



VM-2000 Series

Integrated Voice Evacuation System



sound without compromise

Communication 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:
120W System
Management Amplifier

VM-2240:
240W 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 (EN60849).

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.



VM-2120 / VM-2240 Rear



RM-210
Remote Microphone
Extension Unit

RM-200M
Remote Microphone

Voice Announcement Board expands operational scope.

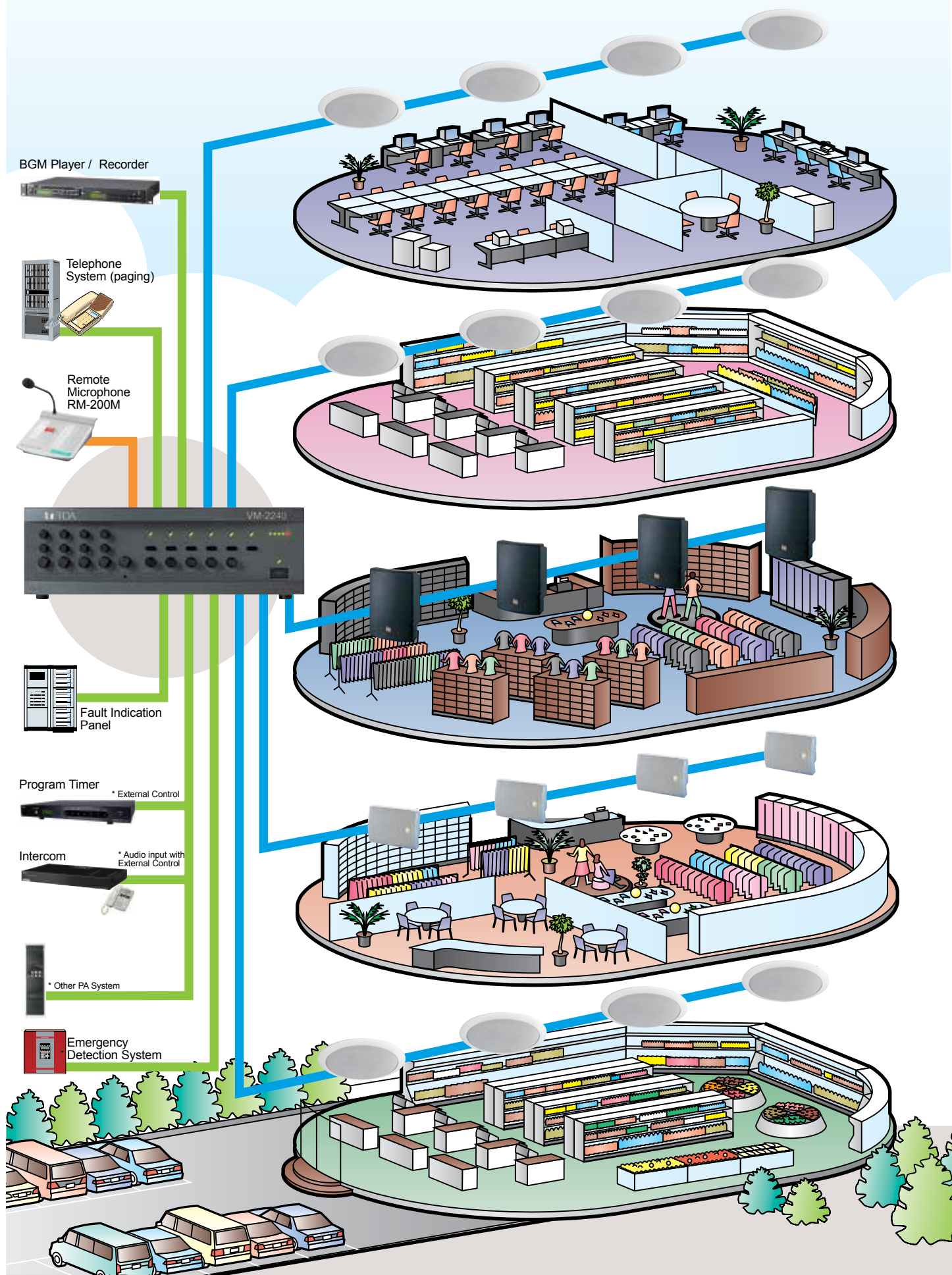
Any VM-2000 unit may be easily upgraded by installing several options such as the digital EV-200M Voice Announcement Board which offers two additional emergency announcements, five commercial announcements, and one chime in addition to the stock tones provided by every VM-2000 unit.



