INTEGRATED VOICE EVACUATION SYSTEM

DESCRIPTION

The TOA VX-2000 Series broadcast system is designed for both general-purpose and emergency broadcasts. It is comprised of the System Manager, Surveillance Frame, Power Amplifiers, Power Supply unit, Emergency Power Supply, and a user-specified number of Remote Microphones. The system complies with the EN60849 Standard and its failure detection circuitry operates continuously to check components and speaker lines for any irregularities. If detected, failure warnings are provided by way of an LED indicator and a buzzer.

FEATURES

- **Microprocessor-controlled 4 audio signal bus matrix system** comprising System Manager VX-2000 for the input signal matrix and Surveillance Frame VX-2000SF for the output signal matrix.

- **Max. 18 inputs** {8 input slots, 8 Remote Microphones including Fireman's Mic, 2 EVs (Voice Announcement Board) and Chime} and 50 output zones (max. 5 Surveillance Frames) available.

- **Two different emergency messages** (Alert and Evacuation) **simultaneously available** if 2 EV-200 cards are installed.

- **Surveillance function for the critical speech path** from the microphone element of Fireman's Microphone(s) to each speaker line fully complies with the IEC (EN) 60849 standard.

- **Speaker line surveillance method** can be independently selected for each speaker line (Pilot tone detection or impedance check)

- Any **surveillance function will not interrupt** BGM distribution and paging announcements.

- **PC software available** for easy system configuring and parameter setting.

- **Weekly program timer function** for scheduled events. (10-Day Programs of 32 events each, 40 Holiday Programs, setting daylight saving time and adjusting time setting)

- **Monitor bus system allows Remote Monitoring** of the audio signal on output zones.

- Standard configuration of 16 control inputs and 16 control outputs **can be expanded up to 128 inputs and outputs**.

- A **standby amplifier** can be reserved for each Surveillance Frame.

- **All-call function still available at Fireman's Microphone(s)** even with CPU failure.

- All **Remote Microphone switches** (Fireman's Microphone) are assignable function switches.

- **LEDs on the Remote Microphone** (Fireman's Microphone) can be set as Fault Indicators.

- Remote Microphone (Fireman's Microphone) **function switches with 2 LEDs can be expanded up to 105 per unit** (with RM-210 Remote Microphone Extension Units).

- **Software-driven logging function** records the last 2000 events and downloads data to a PC.

- **Printable** software-driven Setting list and Block Diagram of Project

- **System configuration and connection check** function available during system installation.

- **9-band Graphic EQ card** available for each output zone.

- **DC power supply for whole system** excluding BGM sources minimizes use of AC cables.

- **System failures are automatically detected** such as general power amplifier failures and faults as well as DC fuse failures and power amplifier thermal faults.

- **Power amplifier standby function** maximizes battery-powered operation time.

- **Inspection mode** can be activated on setting software for emergency operation without requiring actual broadcasting.

- **Automatically cuts power consumption** when using the battery power supply.

TOA

VX-2000
System Management

The VX-2000 System Manager is an input matrix unit that assigns input signals to 4 audio buses, and functions as the VX-2000 system's main controller. A total of up to 8 units of the VX-200XI, VX-200XR, and 900 Series input modules can be mounted in a System Manager. The VX-2000 can control audio signal routing, priorities, and peripheral equipment, while input and output control settings are performed by way of a PC. Up to 2,000 system events and failures can also be recorded, and the log can be viewed from a PC.

Rear Panel

APPEARANCE AND DIMENSIONAL DIAGRAM

Front view without front panel

Side View
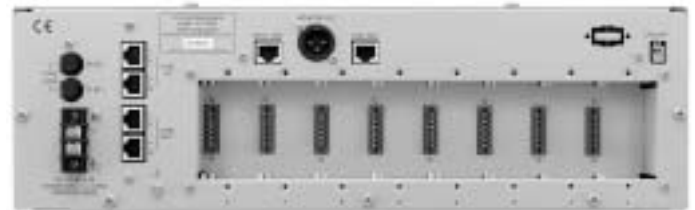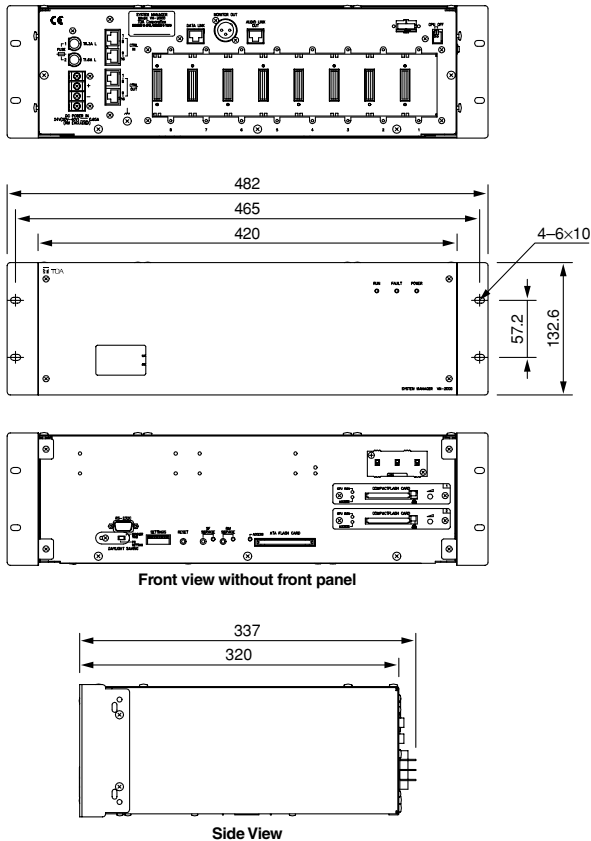
SPECIFICATIONS

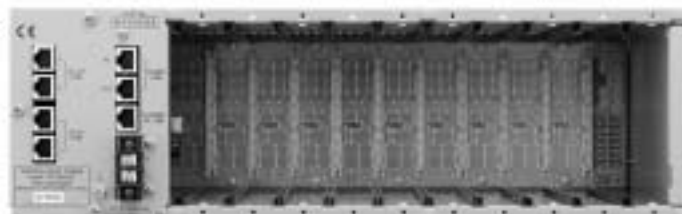| Model No.	VX-2000 System Manager
Power source	24V DC (operating range: 20 – 40V DC) M3.5 screw terminal, distance between barriers: 8.8m
Current consumption	Under 650mA (20V DC)
Input	–20dB*, unbalanced, Number of module slots: 8 Usable module: VX-200XR, VX-200XI, 900 series plug-in modules (M-01F, M-01M, M-01P, M-01S, M-03P, M-51F, M-51S, M-61F, M-61S, U-01F, U-01P, U-01R, U-01S, U-61S)
Audio Link Output	Number of audio buses: 4 0dB*, electronically balanced, RJ45 female connector Twisted-pair straight cable (TIA/EIA-568A standard)
Monitor Output	0dB*, electronically balanced, XLR receptacle (3 pins)
Frequency response	20 – 20,000Hz
Signal to Noise Ratio	Over 60dB
Distortion	Under 0.5%
Cross Talk	Under –60dB (1kHz, 0dB*)
Control Input	16 inputs, no-voltage make contact, open voltage: 17V DC, Short circuit current: Under 5mA, RJ45 connector x 2 C
Control Output	16 outputs, open collector output, withstand voltage: 30V DC, Control current: Under 5mA, RJ45 connector x 2 C
Chime tone	Built-in chime: 4-tone chime (up)/4-tone chime (down)/2-tone chime/Gong
Communication system	PC (Setting software to be installed): D-sub connector (9 pins), cross cable, RS-232C VX-2000SF: RJ45 female connector, Twisted-pair straight cable (TIA/EIA-568A standard), LONWORDS RS-485
Operating temperature	0˚ C to +40˚ C
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint
Dimensions	482 (W) x 132.6 (H) x 337 (D)mm
Weight	6.4kg
Accessory	Rack mounting bracket (preinstalled on the unit) x 2, Rack mounting screw x 4, Fiber washer x 4, Blank panel x 7, Blank panel mounting screw x 14, Setting software installation CD x 1, Fuse (T1.6A L) x 1/(T6.3A L) x 1
Option	Voice announcement board: EV-200, Isolation transformer: IT-450 (audio link output)

* 0 dB = 1 V
Note: LONWORKS is a trademark of Echelon Corporation.
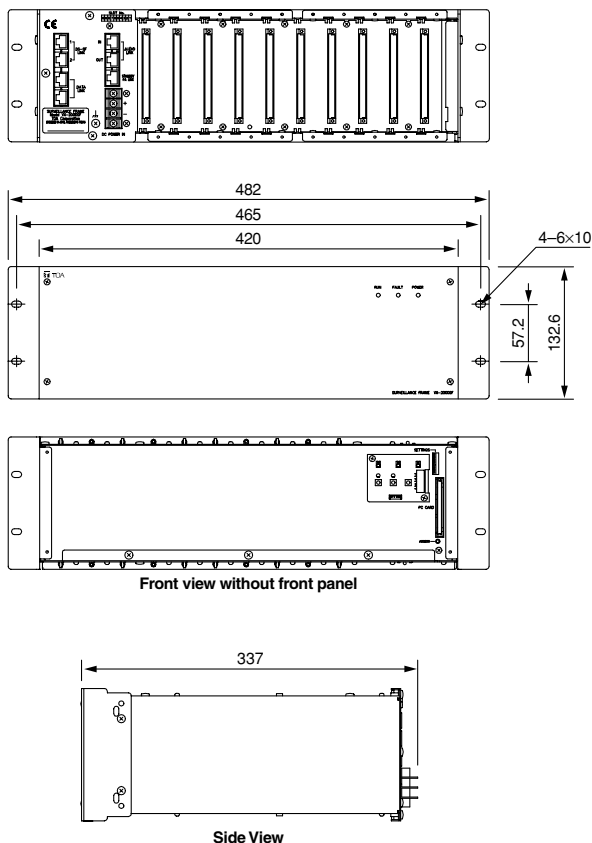
VX-2000SF
Surveillance Frame

The VX-2000SF Surveillance Frame is the output matrix section of the VX-2000 system that assigns audio signals to individual zones from 4 audio buses. It can be extended to up to 5 units. A total of 10 units of output modules and control modules can be installed per VX-2000SF. 4 types of modules can be used: the VX-200SP Pilot Tone Detection module, the VX-200SZ Impedance Detection module, the VX-200SI Control Input module, and the VX-200SO Control Output module.

