



# Venas

*Integrated Voice Evacuation System*  
*VM-2000 series*



An integral factor in buildings today.

**Meet the TOA VM-2000 Series --**

**they're affordable and high-value added components for any building or site.**

**An indispensable part of building design and management today, communications infrastructures can effectively reach various audiences through paging, calls routed to selected areas and priority emergency announcements for the entire building. The VM-2000 Series represents a highly cost-effective solution for building management and owners.**

**Designed specifically for effective communications in a building, VM-2000 Series units are not conventional power amplifiers with just a few added features.**

**They're optimized to deal with emergency situations to alert building occupants as well as routine announcements and BGM.**

# Communications expert.

Taking advantage of TOA's long-accumulated technological expertise and knowledge in security and audio, the VM-2000 Series is part of a select range of sound management equipment. Featuring outstanding audio performance, this range of equipment satisfies the growing need for reliable and efficient communications for various applications including office buildings, schools, shopping malls, supermarkets, factories, hospitals and transportation terminals.

Targeted at medium-sized facilities, every VM-2000 Series unit offers three line/mic inputs, 2 BGM inputs

and remote mic capability as well as telephone paging. All controls and indicators are laid out in a logical, easy-to-see manner that aids operation. Tonal preferences may be set for each channel in order to optimize it to sound the best for speech or music signals. The processed input signals can then be sent on to any of five independent loudspeaker zones as desired, or automatically to all in the case of an emergency. Operation is simple and trouble-free for site staff. And the VM-2000 Series' clean, attractive design makes it well-suited for installation in a building's operation center equipment rack or even on a table or desk in a reception area.



VM-2120 :  
120 W System  
Management Amplifier  
VM-2240 :  
240 W System  
Management Amplifier

## Built to expand with your requirements.

The VM-2000 Series are designed with cost-effectiveness in mind, allowing for expansion as your needs grow. For instance, if the standard five loudspeaker zones are not enough, the unit can be linked to another unit for servicing an additional five zones and doubling the power output. The VM-2000 Series' cost-effectiveness allows installation to be basic at first, then expanded as particular requirements dictate. Optional accessories and related equipment are available to meet specific requirements and enhance a unit's operational scope. The VM-2000 Series conforms to most international emergency sound system standards and requirements such as IEC60849.

## Remote microphone extends system control.

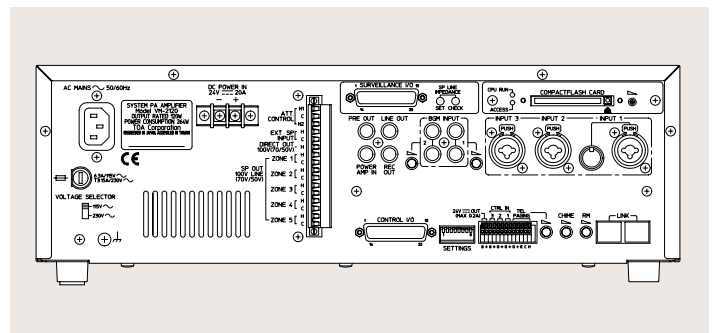
Adding convenience to a communications system is the RM-200M Remote Microphone that allows announcements to be made to any speaker zone and emergency announcements to all zones. These announcements can be made live or pre-recorded announcements can be activated. The remote microphone is connected by cable to the RM-210 Remote Microphone Extension unit.

## Voice Announcement Board expands operational scope.

Any VM-2000 unit may be easily upgraded by installing several options such as the digital EV-200 Voice Announcement Board which offers two additional emergency announcements, five commercial announcements, and one chime in addition to the stock tones provided by every VM-2000 unit.

## Intelligent self-diagnosis capability.

When a VM-2000 Series unit is fitted with the optional SV-200M Surveillance Board, the unit gains the ability to conduct automatic system-wide checks for open or shorted speaker lines and ground leakage as well as other malfunctions, simplifying maintenance and other routine system tasks as well as instantly alerting operators when a fault occurs. And of course, the VM-2000 Series is ready for failsafe operation with backup 24V battery power to ensure uninterrupted operation.



