VM-3000 SERIES
INTEGRATED VOICE EVACUATION SYSTEM

EN 54

CPD No. 1438-CPD-0180.
CPD No. 1134-CPD-083.

VenaS

Integrated Voice Evacuation System
VM-3000 series

Fully EN 54 certified All In One

Voice Alarm Emergency Evacuation system

with Audio PA, Paging and BGM

Distributing Clear Paging & BGM Sound

For paging to be effective, announcements must be audible. Broadcasting at the proper volume (about 15 dB higher than the ambient noise level) and frequency range (bandwith of approx. 200 to 7kHz, which distinguishes the consonants and vowels) ensure that the announcement can be clearly heard. Therefore, appropriate speaker selection and placement are critical to acoustical success. TOA free acoustic simulation software (SPV) enables the right speaker selection and layout without complicated calculation. In case of significant ambient noise fluctuation, such as in shopping malls, TOA Automatic Ambient Noise Controller (DP-L2) automatically adjusts the sound volume according to the ambient noise level. In the reverberant rooms, TOA line array speakers, such as Type-H or HX-5 Series, help increase the balance of direct over reflected sound to optimize the sound clarity. The key considerations of designing a good system are clear sound, correct functions, ease of installation and maintenance, durability and reliability, and flexibility for future expansion and changes.

Office

Boutique

Passage

Hall

Information

Machine Room
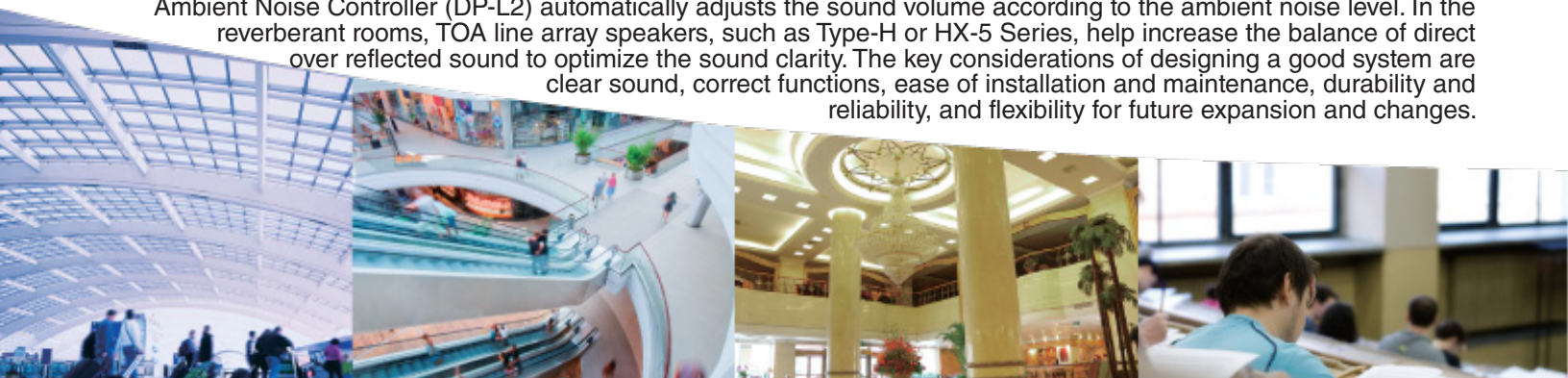
Products for Clear Paging and plesant BGM

UL2572 Pending

**VM-3240VA (240W)
Voice Alarm
System Amplifier**

Integrated Public Address and Voice Alarm system. Expandable up to 60 speaker zones and 2400W output power with extension amplifier VM-3240E (240W).

**VX-2000DS
Emergency Power Supply**

UL2572 Pending

Supplies backup DC power to each equipment in the VM-3000 system with optional batteries, while the main power supply has been cut off.

2

Paging Functions and BGM (Background Music) Functions

The purpose of announcements is to quickly and correctly relay information and messages needed in particular locations. Large facilities like airports or factories are divided into functional areas, each with its required announcements needed. In order for different announcements to be made simultaneously in those multiple areas, the sound system needs a matrix function of voice inputs and outputs, including a separate speaker zone for each area and microphones that allow broadcasting zone selection.

BGM - much like architecture, design, lighting, and space - is used to create a comfortable atmosphere in line with the particular needs of facility. In retail stores, the right type of music with the right volume can induce customers to buy. In hospitals and clinics, BGM puts patients at ease and protects privacy by music masking. In factories and offices, the productivity can be increased by BGM. BGM must also automatically decrease in volume to give priority to important announcements and emergency messages.

Clinic

Restaurant

Hall

Passage

Control Room

Security Room

RM-300MF Fireman's Microphone
UL2572 Pending

Broadcasts Voice Evacuation instructions with VM-3000 Series amplifers. Expandable for expansion of paging zones, with expansion unit, RM-320F.