Rear Panel

▌APPEARANCE AND DIMENSIONAL DIAGRAM

482
465
420
4–6×10
57.2
132.6

Front view without front panel

337

Side View

▌SPECIFICATIONS

Model No.	**VX-2000** Surveillance Frame
Power source	24V DC (operating range: 20 – 40V DC) M3.5 screw terminal, distance between barriers: 8.8m
Current consumption	Under 2A (40V DC)
Number of Module slot	10, usable modules: VX-200SZ, VX-200SP, VX-200SI, VX-200SO
Frequency response	20 – 20,000Hz
Signal to Noise Ratio	Over 60dB
Distortion	Under 0.5%
Cross Talk	Under –60dB (1kHz, 0dB*)
Audio Link Input/Output	Number of audio busses: 4 0dB*, electronically balanced, RJ45 female connector Twisted-pair straight cable (TIA/EIA-586A standard)
Standby Amplifier Link	RJ45 female connector for connecting the VP-2122, VP-2242, VP-2421 Power amplifier. Twisted-pair straight cable (TIA/EIA-586A standard)
Communication system	VX-2000, VX-2000SF: RJ45 female connector x 2, LONWORKS RS-485 VX-2000DS: RJ45 female connector x 2, Twisted-pair straight cable (TIA/EIA-568A standard)
Operating temperature	0˚ C to +40˚ C
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint
Dimensions	482 (W) x 132.6 (H) x 337 (D)mm
Weight	5.6kg
Accessory	Rack mounting bracket (preinstalled on the unit) x 2, Rack mounting screw x 4, Fiber washer x 4, Blank panel x 9, Blank panel mounting screw x 18, Standby amp. Cable (3m) x 1
Option	IT-450 (audio link output)

* 0 dB = 1 V
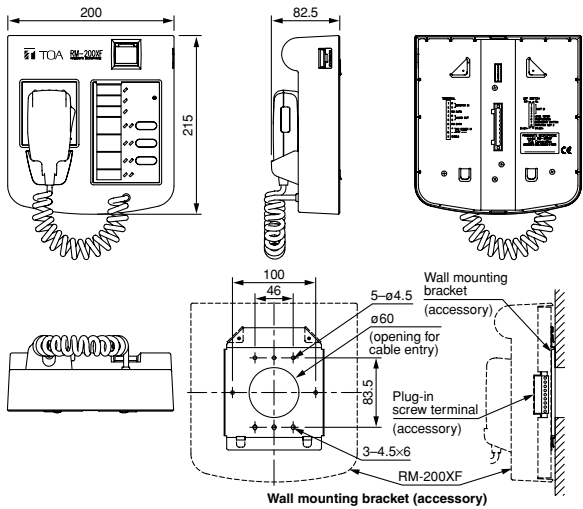Note: LONWORKS is a trademark of Echelon Corporation.

RM-200XF

Fireman's Microphone

A dedicated microphone for the VX-2000 system, the RM-200XF is designed to be exclusively used for emergency broadcast, however it can be used for general purpose broadcast applications as well.

APPEARANCE AND DIMENSIONAL DIAGRAM

Wall mounting bracket (accessory)

SPECIFICATIONS

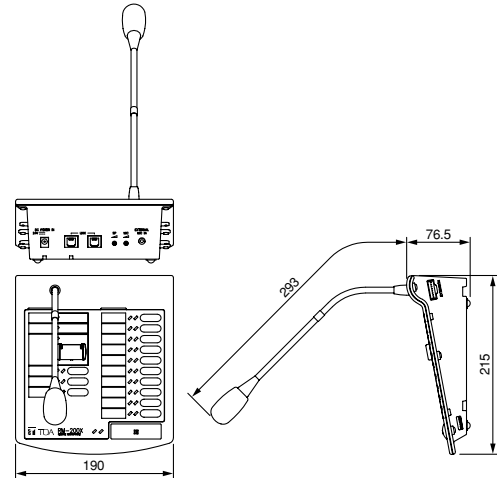| Model No.	RM-200XF Fireman's Microphone
Power Requirement	24V DC (Operating range: 16 – 40V DC)
Current Consumption	Under 200mA (RM-200XF), 850mA (with 10 RM-210s connected)
Audio Output	0db*, 600Ω, balanced
Hand-Held Microphone	Dynamic microphone, Function switch (default: Press-to-talk), Microphone element fault detection
Distortion	Under 1%
Frequency Response	100 – 15,000Hz
Signal-to-Noise Ratio	Over 55dB
Internal Speaker	200mW
Volume Control	Microphone volume control, Monitor speaker volume control
Number of Function Keys	5 (including Hand-held micropnone's switch), extendable up to 105 (with 10 RM-210s connected)
Key Extension	10 keys extension per RM-210, EXTENSION connector
Number of Connectable Units	4
Communication System	LONWORKS twisted pair free topology transceiver
Connection Cable and Connector	Category 5 STP cable, plug-in screw connector
Communication Distance	500m (Free topology wiring)
Finish	ABS resin, bluish gray (PANTON 538 or its equivalent)
Dimensions	200 (W) x 215 (H) x 82.5 (D)mm (excluding the coiled cord)
Weight	1.2kg
Accessory	Plug-in screw terminal x 1, Wall mounting bracket x 1, Wall mounting screw x 2, Box mounting screw x 2
Applicable Box	YC-301, YC-11A

* 0 dB = 1 V

RM-200X

Remote Microphone

The RM-200X is a dedicated unit for the VX-2000 system, and permits emergency broadcast as well as general-purpose broadcast.

APPEARANCE AND DIMENSIONAL DIAGRAM

SPECIFICATIONS

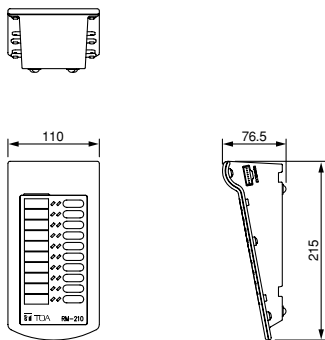| Model No.	RM-200X Remote Microphone
Power Requirement	24V DC (Operating range: 16 – 40V DC), supplied from RJ45 connector or power input jack (non-polarity type) Usable power input plug: 5.5mm outer diameter, 2.1mm inner diameter, and 9.5mm long.
Current Consumption	Under 200mA (RM-200XF), 850mA (with 10 RM-210s connected)
Audio Output	0db*, 600Ω, balanced, RJ45 connector
Gooseneck Microphone	Unidirectional electret condenser microphone
External Microphone Input	–40dB*, 2.2Ω, unbalanced, mini jack, phantom powering
Distortion	Under 1%
Frequency Response	100 – 20,000Hz
Signal-to-Noise Ratio	Over 60dB
Internal Speaker	200mW
Volume Control	Microphone volume control, Monitor speaker volume control
Number of Function Keys	15, extendable up to 105 (with 10 RM-210s connected)
Key Extension	10 keys extension per RM-210, EXTENSION connector
Number of Connectable Units	8 (include rm-200XF)
Communication System	LONWORKS twisted pair free topology transceiver
Connection Cable and Connector	Category 5 STP cable, plug-in screw connector
Communication Distance	500m (Free topology wiring)
Finish	ABS resin, bluish gray (PANTON 538 or its equivalent)
Dimensions	190 (W) x 76.5 (H) x 215 (D)mm (gooseneck microphone excluded)
Weight	850g
Accessory	Link cable (3m) x 1

* 0 dB = 1 V

RM-210
Extension Unit

The RM-210 is an extension unit for increasing the number of function keys of TOA's RM-200M, RM-200XF and RM-200X Remote Microphones.
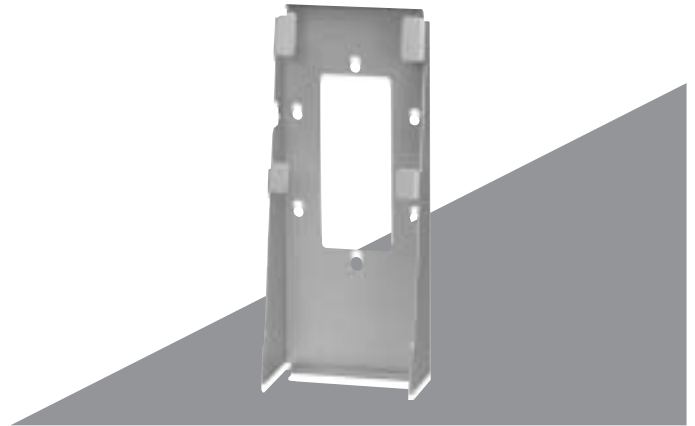
▌ APPEARANCE AND DIMENSIONAL DIAGRAM