RM-200M :  
Remote Microphone  
RM-210 :  
Remote Microphone  
Extension Unit

# VenaS

Integrated Voice Evacuation System  
VM-2000 series

BGM Sources

Telephone System  
(paging)

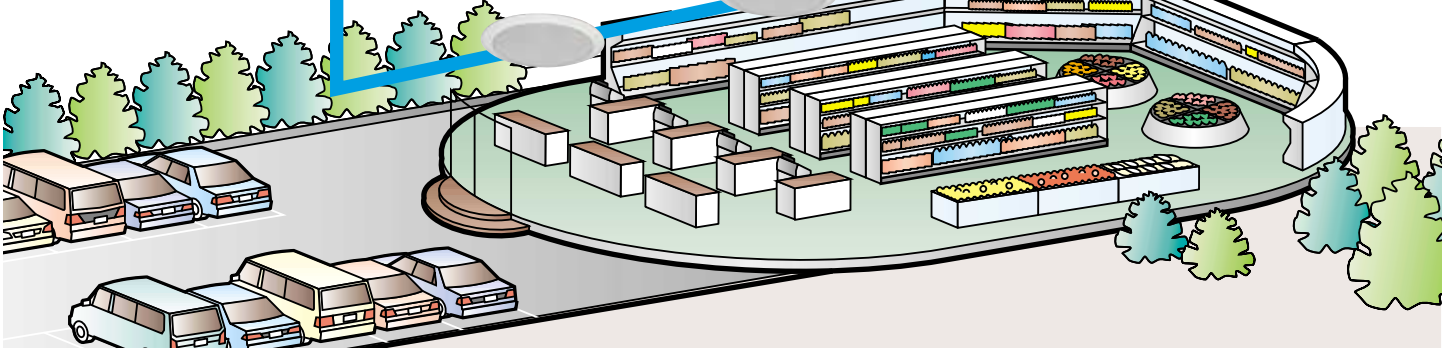