RM-200M Remote Microphone
UL2572 Pending

Places General and Selective paging with VM-3000 Series amplifiers. Expandable for paging zones and functions with expansion unit, RM-210.

Broadcasting an Effective Voice Alarm in an Emergency

Human life is the most important issue in any case. Therefore, the method of risk management and safety control must be considered and provided. Facilities with safety systems gives people a sense of security. The Voice Alarm provides comfort and it reduces loss of life and property in a disaster. In case of a disaster such as a fire, the sound system should give instructions for emergency evacuation. Such an emergency notice must interrupt other announcements and be given at a volume loud enough to be heard. A good voice alarm system functions effectively under various contingencies. Circuts are protected against breakdown, the system is automatically monitored at all times, and backup functions are in place. Since disasters are often accompanied by power failures, the system can be operated with emergency power sources, such as betteries. In the event of disaster, the system can deliver pre-recorded emergency announcements in accordnace with smoke detectors and other warning systems.

Office

Boutique

Passage

Hall

Information

Machine Room

Products for Secure Voice Alarm

1480 UUMW
2043 Plenum

PC-580RU/RVU (5W) Ceiling Speaker

High-performance ceiling speaker for both paging and BGM applications. Suitable for use in air-handling spaces with the optional back-can, HY-BC580U.

2043 Plenum
1480 UUMW

F-122CU2 Wide-dispersion Ceiling Speaker

Wide-dispersion ceiling speaker for both paging and BGM applications. Suitable for use in air-handling spaces with built-in back-can.

UL1480 UUMW

PE-304/604/BU/WU (30/60) Pendant Speaker

Enables speaker mounting from high ceilings. Extendable cable length max 16.4ft. Blends into any atmosphere with color variation of black or white bodies.

4

Advantages of TOA Sound Systems

TOA offers a wide range of system equipment with combined functions for Paging, BGM, and Emergency Voice Alarm. With TOA microphones, speakers and more, it's easy to build a sound system that satisfies the optimal requirements for function, safety, standard, scale, and cost. What's more, creating a sound system from the same-brand products ensures easy installation and maintenance, simple operation, greater realibility, and lower costs.

It also makes it easier to expand the system to meet changing needs. With functions for clear announcements, pleasant music, and reliable emergency boradcast, TOA sound systems help build a sound environment of comfort and safety.

Clinic

Restaurant

Hall

Passage

Control Room

Security Room

**BS-680U
Wall Mount
Box Speaker**

The 6" (16cm) double cone speaker unit ensures high-quality sound.

**SC-630TU (30W)
Paging Horn Speaker**

Provide intelligible voice paging and tone signaling for indoor and outdoor sound system applications. Built-in 25V/70V transformer with external screwdriver-adjustable power taps.

System Features and Applications

Benefits of TOA System Features

1 Combined functions of Paging, BGM, and Voice Alarm.

2 Speaker zone grouping and selection.

3 Programmable priority order among audio inputs.

4 Pre-recorded message storage and tone signal generator.

Features

VM-3240VA

UL2572 Pending

VM-3240E

RM-300F

RM-320F

RM-200M

Emergency functions
- Continuous speaker line monitoring without interruption of BGM distribution or paging announcements
- Complete fault detection and indication
- Off-site log check capability via LAN
- Built-in and remote Fireman's Microphones
- Built-in voice alarm message
- 2-Phase voice alarm message (Alert and Evacuation) broadcasting

Paging functions
- 2 Remote Microphones interface lines
- Paging (All zones/Group/Individually)

- Max. 13 MIC/LINE Inputs
  (VM-3240VA: 4 MIC/LINE Inputs, VM-3240E 9 Local Inputs)
- 2 BGM Inputs
- Up to 4 Fireman's/Remote Microphone connectable
  (max. 2 Fireman's Microphones)
- Max. 2400W output power
- Max. 60 assignable speaker zone outputs
  (6 outputs per amplifier)
- Volume setting possible for each zone
- Max. 80 control inputs and outputs
- Digital audio processed and controlled
  - Full digital audio mixing (DSP)
- Intuitive configuraion
  - Zone setting, priority setting, failure detection setting by dedicated PC software
  - LCD display of current status and confuration setting of system units
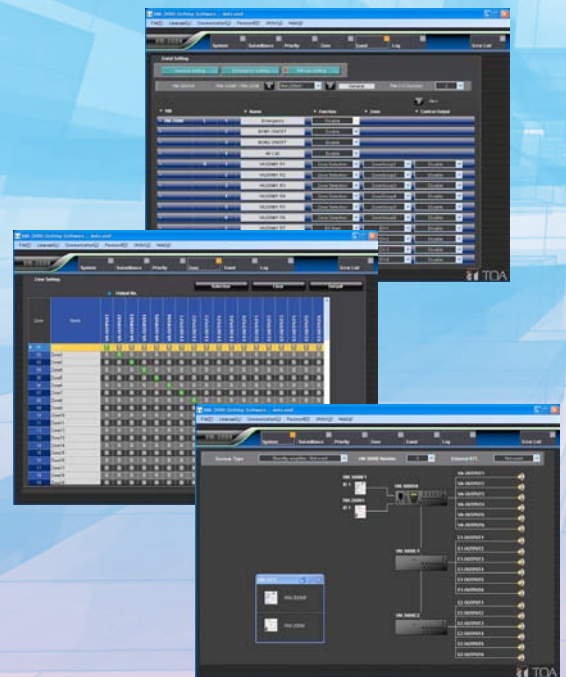
Applications