110
76.5
215

▌ SPECIFICATIONS

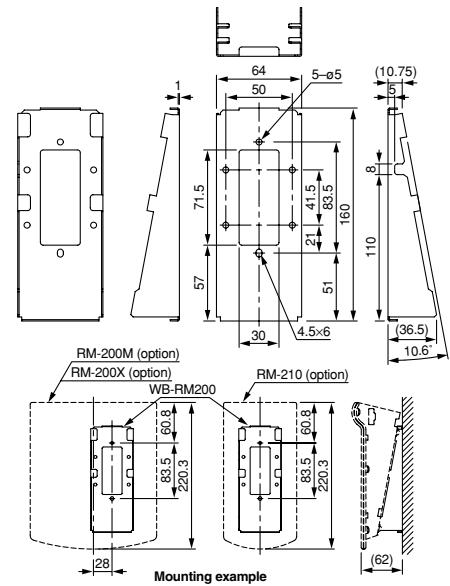| Model No.	RM-210 Remote Microphone Extension
Current Consumption	20mA max. (in terms of RM-200M's DC power input) 75mA max. (interms of DC power inputs of RM-200X and RM-200XF)
Connection	Connection to RM-200M, RM-200X or RM-200XF by way of dedicated Cable
Number of Function Keys	10

Function	When used to expand the RM-200M:
	    Selects and activates the Voice Announcement Board messages.
	When used to expand the RM-200X and RM-200XF (PC software setting):
	    Emergency activation, emergency reset, BGM pattern selection,
	    EV message activation, broadcast zone selection,
	    monitor zone selection, chime activation, Talk switch activation,
	    control output activation, input volume adjustment,
	    zone volume adjustment, and failure output indication and reset.

Finish	ABS resin, bluish gray (PANTON 538 or its equivalent)
Dimensions	110 (W) x 76.5 (H) x 215 (D)mm
Weight	350g
Accessory	Extension cable x 1, Linkage bracket A x 1, Linkage bracket B x 1, Screw for linkage bracket x 12

WV-RM200
Wall Mounting Bracket

The WB-RM200 is to mount RM-200X, RM-200M and RM-210 on the wall.

▌ APPEARANCE AND DIMENSIONAL DIAGRAM

64
50
5–ø5
(10.75)
1
5
71.5
41.5
83.5
160
8
21
57
51
110
30
4.5×6
(36.5)
10.6"

RM-200M (option)
RM-200X (option)
RM-210 (option)
WB-RM200
60.8
83.5
220.3
60.8
83.5
220.3
28
(62)
Mounting example

▌ SPECIFICATIONS

Model No.	WB-RM200 Wall Mounting Bracket
Finish	Surface-treated steel plate
Weight	120g
Set Composition	Mount bracket x 1
Accessory	Rack mounting screw x 1 set
Usable Unit	rm-200x, rm-200m, rm-210

VX-200XI
Audio Input Module with Control Input

VX-200XR
Remote Microphone Input Module
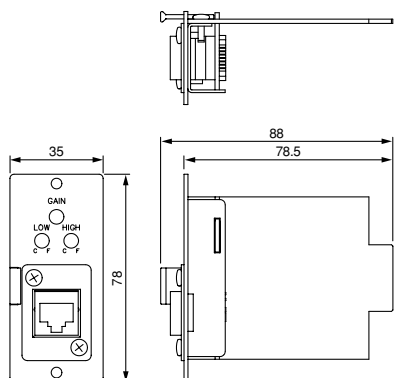
The VX-200XI module is designed to be used in conjunction with the VX-2000 System Manager, and comes with control input terminals, low-cut and high-cut filters, and gain controls.

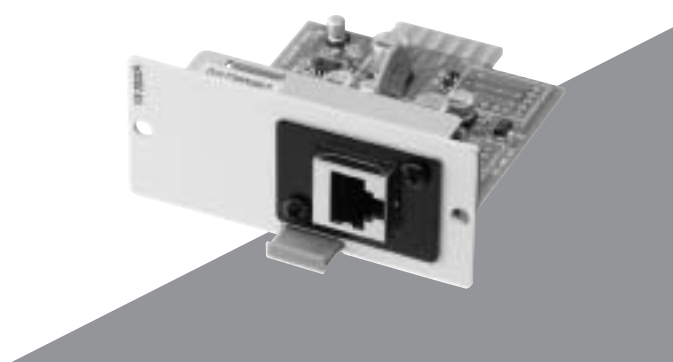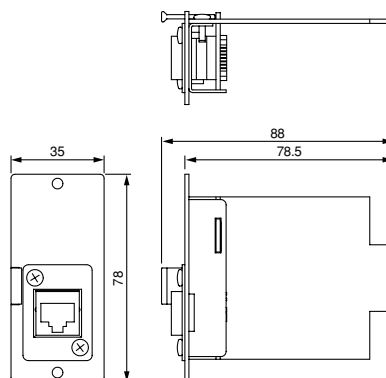The VX-200XR module is designed to be used with the RM-200X Remote Microphone or RM-200XF Fireman's Microphone. Insert this module into the VX-2000's input module slot for each Remote or Fire Microphone(s) used in the system.

APPEARANCE AND DIMENSIONAL DIAGRAM

APPEARANCE AND DIMENSIONAL DIAGRAM

SPECIFICATIONS

Model No.	VX-200XI Audio Input Module with Control Input
Power Requirement	Supplied from X-2000
Current Consumption	Under 30mA
Input sensitivity (Rated Output –20dB)	MIC: –70 to –42.5dB* (adjustable) LINE: –20 to +7.5dB* (adjustable) MIC or LINE selectable by the built-in switch
Low Cut Filter (100Hz)	9 to 15dB attenuation (adjustable)
High Cut Filter (10kHz)	8 to 14dB attenuation (adjustable)
Distortion	Under 0.5%
Frequency Response	50 – 20,000Hz
Phantom Power	Over 12V
Control Input	No-voltage make contact, open voltage: 17V DC, short-circuit current: Under 5mA
Input Connector	RJ45 female connector Twisted-pair straight cable (TIA/EIA-568A standard)
Finish	Panel: Alumite finished aluminum, white
Dimensions	35 (W) x 78 (H) x 88 (D)mm
Weight	70g
Accessory	Mounting screw x 2
Option	Isolation transformer: IT-450
Applicable Model	VX-2000

* 0 dB = 1 V

SPECIFICATIONS

| Model No.	VX-200XR Remote Microphone Input Module
Power Requirement	Supplied from VX-2000
Current Consumption	Under 15mA
Connectable Remote Microphone	RM-200X and RM-200XF
Input connector	RJ45 female connector Twisted-pair straight cable (TIA/EIA-568A standard)
Finish	Panel: Alumite finished aluminum, white
Dimensions	35 (W) x 78 (H) x 88 (D)mm
Weight	70g
Accessory	Mounting screw x 2
Applicable Model	VX-2000

VX-200SZ
Audio Signal Output Module
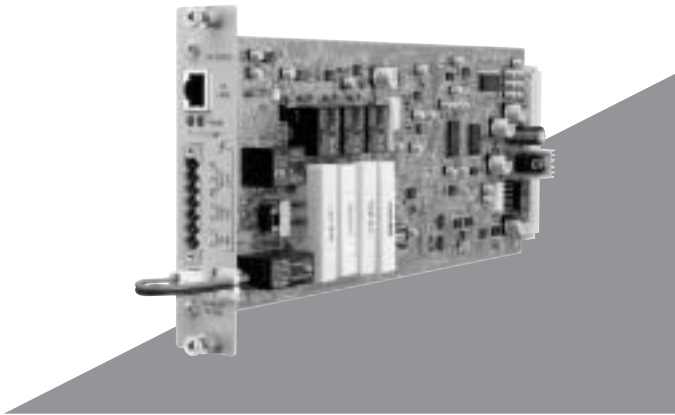
The VX-200SZ is an audio signal output module of the VX-2000 system with speaker line impedance detection. This module is to be mounted in the VX-2000SF Surveillance Frame and detects speaker line short circuits, open circuits by comparing impedance readings, and ground fault.
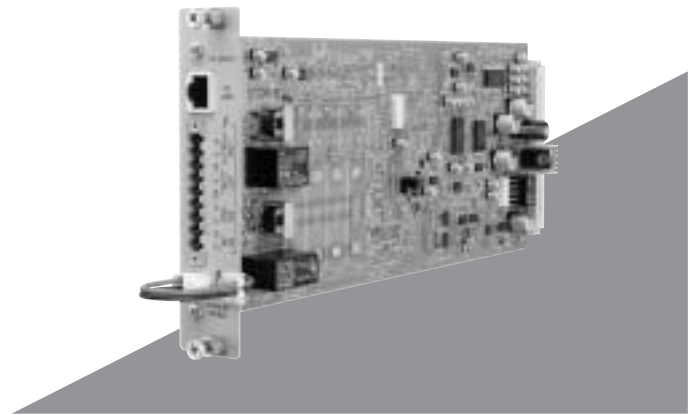
■ APPEARANCE AND DIMENSIONAL DIAGRAM
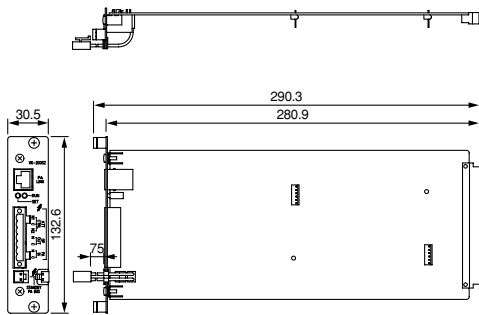
■ SPECIFICATIONS