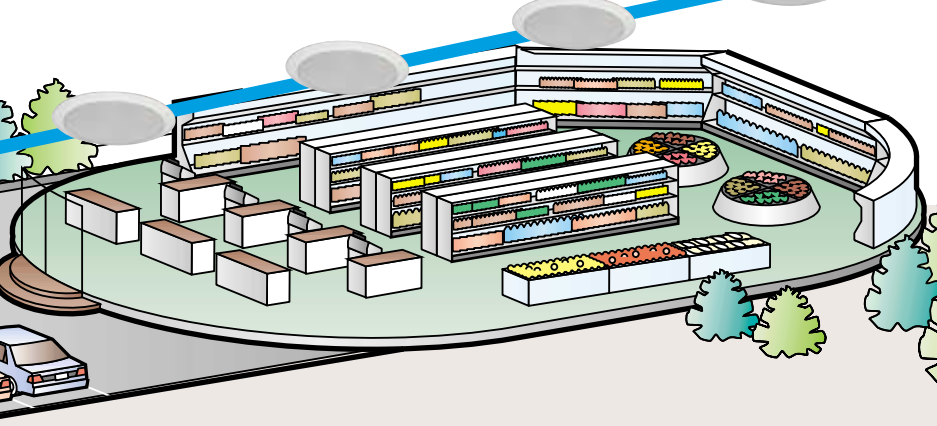
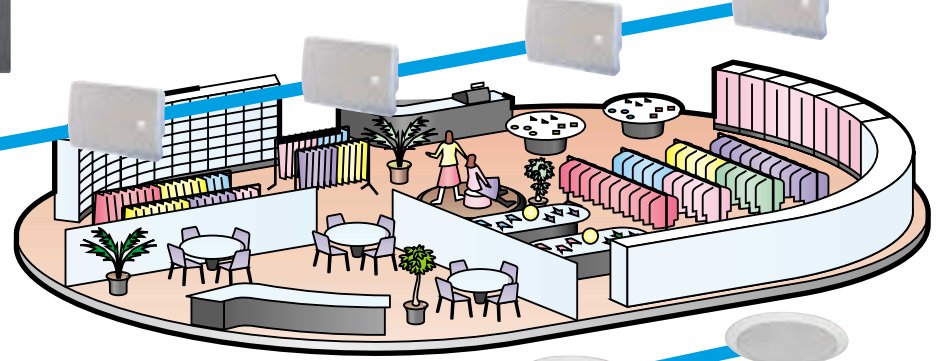
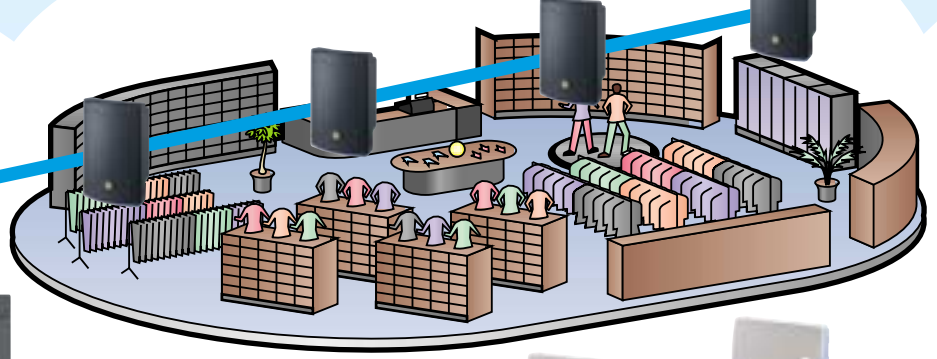
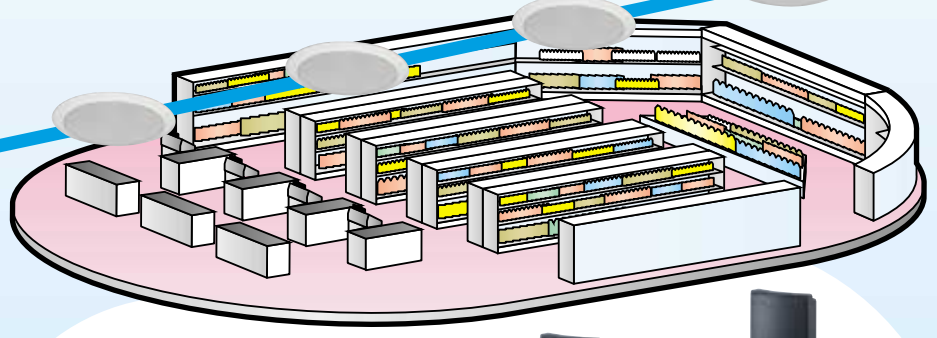
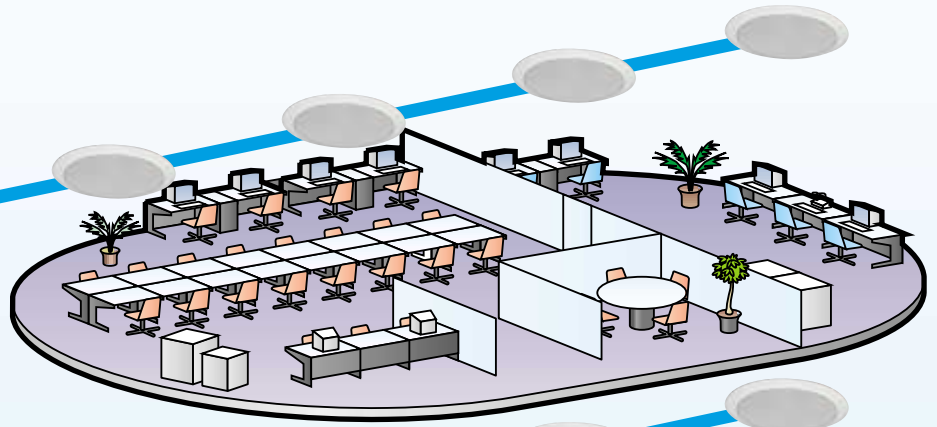
RM-200M