Metro Environments

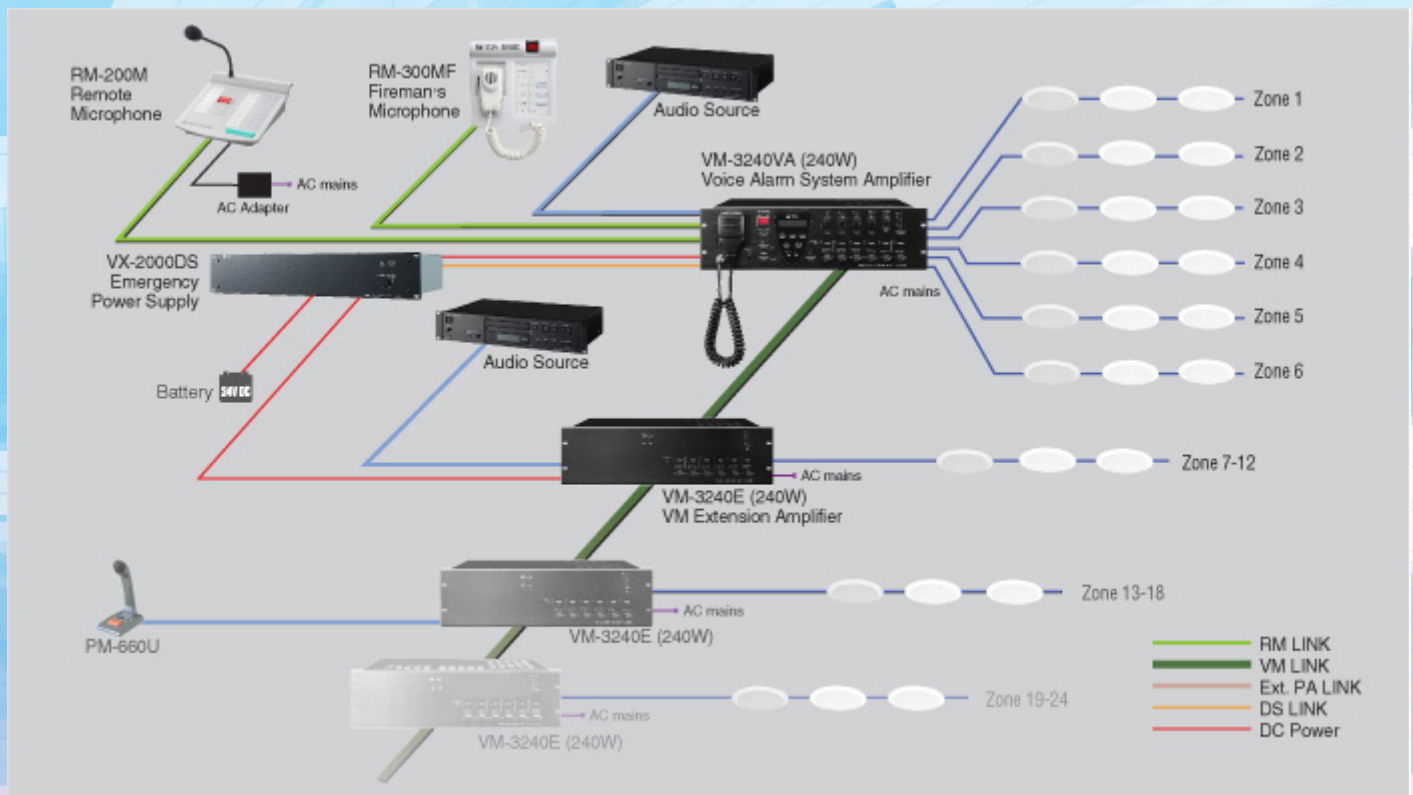*Factories*

Educational Facilities

5 *Integration capability with Fire Alarm, Telephone, CCTV, and Access Control systems.*

6 *System surveillance for failure redundancy and switch-over.*

7 *Emergency broadcast operation with battery power supply in case of power failure.*

8 *Failure and event logging with PC connection.*

System Example

RM-200M Remote Microphone

RM-300MF Fireman's Microphone

Audio Source

AC Adapter

AC mains

VX-2000DS Emergency Power Supply

VM-3240VA (240W) Voice Alarm System Amplifier

AC mains

Battery 24V DC

Audio Source

VM-3240E (240W) VM Extension Amplifier

AC mains

PM-660U

VM-3240E (240W)

AC mains

VM-3240E (240W)

AC mains

Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6
Zone 7-12
Zone 13-18
Zone 19-24

RM LINK
VM LINK
Ext. PA LINK
DS LINK
DC Power

*Sports Facilities*

Office Buildings

2572

1480 UUMW

UL2572 is a standard of the Underwriter Laboratories (UL) for testing and certification of Mass Notification Systems (MNS). UL1480UUMW is a UL standard for testing and certification for speakers used in fire protection signaling purposes, and it is also applicable to MN speakers. These two standards are not mandatory as of January 2013, but they will play a significant role in the market for MNS to ensure high product quality and reliability.