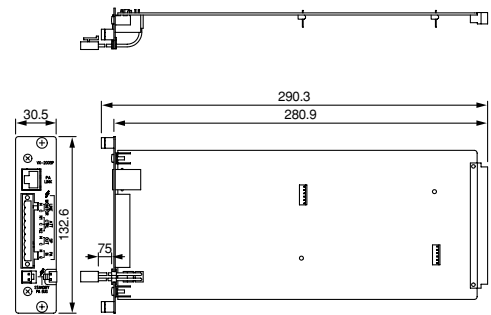| Model No.	VX-200SZ Impedance Detection Module
Power Requirement	Supplied from VX-2000SF
Current Consumption	Under 150mA
Power Amplifier Link	RJ45 female connector for connecting the VP-2064, VP-2133, VP-2241, VP-2421 Power amplifier. Twisted-pair straight cable (TIA/EIA-568A standard)
External Attenuator Control Output	Plug-in screw connector, relay, no-voltage make contact output, transfer type, withstand voltage: 30V DV, 250V AC, contact current: Under 7A (DC), under 7A (AC) Applicable cable diameter: AWG24 – AWG 22)
Speaker Output	Plug-in screw connector Applicable cable diameter: AWG24 – AWG 22)
Power Amplifier Input	Plug-in screw connector for connecting the VP-2064, VP-2122, VP-2241, VP-2421 Power Amplifier Applicable cable diameter: AWG24 – AWG 22
Fault Detection System	Short circuit, open circuit (impedance detection method), ground fault
Finish	Panel: Surface-treated steel plate
Dimensions	30.5 (W) x 132.6 (H) x 290.3 (D)mm
Weight	320g
Accessory	Plug-in screw terminal x 1
Option	Equaliser card: VX-200SE
Applicable Model	VX-2000SF

VX-200SP
Pilot Tone Detection Module

The VX-200SP is an audio signal output module of the VX-2000 system with speaker line pilot tone detection. This module is to be mounted in the VX-2000SF Surveillance Frame and detects speaker line short circuits, open circuits by monitoring for the presence of a pilot signal, and ground fault.
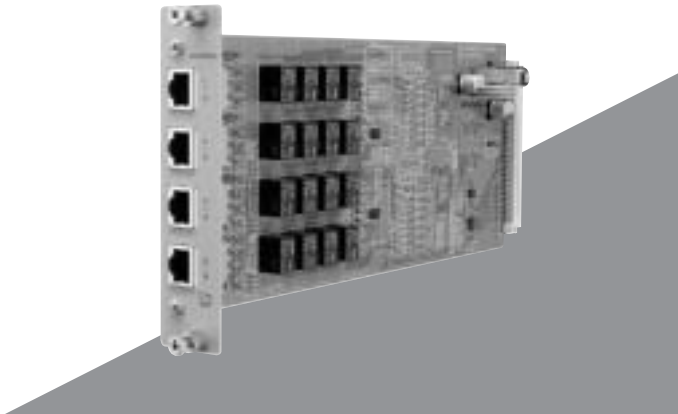
■ APPEARANCE AND DIMENSIONAL DIAGRAM

■ SPECIFICATIONS

| Model No.	VX-200SP Pilot Tone Detection Module
Power Requirement	Supplied from VX-2000SF
Current Consumption	Under 100mA
Power Amplifier Link	RJ45 female connector for connecting the VP-2064, VP-2133, VP-2241, VP-2421 Power amplifier. Twisted-pair straight cable (TIA/EIA-568A standard)
Line Monitor	Plug-in screw connector Applicable cable diameter: AWG24 – AWG 22)
External Attenuator Control Output	Plug-in screw connector, relay, no-voltage make contact output, transfer type, withstand voltage: 30V DV, 250V AC, contact current: Under 7A (DC), under 7A (AC) Applicable cable diameter: AWG24 – AWG 22
Speaker Output	Plug-in screw connector Applicable cable diameter: AWG24 – AWG 22)
Power Amplifier Input	Plug-in screw connector for connecting the VP-2064, VP-2122, VP-2241, VP-2421 Power Amplifier Applicable cable diameter: AWG24 – AWG 22)
Fault Detection System	Short circuit, open circuit (pilot tone detection method), ground fault
Finish	Panel: Surface-treated steel plate
Dimensions	30.5 (W) x 132.6 (H) x 290.3 (D)mm
Weight	240g
Accessory	Plug-in screw terminal x 1
Option	Equaliser card: VX-200SE
Applicable Model	VX-2000SF

VX-200SO
Control Output Module

TOA's VX-200SO Control Output Module is used to increase the number of control outputs to be used in the VX-2000 system. It features 16 control outputs and is mounted in the VX-2000SF Surveillance Frame.
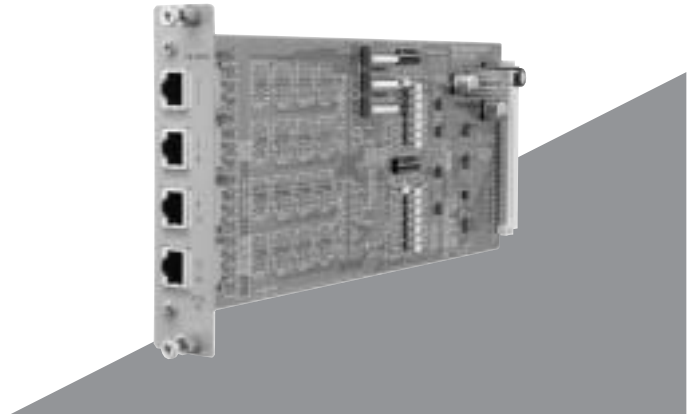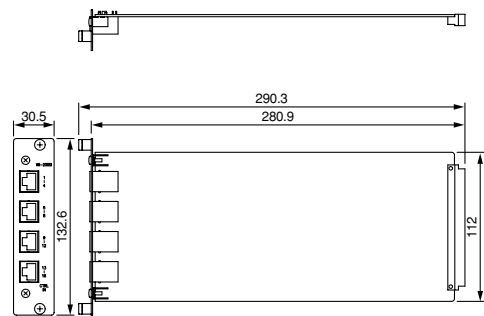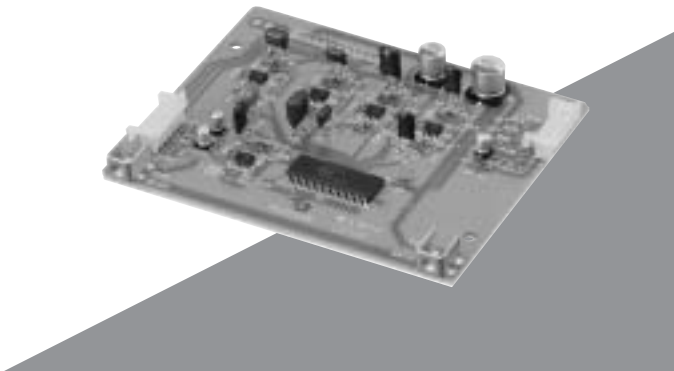
▮ APPEARANCE AND DIMENSIONAL DIAGRAM
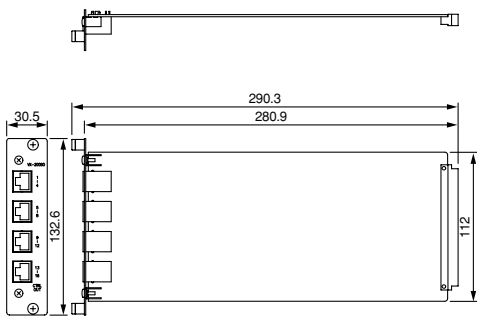
▮ SPECIFICATIONS

Model No.	VX-200SO Control Output Module
Power Requirement	Supplied from VX-2000SF
Current Consumption	Under 150mA
Control Output	16 outputs, no-voltage make contact, contact capacity: 28V DC, 1A, RJ45 connector
Finish	Panel: Surface-treated steel plate
Dimensions	30.5 (W) x 132.6 (H) x 290.3 (D)mm
Weight	250g
Applicable Model	VX-2000SF

VX-200SI
Control Input Module

TOA's VX-200SI Control Input Module is used to increase the number of control inputs to be used in the VX-2000 system. It features 16 control inputs and is mounted in the VX-2000SF Surveillance Frame.

