM broadcasts.
- For systems employing the VX-2000DS Emergency Power Supply, only emergency broadcasts can be made while backup power is being supplied by the VX-2000DS, even if the main power supply has been cut off.
- Easy-to-understand on-screen settings can be performed from a PC screen using the setting software.
- Audio inputs include inputs 1 – 4, a remote microphone input, an emergency remote microphone input, and BGM inputs 1 & 2 (select either of the two).
- Control inputs and outputs include 6 inputs and 3 status outputs for emergency broadcasts, and 8 inputs and 8 outputs for general broadcasts. By adding extension amplifiers (up to 9 units can be connected), the number can be increased up to 60 inputs for emergency broadcasts and up to 80 inputs and 80 outputs for general broadcasts.

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