Fault Indication  
Panel

External Control  
Switch Panel

Emergency  
Detection System



## SPECIFICATIONS

### System Management Amplifier VM-2120/VM-2240

Model No.	VM-2120	VM-2240
Power Requirement	AC mains, 50/60 Hz DC: 24 V	
Rated Output	120 W	240 W
Frequency Response	50 - 16,000 Hz	
Distortion	Less than 1%	
Signal-to-Noise Ratio	More than 60 dB	
Tone Control	Bass: 100 Hz $\pm$ 10 dB, Treble: 10 kHz $\pm$ 10 dB (Inputs 1 - 3 and BGM individually adjustable.)	
Remote Microphone/ Expansion Amplifier Connection	Two RJ45 female connectors Maximum distance: 800 m	
Audio Input	Inputs 1 - 3 -60 dB <sup>*1</sup> [MIC]/-10 dB <sup>*1</sup> [LINE] (switchable), 600 $\Omega$ , electronically balanced <sup>*2</sup> , combined XLR type connector (female)/ 1/4" phone jack (Only Input 1 is additionally equipped with DIN connector <sup>*3</sup> .) Telephone Paging Input Push-in terminal block -10 dB <sup>*1</sup> , 10 k $\Omega$ , electronically-balanced <sup>*2</sup> Control : No-voltage make contact input BGM 1 - 2 Power Amplifier Input -20 dB <sup>*1</sup> , 10 k $\Omega$ , RCA pin jack, monaural External Speaker Line Input 100 V line, for All-Zone Broadcast	
Audio Output	Speaker Output 83 $\Omega$ (100 V line, volume control in maximum position), Removable terminal block with screw terminals.	41 $\Omega$ (100 V line, volume control in maximum position), Removable terminal block with screw terminals.
Speaker Zone Control	5-zone selector with attenuator Direct output from the power amplifier output transformer, Removable terminal block with screw terminals.	
Direct Speaker Line Output	0 dB <sup>*1</sup> , 10 k $\Omega$ , RCA pin jack	
Line Output	0 dB <sup>*1</sup> , 10 k $\Omega$ , RCA pin jack	
Recording Output	0 dB <sup>*1</sup> , 10 k $\Omega$ , RCA pin jack	
Preamplifier Output	0 dB <sup>*1</sup> , 10 k $\Omega$ , RCA pin jack	
Control Inputs 1 - 3	For controlling Inputs 1 - 3, Push-in terminal block No-voltage make contact.	
Control Input and Output	25-pin female D-sub connector Input : No-voltage make contact input Output : Open collector output (1) External control input •Activation of messages for an optional Voice Announcement Board <sup>*4</sup> •Activation of power •Activation and stop of Emergency Broadcast •Unit's broadcast cutoff (when activated by an external emergency equipment) (2) Status output •Irregularity of communications with the Remote Microphone and an expansion amplifier •AC power condition •DC power condition •Irregularity of the sound source of the Voice Announcement board •Stop of the unit's broadcast	
External Attenuator Control Output	Removable terminal block with screw terminals, relay, no-voltage make contact output, transfer type	
Surveillance Input and Output <sup>*5</sup>	25-pin female D-sub connector Input : No-voltage make contact input Output : Open collector output	
Power Output	24 V DC	
Chime Tone	Built-in chime: 2-tone chime/2-tone chime(fast repeat) 4-tone chime (Up)/Single-tone chime/ 4-tone chime (Up & Down)/Gong/off	
Finish	Panel: ABS resin Case: Steel plate painted	
Dimensions	419 (W) $\times$ 143.3 (H) $\times$ 356.2 (D) mm	

<sup>\*1</sup> 0 dB = 1 V

<sup>\*2</sup> Can be transformer-balanced with the addition of an optional IT-450 input transformer.

<sup>\*3</sup> For connection of the Paging Microphone with remote control switch.

<sup>\*4</sup> An optional EV-200 Voice Announcement Board is required.

<sup>\*5</sup> An optional SV-200M Surveillance Board is required.

### Remote Microphone RM-200M

Power Requirement	24 V DC (12-30 V DC), (Supplied from VM-2120/VM-2240 Amplifier or local power supply.)
Distortion	Less than 1%
Frequency Response	100 - 10,000 Hz
Signal-to-Noise Ratio	More than 60 dB
Audio Output	0 dB <sup>*1</sup> , 600 $\Omega$ , balanced
Microphone	Unidirectional electret condenser microphone, gooseneck type.
Speaker Zone Control	Zones 1-5 (Zones 1-10 with 2 stacked amplifiers) Groups 1-2, and All-Zone Broadcast
Emergency Broadcast	Activation of Emergency Broadcast (pre-recorded announcement <sup>*2</sup> or live microphone announcement) by Emergency Switch
Voice Announcement Board Control	Activation of 5 messages <sup>*2</sup>
Number of Connectable Units	Up to 4
Communication System	RS-485
Volume Control	Microphone volume control
Connection Cable and Connector	Category 5 STP cable, RJ45 connector
Communication Distance	800 m maximum in total
Finish	ABS resin
Dimensions	190 (W) $\times$ 75.7 (H) $\times$ 21.5 (D) mm (Gooseneck microphone excluded)

<sup>\*1</sup> 0 dB = 1 V

<sup>\*2</sup> An optional EV-200 Board must be mounted in the VM-2120 or VM-2240 Amplifier.

### Remote Microphone Extension Unit RM-210

Power Requirement	24 V DC (Supplied from RM-200M Remote Microphone)
Connection	Connection to RM-200M with dedicated cable
Function	Activation of Voice Announcement Board messages when controlling speakers in 10 zones at RM-200M
Finish	ABS resin
Dimensions	110 (W) $\times$ 75.7 (H) $\times$ 21.5 (D) mm

### Voice Announcement Board EV-200

Number of Messages	Two emergency messages Five commercial messages One chime tone
Recording method	EV-350R recorder required (option)

### Surveillance Board SV-200M

Function	Pre-amplifier fault detect Power amplifier fault detect Speaker line open and short circuit detect Speaker line ground leakage detect
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URL: [www.toa.co.jp/global/](http://www.toa.co.jp/global/)

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