▮ APPEARANCE AND DIMENSIONAL DIAGRAM

▮ SPECIFICATIONS

| Model No.	VX-200SI Control Input Module
Power Requirement	Supplied from VX-2000SF
Current Consumption	Under 100mA
Control Input	16 inputs, no-voltage make contact, open voltage: 24V DC, short circuit current: under 10mA, RJ45 connector
Finish	Panel: Surface-treated steel plate
Dimensions	30.5 (W) x 132.6 (H) x 290.3 (D)mm
Weight	200g
Applicable Model	VX-2000SF

VX-200SE
Equaliser Card

The VX-200SE Equaliser is a 9-band, 1-channel equaliser to be mounted on the circuit board of the VX-200SP Pilot Tone Detection module or VX-200SZ Impedance Detection module.
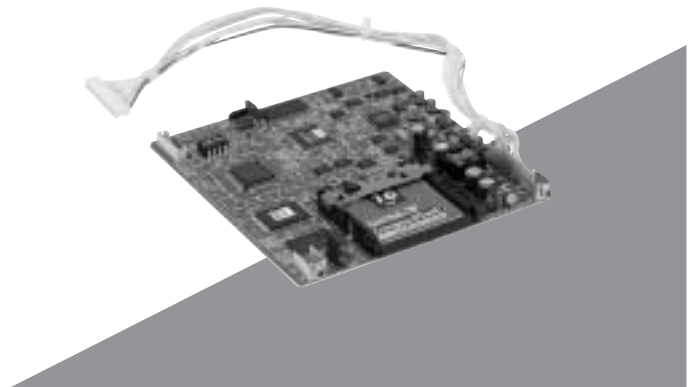
APPEARANCE AND DIMENSIONAL DIAGRAM
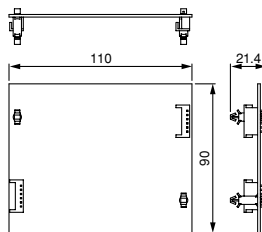
SPECIFICATIONS

Model No.	VX-200SE Equaliser Card
Power Requirement	Supplied from VX-2000SZ, VX-200SP
Current Consumption	Under 50mA
Equaliser Centre Frequency	80Hz, 125Hz, 500Hz, 1kHz, 2kHz, 4kHz, 8kHz, 12kHz
Dimensions	110 (W) x 90 (H) x 11.7 (D)mm
Weight	50g
Applicable Model	VX-200SZ, VX-200SP

EV-200
Voice Announcement Board

The EV-200 is playback-only Voice Announcing board to play back the messages recorded on TOA's EV-350R. The EV-200 is designed to built in the VM-2000 series amplifiers.

APPEARANCE AND DIMENSIONAL DIAGRAM
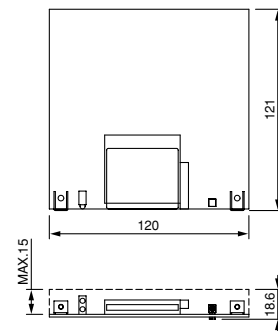
SPECIFICATIONS

Model No.	EV-200 Voice Announcement Board
Power Requirement	24 V DC, 0.1 A
Power Consumption	3 W
Output	0 dB*1
Frequency Response	20 – 20,000 Hz (44.1 kHz sampling) 20 – 14,000 Hz (32 kHz sampling)
Distortion	Under 0.3% (44.1 kHz, recording method: Extremely High)
Memory Card	SanDisk*2 CompactFlash*2 card is optionally required. Number of mountable card: 1
Playback Mode	Single source playback
No. of Playback Program	8 programs
Operating Temperature	0°C to +50°C
Operating Humidity	Less than 90% (must be free from dew condensation)
Dimensions	120 (W) x 18.6 (H) x 121 (D) mm
Weight	110 g
Accessory	Mounting screw…2

*1 0 dB = 1 V
*2 Trademark of SanDisk Corporation.   Note Use the CompactFlash card adapter on the market for recording by the EV-350R.
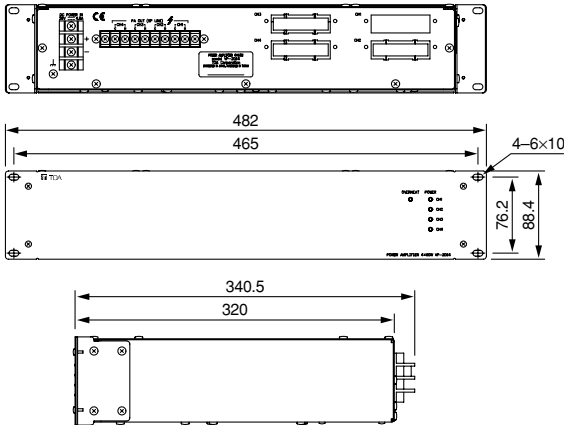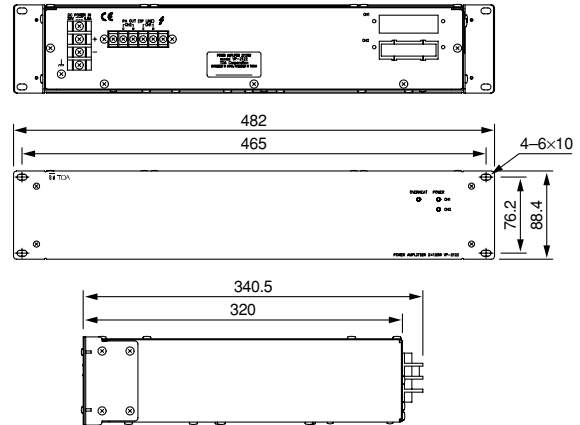
Power Amplifiers

(VP-2421)

Power Amplifier uses the VP-200VX Power Amplifier Input Module per channel.
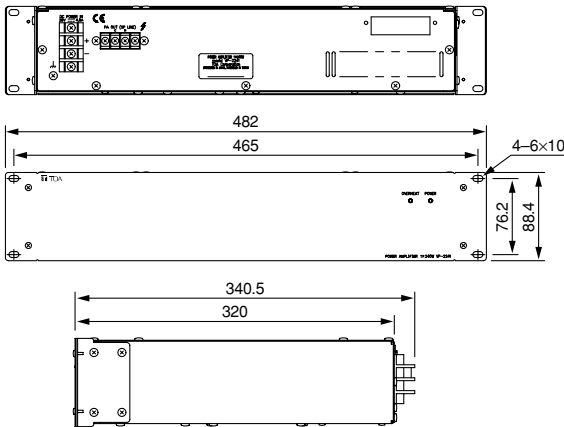
APPEARANCE AND DIMENSIONAL DIAGRAM

VP-2064

482
465
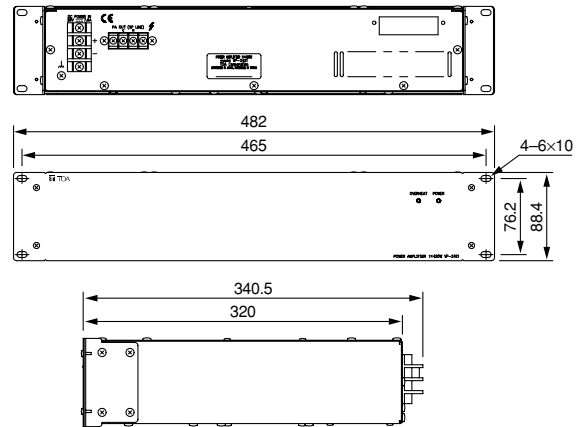4–6×10
76.2
88.4
340.5
320

VP-2122

482
465
4–6×10
76.2
88.4
340.5
320

VP-2241

482
465
4–6×10
76.2
88.4
340.5
320

VP-2421

482
465
4–6×10
76.2
88.4
340.5
320

SPECIFICATIONS

Model No.	VP-2064 Power Amplifier 4×60W	VP-2122 Power Amplifier 2×120W	VP-2241 Power Amplifier 1×240W	VP-2421 Power Amplifier 1×420W
Power Source	28V DC (operating range: 19 – 44V DC) M4 screw terminal, distance between barriers: 12mm			
Current Consumption (EN60065)	4.8A in total		4.8A	7.6A
Rated Output Power	60W x 4	120W x 2	240W	420W
Output Voltage/Impedance	100V/167Ω, 70V/83Ω, 50V/41Ω (selectable by the internal wiring change)	100V/83Ω, 70V/41Ω, 50V/21Ω (selectable by the internal wiring change)	100V/41Ω, 70V/21Ω, 50V/10Ω (selectable by the internal wiring change)	100V/24Ω, 70V/12Ω, 50V/6Ω (selectable by the internal wiring change)
Number of channels	4	2	1	
Input	Specified by input module VP-200VX			
Number of Module slots	4, usable module: VP-200VX		1, usable module: VP-200VX	
Output	Power amplifier output (speaker line): M3.5 screw terminal, distance between barriers: 8.8mm			
Frequency response	40 – 16,000Hz, ±3dB (at 1/3 rated output)			
Distortion	Under 1% (at rated output, 1kHz)			
S/N Ratio	Over 80dB			
Panel Indicator	Channel power indicator: 4 channels, dual color LED Overheat indicator: Yellow LED	Channel power indicator: 2 channels, dual color LED Overheat indicator: Yellow LED	Channel power indicator: 1 channels, dual color LED Overheat indicator: Yellow LED	
Operating temperature	0° to +40°C			
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint			
Dimensions	482 (W) x 88.4 (H) x 340.5 (D)mm			
Weight	11.2kg	9.1kg	8.1kg	9.5kg
Accessory	Rack mounting screw x 4, Fiber washer x 4			