Over 40 years of experience...

TOA has been manufacturing and providing Voice Evacuation Systems for over 40 years in world-wide markets, which meet each local standard or guideline related to life safety - such as fire alarms. These integrated audio systems allow users to perform general purpose paging, BGM distribution, and emergency voice alarms, depending on the situation. TOA can provide essential intelligible sound for everyday life safety with its long experience as an expert audio manufacturer.

Since 1968, TOA has been manufacturing reliable Voice Evacuation and Mass Notification Systems.
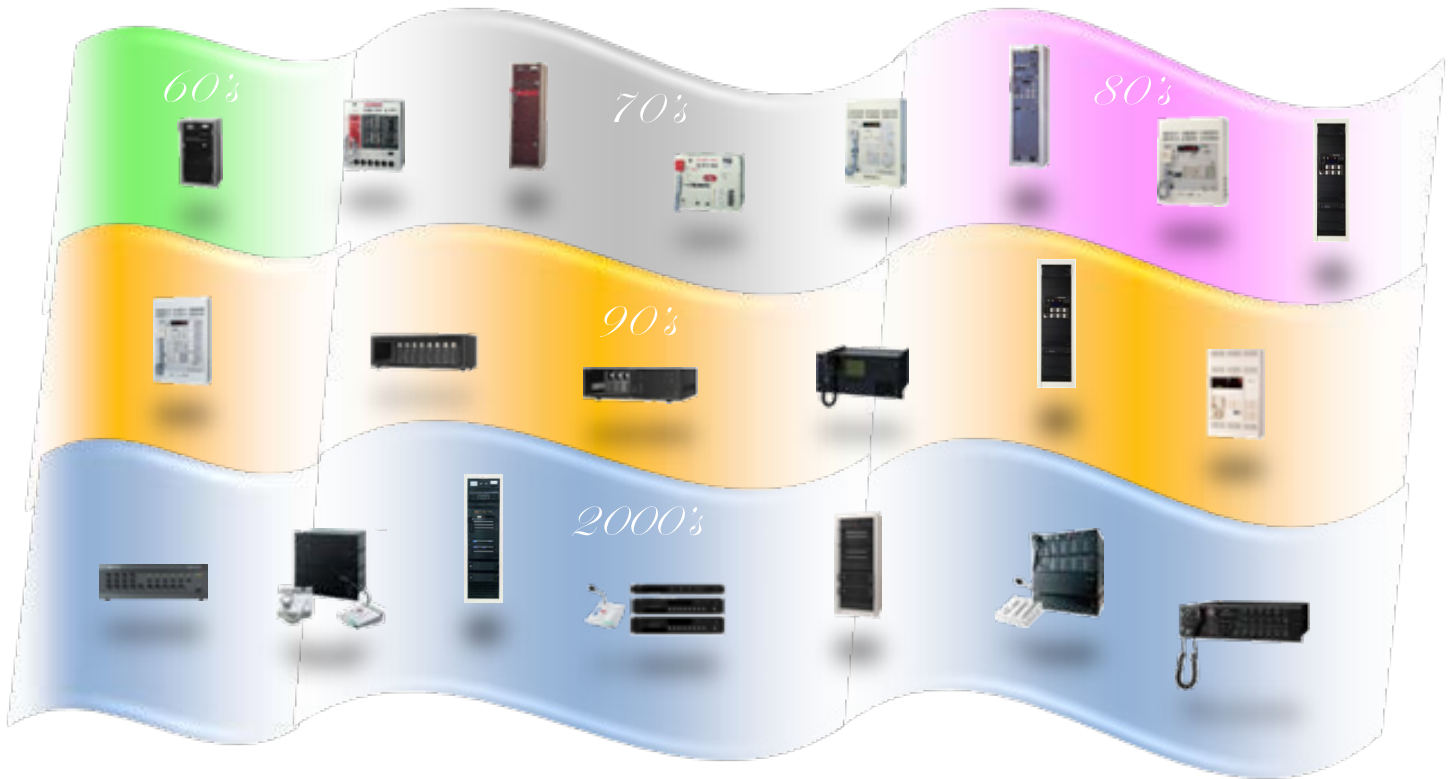
TOA Voice Evacuation Systems are compliant with several standards including:

1480 UUMW

Pending **2572**

*Above logos are designed and used by TOA only for its marketing purpose.