Intelligent self-diagnosis capability.

When a VM-2000 Series unit is fitted with the optional SV-200MA 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 back up 24V battery power to ensure uninterrupted operation.





BGM Player / Recorder



Telephone System (paging)



Remote Microphone RM-200M



Fault Indication Panel

Program Timer * External Control



Intercom * Audio input with External Control



* Other PA System



Emergency Detection System

Specifications

System Management Amplifier VM-2120 / VM-2240

Model No.	VM-2120	VM-2240
Power Source	AC mains, 50/60Hz or 24V DC, 7.5A	
Rated Output	120W	240W
Frequency Response	50Hz - 16kHz	
Distortion	Under 1%	
S/N Ratio	Over 60dB	
Tone Control	Bass: 100Hz $\pm$ 10 dB, Treble: 10 kHz $\pm$ 10 dB	
Input	Mic/Line input x 3 Telephone paging input BGM input x 2 Power amplifier input External speaker line input	
Output	Speaker output Direct speaker line output Line output Recording output Preamplifier output	
Control Input & Output	(1) External control input • Activation of messages • 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 • Failure (FAULT) indication on • Power switch on	
External Attenuator	Plug-in screw connector, relay, no-voltage make contact output, transfer type, withstand voltage: 30 V DC, 125 V AC, contact current: under 7 A (DC), under 7 A (AC)	
Surveillance Input and Output	Input: No-voltage make contact input, open voltage: 3.3 V DC, short-circuit current: under 1 mA Output: Open collector output, withstand voltage: 30 V DC, control current: under 10 mA	
Chime Tone	Built-in chime, Voice Announcement Board sound source	
Function	Two units stacking (VM-2120 or VM-2240) Emergency broadcast (sequential control) Broadcast priority control Surveillance (failure detection) function Power supply to only one Remote Microphone (RM-200M) Line resistance: Under 40 Ω (one way)	
Dimensions	419 (W) $\times$ 143.3 (H) $\times$ 355.7 (D) mm	

Remote Microphone RM-200M

Power Requirement	24 V DC
Microphone	Unidirectional electret condenser microphone
Function	General-purpose Boardcast Emergency Broadcast Activation of voice message
Connection Cable and Connector	Category 5 STP cable, RJ45 connector
Dimensions	190 (W) $\times$ 76.5 (H) $\times$ 215 (D) mm

Remote Microphone Extension Unit RM-210

Function	Activation of Voice Announcement Board's voice messages when controlling speakers in 10 zones at RM-200M
Dimensions	110 (W) $\times$ 76.5 (H) $\times$ 215 (D) mm

Voice Announcement Board EV-200M

Playback Mode	Single source playback
No. of Playback Program	8 programs

Surveillance Board SV-200MA

Control Input and Output	Input: (1) Speaker line initial setting activation signal (2) Speaker line surveillance activation signal Output: (1) Monitoring short or open of individual speaker line (zone 1 - 5) (2) Ground fault (insulation resistance: under 50 k Ω) (3) Power amplifier failures Input/Output (1) Speaker Zone information/selection (2) Power amplifier fault link
Failure Detection	Power amplifier failure: 20 kHz pilot tone detection Speaker line failure: 40 Hz impedance detection
Speaker Line Surveillance	Speaker lines are automatically monitored at set time intervals

IT-450
Input Transformer
Impedance: 600 Ω $\pm$ 10%
Frequency Response: 200 ~ 10,000 Hz



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