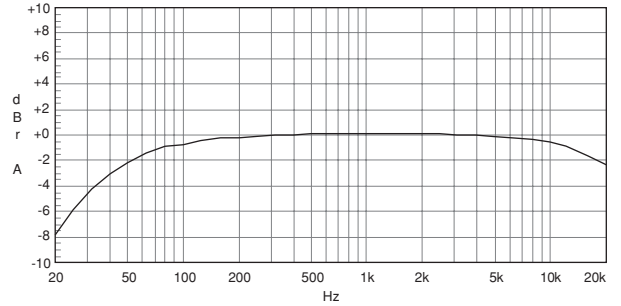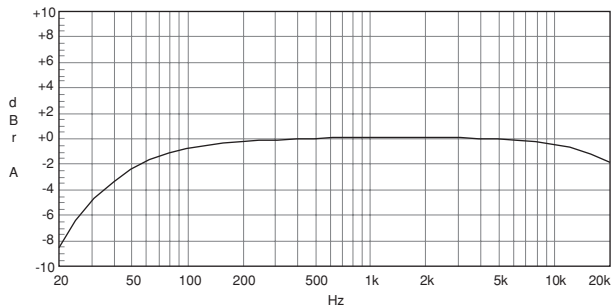# CHARACTERISTIC DIAGRAMS

Meas_Cross_Amp
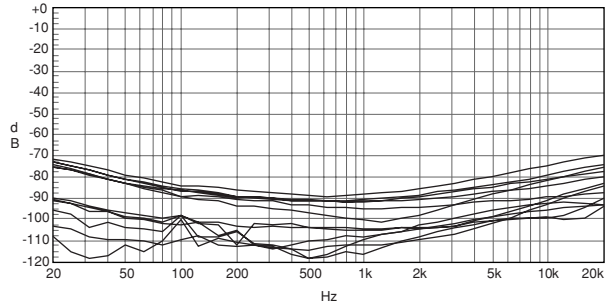
Product Name = VP-2064-1
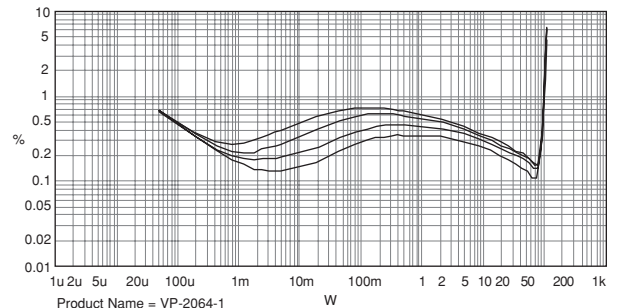
Meas_Freq_amp

Product Name = VP-2064-11
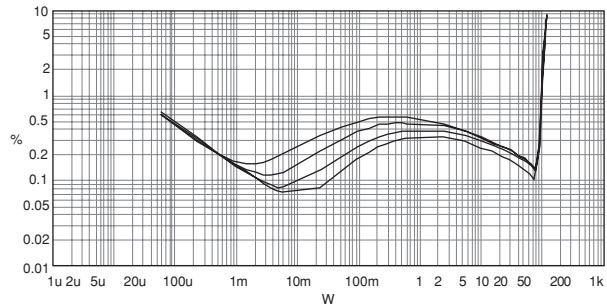Normalized to 0dB at 1kHz

Meas_Freq_Pre

Product Name = VP-2064-1
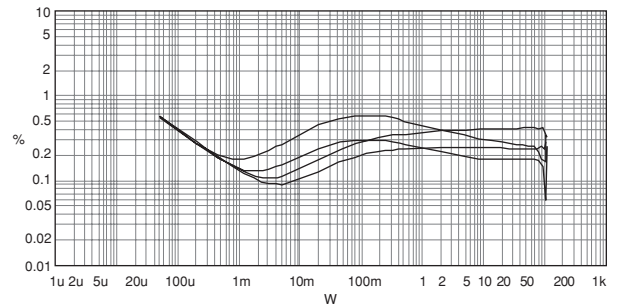Normalized to 0dB at 1kHz

Meas_thdl_amp1

Product Name = VP-2064-1
Input frequency = 100Hz
Filters = 22Hz – 20kHz

Meas_thdl_amp2

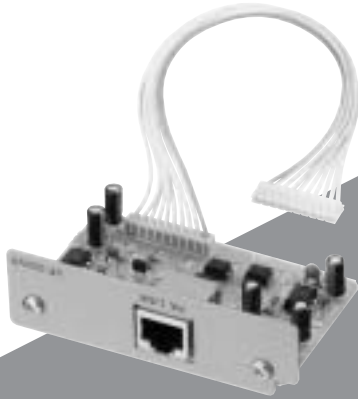Product Name = VP-2064-1
Input frequency = 1kHz
Filters = 22Hz – 20kHz

Meas_thdl_amp3

Product Name = VP-2064-1
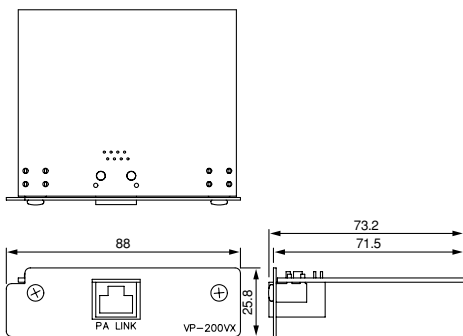Input frequency = 10kHz
Filters = 22Hz – 20kHz

VP-200VX

Power Amplifire Input Module

The VP-200VX Power Amplifier Input Module is designed to be used in conjunction with theVP-2064, VP-2122, VP-2241 or VP-2421 power amplifier.

▌APPEARANCE AND DIMENTIONAL DIAGRAM

▌SPECIFICATIONS

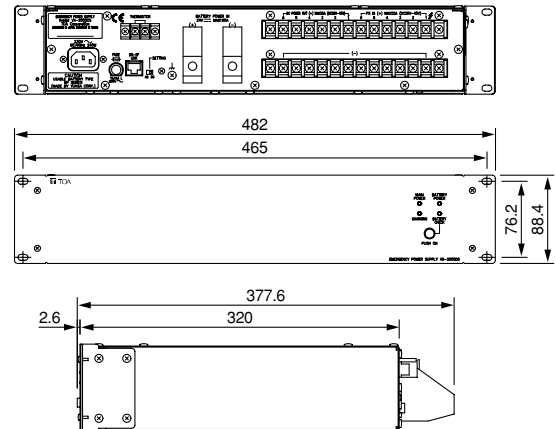| Model No.	**VP-200VX** Power Amplifire Input Module
Power Source	Supplied from VP-2064, VP-2122, VP-2241 or VP-2421
Current Consumption	Under 30 mA
Power Amplifier Link	RJ45 female connector for connecting the VX-200SP or VX-200SZ Audio Output module. Twisted-pair straight cable (TIA/EIA-568A standard)
Finish	Panel: Surface-treated steel plate
Dimensions	88 (W) x 25.8 (H) x 73.2 (D) mm
Weight	50g
Applicable Model	VP-2064, VP-2122, VP-2241, VP-2421

VX-2000DS

Emergency Power Supply Unit

The VX-2000DS Emergency Power Supply Unit supplies the DC power to each equipment in the VX-2000 system by connecting the VX-200PS Power Supply Unit. It keeps the battery unit that contains 2 ÉG 12 V sealed lead batteries charged compensating for the temperature of the battery charging voltage. When the DC power supply from the VX-200PS stops, the VX-2000DS is automatically switched to the backup battery.
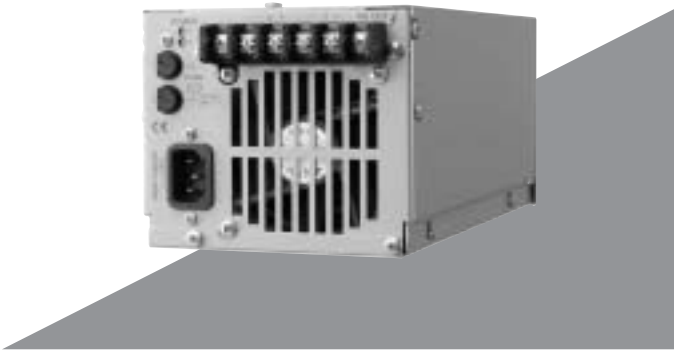
▌APPEARANCE AND DIMENTIONAL DIAGRAM

▌SPECIFICATIONS

| Model No.	**VX-2000DS** Emergency Power Supply
Power Requirement	230V AC, 50/60Hz
Power Consumption	240W max.
Applicable Battery	YUASA NP series (12V x 2 or 4)
Charging Method	Trickle charging
Charging Current	5A max
Charging Output Voltage	27.3V ±0.3V (at 25°C) Temperature correction coefficient: –40mV/°C
Power Supply Input	6 M4 screw terminal, distance between barriers: 11mm
DC Power Output	6 (25A maz. Each) M4 screw terminal, distance between barriers: 11mm
Control Connector	RJ45 female connector for connecting the VX-2000SF Surveillance Frame. Twisted-pair straight cable (TIA/EIA-568A standard) Type of control signal: Battery check, AC power status, DC power status, charging circuit failure, and battery failure
Battery Connection	1 pair of positive and negative terminals Applicable cable diameter: AWG 6 – AWG 1/10)
Operating temperature	0° to +40°C
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint
Dimensions	482 (W) x 88.4 (H) x 377.6 (D)mm
Weight	10.5kg
Accessory	Rack mounting screw x 4, Fiber washer x 4, Blade fuse (40A) x 3, Fuse (T2.5A L) x 1, Power cable x 1