UL2572 and UL1480UUMW (United States)
Standard for Mass Notification Systems by Underwriters Laboratories (UL)
Whether these standards are required for the MNS in each building or space is judged by regional Authorities Having Jurisdiction.

EN 54 16 **EN 54** 24 **EN 54** 4

*Above logos are designed and used by TOA only for its marketing purpose.

EN54-16/24/4 (European Countries)
Mandatory standard for Fire Alarm Systems by European Committee for Standardization (ECS)
TOA is the world's first manufacturer who has released an EN54 compliant Voice Alarm System.

Fire and Disaster Management Act (Japan)
Mandatory standard for Fire Alarm Systems by Japan Fire Equipment Inspection Institute (JFEII)

CNS-10522 (Taiwan)
Mandatory standard for Emergency Public Address Equipment by Chinese Fire Protection Safety Centre

SPECIFICATIONS

*0dB = 1V

	VM-3240VA Voice Alarm System Amplifier	VM-3240E VM Extension Amplifier
Power Source	120V AC, 60 Hz	
Power Consumption	600W (with rated output signal), 260 (according to UL60065)	
Rated Output	240 W	
Frequency Response	50 – 20,000 Hz, 3dB (at 1/3 rated output)	
Distortion	Under 0.7% (at rated output, 1kHz)	
S/N Ratio	Over 85dB	
Audio Input/Output Characteristic	Sampling frequency: 48kHz A/D D/A CONVERTER: 24bit	—
Input	Input 1 – 3: -50dB* (MIC)/-10dB (LINE) (changeable) 600, electronically balanced combined XLR connector (female)/phone jack Input 4: -50dB* (MIC)/-10 dB (LINE) (changeable) 600, electronically balanced removable terminal block(14 pins) BGM 1 – 2 : -10 dB, 10k unbalanced, RCA pin jack External amplifier Input: 70V Line removable terminal block(14 pins)	Local input: -50dB* (MIC)/-10dB* (LINE) External amplifier input: 70V line, removable terminal block (14 pins)
Output	Speaker output 1 - 6: Total within 240 W, removable terminal block (14 pins) Direct output: Direct output from internal or external amplifier, removable terminal block (16 pins) Recording output BGM / Paging: 0db*, 10k, unbalanced, RCA pin jack	Speaker output 1 - 6: Total within 240 W, removable terminal block (14 pins) Direct output: Direct output from internal or extermal amplifier, removable terminal block (16 pins)
RM Link	Input 1 – 2: Connecting the RM300MF/RM-200M Remote Microphone. RJ45 female connector Link cable: Category 5 Shielded Twisted-Pair straight cable (CAT5-STP)	—
Network I/F	10 BASE-T/100 BASE-TX (selectable by automatic negotiation), RJ45 female connector Link cable: Category 5 Shielded Twisted-Pair straight cable (CAT5-STP)	—
VM Link	Output: Connecting the VM-3240E, RJ45 female connector Link cable: Category 5 Shielded Twisted-Pair straight cable (CAT5-STP)	Input: Connecting the VM-3240VA, RJ45 female connector Output: Connecting the VM-3240E, RJ45 female connector Link cable: Category 5 Shielded Twisted-Pair straight cable (CAT5-STP)
EXT PA Link	Connecting the VP-2421, RJ45 female connector Link cable: Category 5 Shielded Twisted-Pair straight cable (CAT5-STP)	
General Control	Input 1 – 8: No-Voltagemake contact input, open voltage: 24V DC, short-circuit current: under 2mA, removable terminal block 41 pins) Output 1 – 8: Isolated open collector output, withstand voltage: 30V DC, operating current: under 10mA, removable terminal blo(14 pins)	
Emergency Control	Input 1 – 5: No-Voltagemake contact input, open voltage : 24V DC, short-circuit current: under 2mA, RJ45 female connector Input 6: Isolated voltage input: Inactive; -24V 20% Active; +24V 20%, RJ45 female connector Status out: Relay contact output, withstand voltage: 40V DC, operating current: 2 – 300mA, RJ45 female connector	
ATT Control	Relay contact 1 – 6, 125V AC or 30V DC, total under 5A, removable terminal block (16 pins)	
Power Input/Output	Power in: Connecting the VX-2000DS (operating range: 20 - 40V DC) PS out: DC 29V/18A M4 Screw terminal distance between barriers 11mm	
DC24V Output	24V DC, Maximum feeding current 0.3A	
DS Link	Connecting the VX-2000DS, RJ45 female connector Link cable: Category 5 Shielded Twisted-Pair straight cable (CAT5-STP)	
Operating Temperature	−5C to +45C	
Operating Humidity	5% to 95%RH (no condensation)	
Dimensions	18.92" W x 5.2" H x 16.98" D	18.92" W x 5.2" H x 16" D
Weight	36.4lbs	
Accessories	Power cable (2m) x 1, Setting software (CD) x 1, Link cable (3m) x 2 Plastic foot x 4, Plastic foot mounting screw x 4, Emergency microphone x 1, Removable terminal plug (14 pins) x 3, Removable terminal plug (16 pins) x 1	Power cable (2m) x 1, Link cable (3m) x 2, Plastic foot x 4, Plastic foot mounting screw x 4, Removable terminal plug (14 pins) x 3, Removable terminal plug (16 pins) x 1
Option	Input transformer: IT-450	—