VX-200PS
Power Supply Unit

The VX-200PS Power Supply Unit is mounted in the VX-2000PF Power Supply Frame when in use. There are 2 DC output channels per unit. Use the VX-200PS in the number suited to the required total system power.
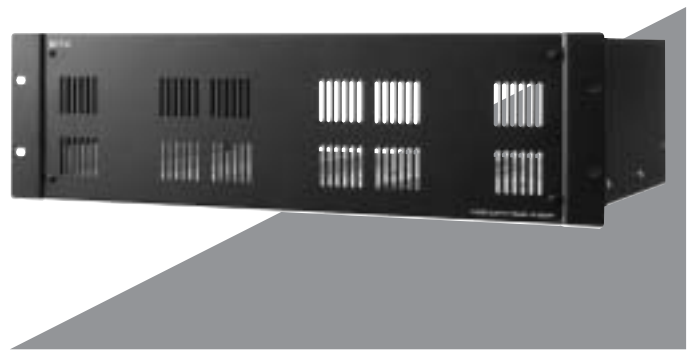
▌ APPEARANCE AND DIMENSIONAL DIAGRAM

135   333.8   118.2
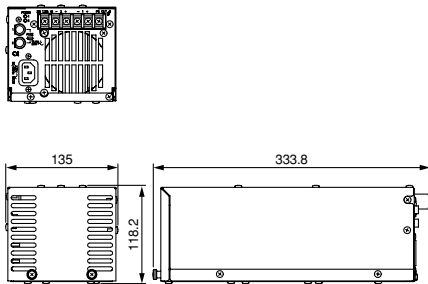
▌ SPECIFICATIONS

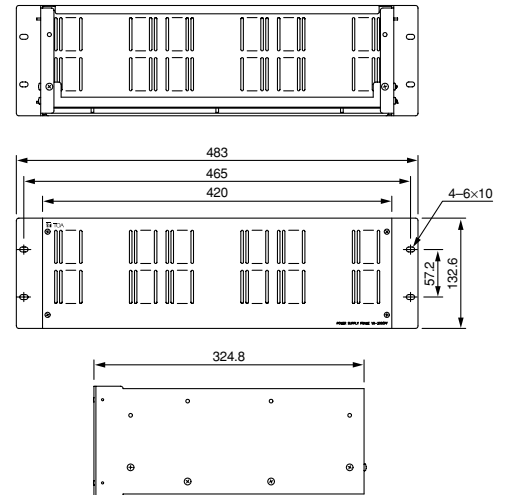| Model No.	VX-200PS Power Supply Unit
Power Requirement	230V AC, 50/60Hz
Power Consumption	580W
PS OUT	Rated output: 210W (29V, 7.25A) x 2 Peak output: 400W x 2 M4 screw terminal, distance between barriers: 11mm
Operating temperature	0° to +40°C
Applicable Frame	VX-2000PF
Finish	Surface-treated steel plate
Dimensions	135 (W) x 118.2 (H) x 333.8 (D)mm
Weight	13.2kg
Accessory	Fuse (T3.15A L) x 1, Power cable x 1

VX-2000PF
Power Supply Frame

The VX-2000PF permits the VX-200PS Power Supply Unit to be mounted in an equipment rack. Up to three VX-200PS units can be installed in the unit.

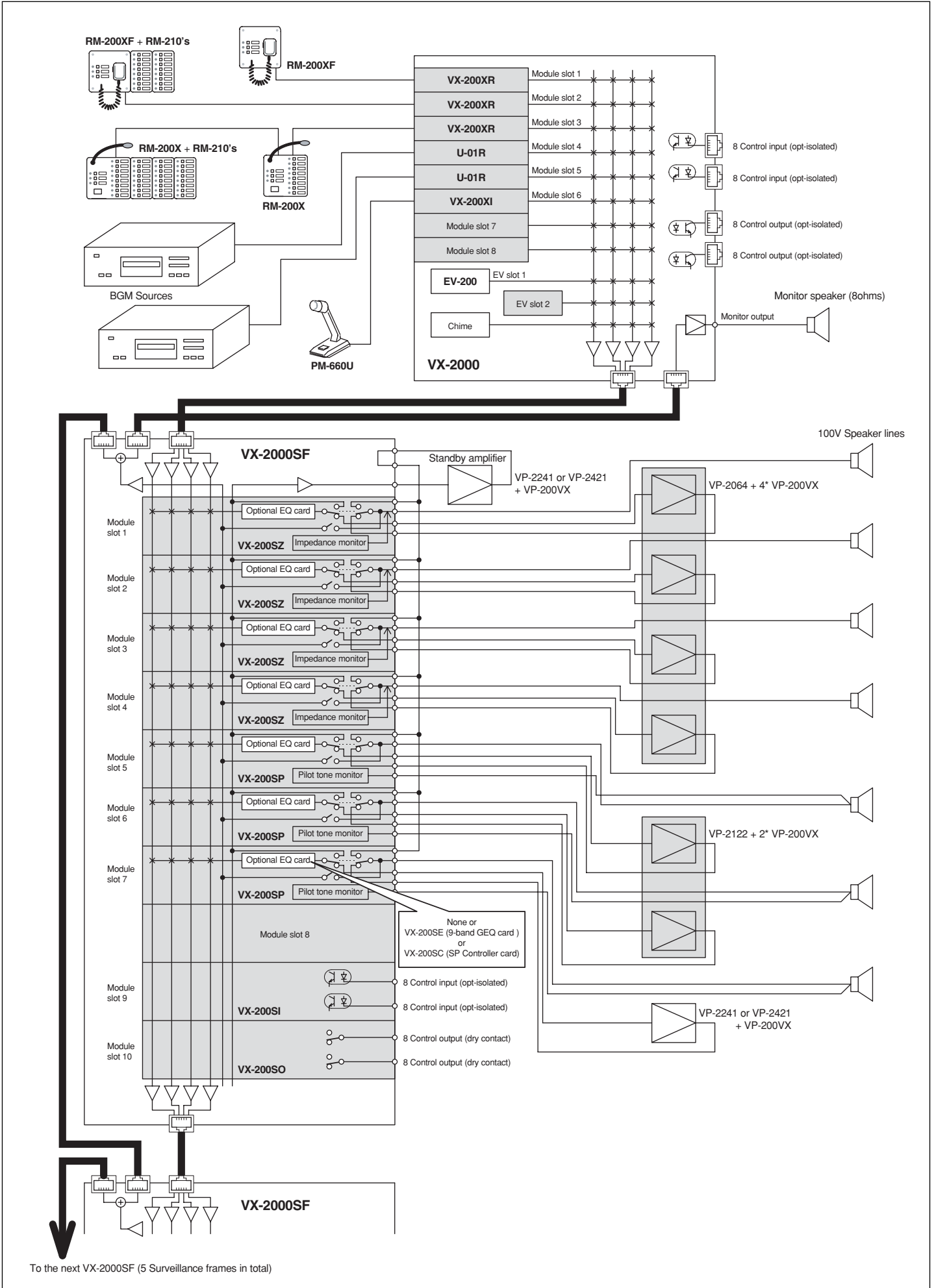VX-200PS

▌ APPEARANCE AND DIMENSIONAL DIAGRAM

483   465   420   4–6×10   57.2   132.6   324.8
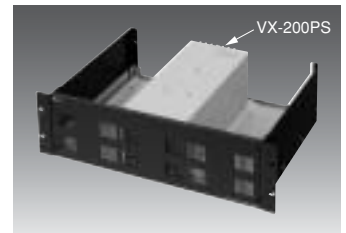
▌ SPECIFICATIONS

Model No.	VX-2000PF Power Supply Frame
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint
Dimensions	482 (W) x 132.6 (H) x 324.8 (D)mm
Weight	5.5kg
Product Composition	Side panel x 2, Chassis x 1, front panel x 1
Accessory	Rack mounting screw x 4, Fiber washer x 4
Usable Unit	VX-200PS (up to 3)