VM-3240VA
front and back

UL2572 Pending

VM-3240E
front and back

SPECIFICATIONS

UL2572 Pending

UL2572 Pending

	RM-300MF Fireman's Microphone	RM-320F Fireman's Microphone Extension
Power Source	24V DC (operating range: 15 – 40V DC, supplied from the VM-3000 system or VX-2000DS).	—
Current Consumption	120mA (RM-300MF), 660mA (with 3 RM-320F connected)	180mA max. (RM-320F)
Frequency Response	200 – 15,000 Hz	—
Distortion	Under 1%	—
S/N Ratio	Over 55 dB	—
Microphone	Unidirectional dynamic microphone with talk key, compressor (on/off switchable)	—
Volume Control	Microphone volume control / Buzzer volume control	—
Connection Cable	Main line: shielded CPEV cable (each one pair of Audio line, Data line, Power supply line) or Category 5 Shielded Twisted-Pair cable for LAN (CAT5-STP), M3 screw terminal	—
No. of Connectable RM-320F	Max 3 units	—
No of Function Keys	—	20
Operation	Emergency key, Evacuate key, Alert key, Emergency reset key, CPU switch, Reset switch	—
Operating Temperature	–5C to 45C	—
Operating Humidity	5% to 95% RH (no condensation)	—
Finish	ABS resin, blueish gray	ABS resin, blueish gray
Dimensions	7.9" W x 8.46" H x 3.24" D	6.9" W x 8.46" H x 2.76" D
Weight	2.43lbs (with wall mounting bracket unit)	1.54lbs
Accessories	Wall mounting bracket unit x 1, Wall mounting screw x 2, Electrical box mounting screw x 2	Wall mounting bracket x 1, Wall mounting screw x 2

UL2572 Pending

UL2572 Pending

	RM-200M Remote Microphone	RM-210 Remote Microphone Extension
Power Source	24V DC (operating range: 14 – 28V DC) Power input jack: Non-polarity type Usable power input plug[2]: Outer diameter 0.22in, inner diameter: 0.08in, length: 0.37in	—
Current Consumption	Under 100mA	20mA max. (in terms of RM-200M's DC power input)
Audio Output	0dB*: 600, balanced	—
Frequency Response	100 – 20,000 Hz	—
Distortion	Under 1%	—
S/N Ratio	Over 60 dB	—
Microphone	Unidirectional electret condenser microphone	—
Volume Control	Microphone volume control	—
Connection Cable and Connection	Category 5 Shielded Twisted-Pair cable, RJ45 connector	—
No of Function Keys	10	10
Finish	ABS resin, blueish gray	ABS resin, blueish gray
Dimensions	7.48" W x 3" H x 8.46" D (Gooseneck microphone excluded)	4.3" W x 3" H x 8.46" D
Weight	1.65lbs	0.77lbs
Accessory	CAT5 cable x 1	CAT5 cable x 1
Option	Wall mounting bracket: WB-RM200	Wall mounting bracket: WB-RM200

* 0dB = 1V
[2] Use the AC adapter AD-246 or equivalent.

SPECIFICATIONS

1480 UUMW
UL 2043 Plenum

	PC-580RU	PC-580RVU
Rated Input	10 W (speaker), 5 W (transformer, 70.7 V line and 25 V line)	
Rated Impedance	70.7V line: 20 K (0.25 W), 10 K (0.5 W) 5 K (1 W), 2.5 K (2 W), 1 K (5 W) Ω 25V line: 2.5 K (0.25 W), 1.25 K (0.5 W) 625 K (1 W), 312.5 K (2 W), 125 K (5 W) Ω	
Sensitivity	97 dB	
Speaker Component	200 mm (8") Dual cone type	
Frequency Response	50 – 16.5 KHz	
Magnet Size	Dia.80 K (3.15") × dia.32 (1.26") × 12 (0.47 ") mm	
Magnet Weight	272 g (10 oz)	
Weight	1.50 kg (3.31 lbs)	1.52 kg (3.35 lbs)
Flux density	11,900 gauss	
Finish	Baffle : Steel plate, white; Grille : Surface-treated steel plate net, white	
Dimensions of Fixing Hole	Dia. 203.2 mm (8.00")	
Potentiometer	-	Type : Screw-driver adjust Wire wound,resistance 50Ω
Dimensions	12.8" W x 3.43" D	12.8" W x 3.89" D
Accessory	Mounting screw (M 5 x 38 mm) x4; Wire nut x2	
Optional Accessories	HY-BC580U Back Can TBF-100 Support Rails	

*Meets UL requirements when used with the HY-BC580U Back Can.

1480 UUMW
UL 2043 Plenum

	F-122CU
Enclosure	Bass reflex type
Rated Input	30 W (High Impedance)
Power Handling Capacity	Continuous pink noise: 60W (8Ω), 30W (16Ω) Continuous program: 120W (8Ω), 60W (16Ω)
Impedance	100V line: 30W (330Ω), 10W (1kΩ), 3W (3.3kΩ), 1W (10kΩ) 70V line: 30W (170Ω), 15W (330Ω), 5W(1kΩ), 1.5W (3.3kΩ), 0.5W (10kΩ) 25V line: 3.7W (170Ω), 1.9W (330Ω), 0.6 (1kΩ), 0.2W (3.3kΩ), 0.06W (10kΩ) 16Ω, 8Ω
Sound Pressure Level	90 dB (1 W, 1 m)
Frequency Response	70 - 20,000 Hz (-10 dB), 50 - 20,000 Hz (-20 dB) at installation in 1/2 free sound field (Measured by installing the unit in the center of a ceiling.)
Speaker Component	5" (12cm) cone-type
Mounting Hole	8" (200mm) (Maximum ceiling thickness: 1"/37mm)
Input Terminal	Removable locking connector with screw-down terminals (2 input terminals and 2 bridge terminals)
Usable Cable	Solid copper wire: 0.02" - 0.06" (0.5 - 1.6 mm) (equivalent to AWG No. 24 - 14) Stranded copper wire: 0.01" - 0.1" (0.2 - 2.5 mm) (equivalent to AWG No. 24 - 14)
Finish	Enclosure: Steel plate, plating
Dimensions	9" x 9" (D) 230 × 229 (D) mm
Weight	8lbs (3.7kg) (including mounting accessories)
Accessory	Panel x 1, Ceiling reinforcement ring x 1, Safety wire x 1, Paper pattern x 1
Option	Anchor hanging bracket: HY-AH1, Back can: HY-BC1, Q-HY-BC1W; Tile bar bridge: TBF-100, Trim ring: HY-TR1

SPECIFICATIONS

UL1480 UUMW Pending

BS-680U	
Rated Input	6 W (100 V line), 3 W (70 V line)
Rated Impedance	100 V line: 1.7 kΩ (6 W), 3.3 kΩ (3 W), 6.7 kΩ (1.5 W), 13 kΩ (0.8 W) 70 V line: 1.7 kΩ (3 W), 3.3 kΩ (1.5 W), 6.7 kΩ (0.8 W), 13 kΩ (0.4 W)
Sensitivity	94 dB (1 W, 1 m) (500 - 5,000 Hz, pink noise)
Frequency Response	150 - 20,000 Hz (peak -20 dB)
Speaker Component	6" (16cm) double cone-type
Standard	In compliance with the US Standard NFPA72 or Birtish Standard BS 5839-8:1998
Applicable Cable	600 V vinyl-insulated cable (IV wire or HIV wire) Solid wire: 0.1" / 3 mm (equivalent to AWG 9)
Connection	Screw connector (ceramic terminal × 2) bridging allowable
Finish	Baffle, Cabinet: Steel plate, off-white (RAL 9010 or equivalent color) Grille: Surface-treated steel plate net, off-white (RAL 9010 or equivalent color)
Dimensions	12.2" (W) × 7.48" (H) × 3.43" (D) / 310 (W) × 190 (H) × 87.2 (D) mm
Weight	6.61lbs (3kg)
Accessory	Rubber grommet x 2, Speaker mounting screw (0.16" × 0.63" [4 × 16mm]) x 4

UL1480 UUMW Pending

SC-630TU	
Rated Input	30 W
Line Voltage	70 V line or 25 V Line
Rated Impedance	70V line: 30W (170Ω), 15W (330Ω), 7.5W (650Ω) 25V line: 30W (21Ω), 15W (42Ω), 3.7W (170Ω), 1.9W (330Ω), 1W (650Ω)
Sound Pressure Level	113 dB (1 W, 1 m at 500 to 2,500 Hz peak level)
Frequency Response	250 - 10,000 Hz
Sensitivity when used as Microphone 2 (0 dB=1 mW/10 dynes/cm)	-20 dB at 1 kHz
IP Code	IP 65
Polarity	Hot: Black , Com: White
Operating Temperature	-20°C to +55°C (must be free from dew condensation)
Finish	Horn flare: Aluminum, off-white, powder coating, Reflector horn and rear cover: ABS resin, off-white, Bracket, screws and bolts: Stainless steel , Speaker cable: Polyvinyl chloride insulated cabtyre cable (0.2" / 6mm in diameter, 24" / 600mm in length)
Dimensions	11.2" (W) x 9" (H) x 11" (D) 285 (W) × 227 (H) × 277 (D) mm
Weight	4.4lbs (2kg)
Option	Swivel bracket: YS-151S (Can be used instead of the supplied bracket.)

SPECIFICATIONS

UL1480 UUMW

	PE-304BU/304WU	PE-604BU/604WU
Enclosure	Bass-reflex type	
Rated Input	30 W (100 V, 70 V line, 8 Ω), 3.7 W (25 V line)	60 W (100 V, 70 V line, 8 Ω), 7.5 W (25 V line)
Rated Impedance	100 V line: 330 Ω (30 W), 1 kΩ (10 W), 3.3 kΩ (3 W), 10 kΩ (1.3 W) 70 V line: 170 Ω (30 W), 330 Ω (15 W), 1 kΩ (5 W), 3.3 kΩ (1.5 W), 10 kΩ (0.6 W) 25 V line: 170 Ω (3.7 W), 330 Ω (1.9 W), 1 kΩ (0.6 W), 3.3 kΩ (0.2 W), 10 kΩ (0.1 W) Low impedance: 8 Ω	100 V line: 170 Ω (60 W), 330 Ω (30 W), 670 Ω (15 W), 3.3 kΩ (3 W) 70 V line: 83 Ω (60 W), 170 Ω (30 W), 330 Ω (15 W), 670 Ω (7.5 W), 3.3 kΩ (1.5 W) 25 V line: 83 Ω (7.5 W), 170 Ω (3.7 W), 330 Ω (1.9 W), 670 Ω (0.9 W), 3.3 kΩ (0.2 W) Low impedance: 8 Ω
Sensitivity (1 W, 1 m)	90 dB (330 Hz – 3.3 kHz, pink noise)	
Frequency Response	95 Hz – 20 kHz (−10 dB)	110 Hz – 20 kHz (−10 dB)
Speaker Component	12 cm (5") cone-type + balanced-dome tweeter (coaxial)	
UL Code	UL1480 UUMW, ULC-S541	
Operating Temperature	14 °F to 122 °F	
Finish	PE-304BU: Enclosure: ABS resin, black Grille: Surface-treated steel plate mesh, black, paint PE-304WU: Enclosure: ABS resin, white (RAL 9010 equivalent); Grille: Surface-treated steel plate mesh, white (RAL 9010 equivalent), paint	PE-604BU: Enclosure: ABS resin, black Grille: Surface-treated steel plate mesh, black, paint PE-604WU: Enclosure: ABS resin, white (RAL 9010 equivalent) Grille: Surface-treated steel plate mesh, white (RAL 9010 equivalent), paint
Dimensions	186 x 275 (H) mm (7.32" x 10.83") (not including wires and cable)	
Weight	2 kg (not including wires and cable)	2.9 kg (not including wires and cable)
Accessory	GRIPPLE® No. 1 x 1, GRIPPLE® No. 2 x 1, Release key (for GRIPPLE®) x 1, Safety wire (1.5 mm (0.06")) x 1, Hanging wire (2 mm (0.08")) x 1, Speaker Cable (4-core FPL listed cable 4.6 m (15.09ft) x 1	

*GRIPPLE® No. 1 and GRIPPLE® No. 2 are hangers for suspending the speaker. GRIPPLE® is a registered tradmark of Gripple Limited, England.

VX-2000DS
UL2572 Pending

Emergency Power Supply
The VX-2000DS Emergency Power Supply Unit supplies the DC power to the VM-3000 system by connecting the VM-3240VA/E.

High value of Japanese technology
in both Hardware and Software

Quality control on the Factory Floor

TOA uses its very own factories both within Japan and overseas. Numerous engineers from Japan are sent to our overseas production plants to ensure that the state-of-the-art equipment adheres to the same stringent quality control system used in out Japanese production facilities. Furthermore, twice a year, members from our Quality Control Division visit overseas production facilities to carry out inspections and make sure that quality standards are being maintainted.

Compliance with Laws and Regulations

TOA is constantly carrying out test to ensure that products comply with various regulations and standards around the world: safety regulations including UL, CE, CCC, RoHS, WEEE, EN 54, SASO, and REACH; the standards for each country; and ISO 9001. We do this so that consumers have complete pear of mind when using our quality products.


State-of-the-Art Equipment

In order to satisfy the legal requirements and conditions of each country, products must pass a large number of strigent tests. By installing various kinds of testing facilities, such as anechoic/schoic chambers and EMC test chambers, and by carrying out in-house testing, TOA has been able to improve its development efficiency.

TOA Speaker Placement Viewer: Software for Acoustic Simulation

TOA is constantly trying to improve services and share information with customer. TOA Speaker Placement Viewer provides an easy way to calculate how many speakers are needed in a room. The software allows virtual placement of TOA speakers.

| Airport | Hotel | Shopping Mall | School | Office | Hospital | Station | Factory |
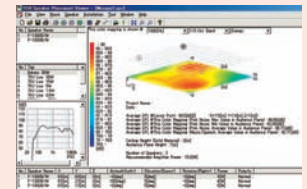
Human Society with Sound and Communication