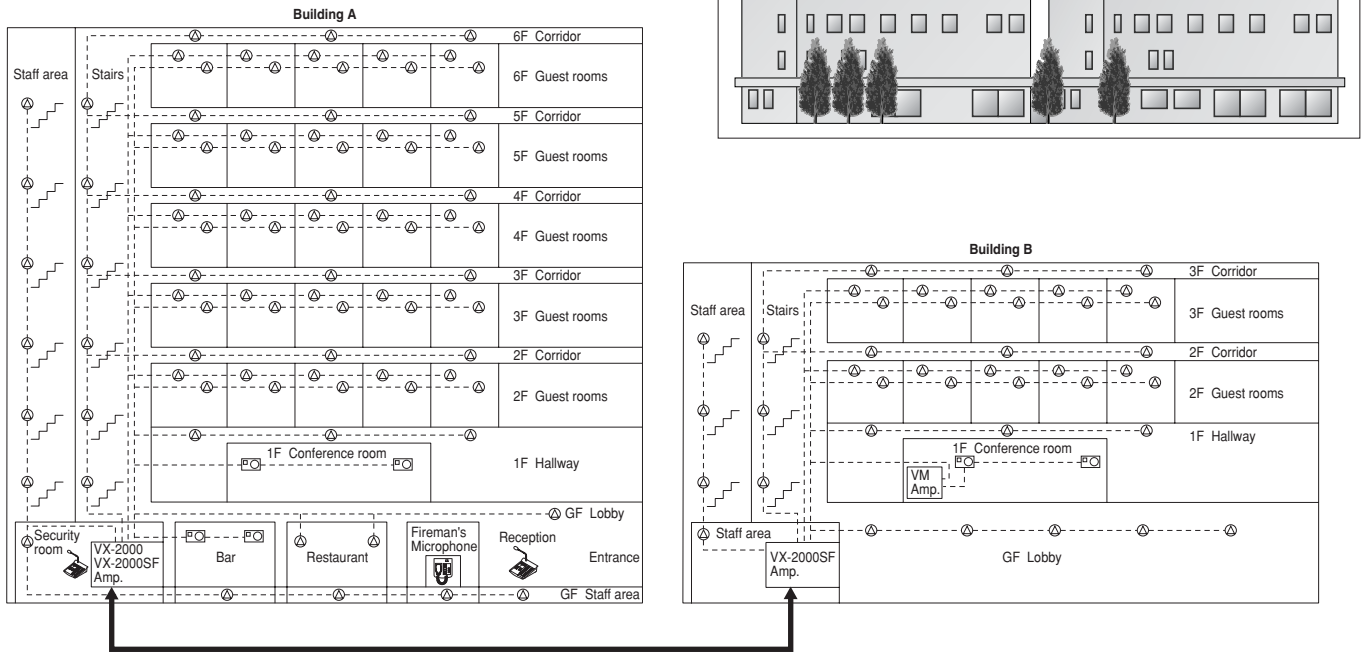# VX-2000 SERIES
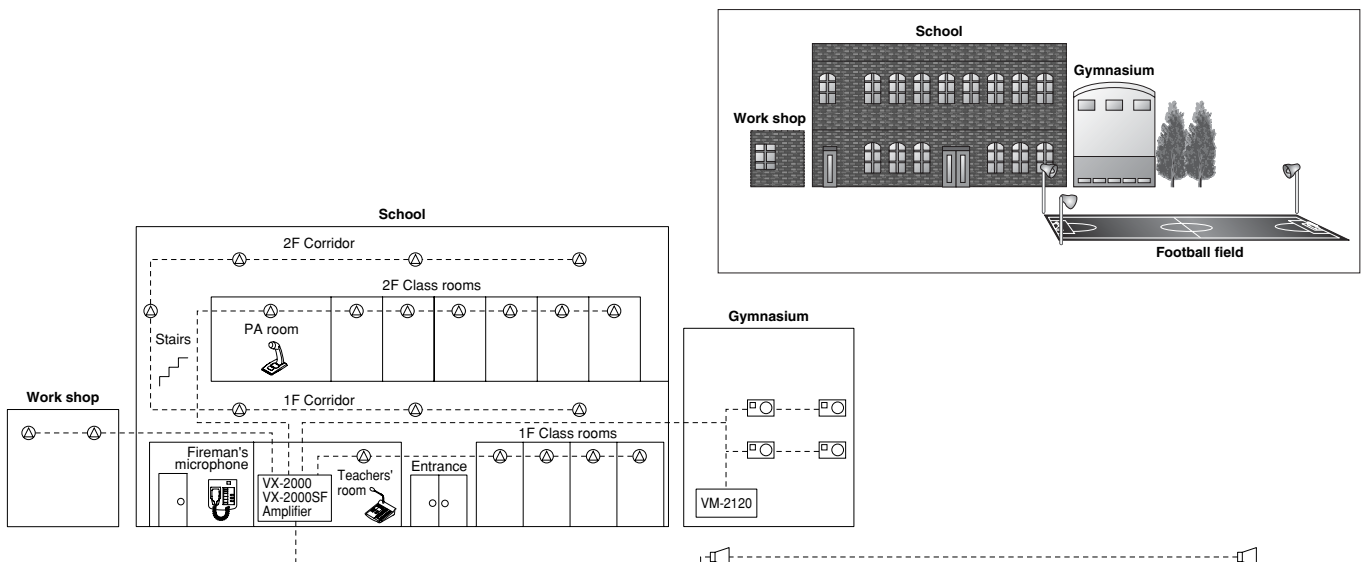
Installation Example of the Hotel

The location is a hotel where Building A is linked with Building B. Building A was built earlier, and Building B added later. The original public address system was expanded by adding a VX-2000SF to cover Building B.

Building A

Building A

6F Corridor
6F Guest rooms
5F Corridor
5F Guest rooms
4F Corridor
4F Guest rooms
3F Corridor
3F Guest rooms
2F Corridor
2F Guest rooms
1F Conference room
1F Hallway
GF Lobby

Staff area | Stairs

Security room
VX-2000 VX-2000SF Amp.
Bar
Restaurant
Fireman's Microphone
Reception
Entrance
GF Staff area

Building B

3F Corridor
3F Guest rooms
2F Corridor
2F Guest rooms
1F Conference room
1F Hallway
VM Amp.

Staff area | Stairs

Staff area
VX-2000SF Amp.
GF Lobby

Installation Example of the School

School

Gymnasium

Work shop

Football field

School

2F Corridor
2F Class rooms
PA room
Stairs

Work shop

1F Corridor
1F Class rooms
Fireman's microphone
VX-2000 VX-2000SF Amplifier
Teachers' room
Entrance

Gymnasium

VM-2120

Football field

- The EV-200 can be set to broadcast chimes, programmed announcements, etc. at regular daily intervals using the software timer.
- Output from the local powered mixer used in the gymnasium can be interrupted by broadcasts from the VX-2000 when an urgent call is made.
- The Remote Microphones installed in the teachers' room and the Staff area can make individual zone calls to other buildings. System failure modes can also be indicated on RM-200X + RM-210 x 2.
- In the gymnasium, the local VM-2120 amplifier is installed. Broadcast is switched from the local VM-2120 amplifier operation to the central VX-2000 system operation by the VX-200SZ's external attenuator control signals.

VX-2000 SERIES

INSTALLATION EXAMPLE

Installation Example of the Department Store

- The key factor in this system application is simultaneous broadcast.
- BGM sound is broadcast from CD player.
- Pre-recorded messages are played back to any zones you had set, when software timer activates the EV-200.
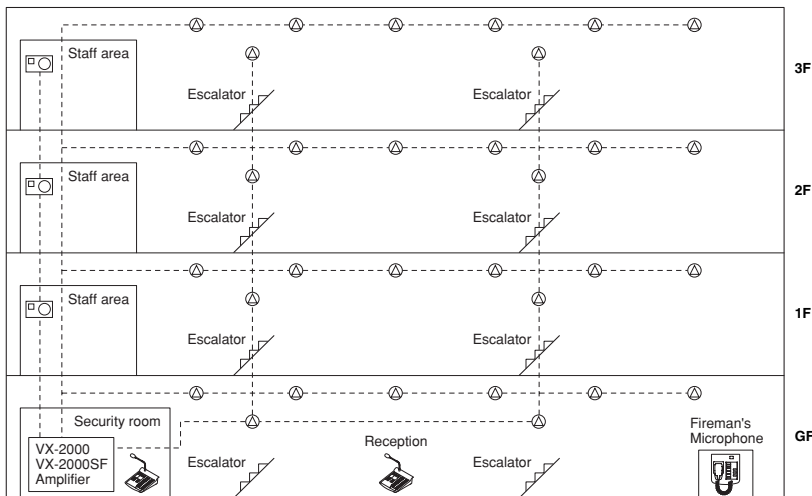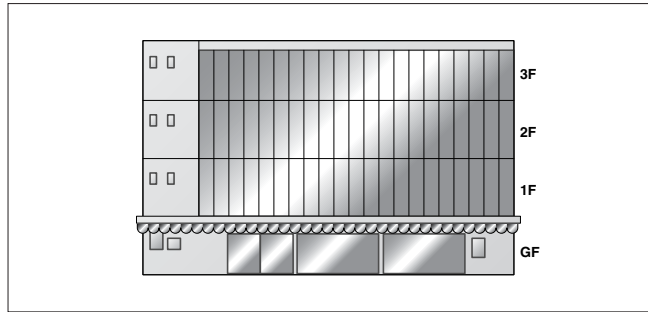
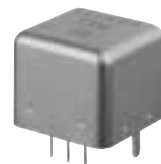## OPTIONS

EV-350R
Digital Announcer

- LCD-displayed operation guides and handy selection dial facilitate recording and playback.
- Holds up to two memory cards.
- The combination of two sampling frequencies (32 kHz and 44.1 kHz) and four recording grades ("Long", "Normal", "High" and "Extremely High") permits selection of up to eight levels of recording sound quality to best suit a given situation.

* Optional adapter required for CompactFlash* card recording/playback using the EV-350R.

- Recorded sentences can be combined into complete messages and played back as a program.
- Up to 256 programs can be played back.
- Up to 256 or 1,024 sentences (changeable) can be recorded (when two memory cards are installed).
- Two different messages can be simultaneously output to two different locations.
- In emergency situations, emergency messages can be set to override current programs. (Emergency messages must be pre-recorded.)
- Recording, playback, erasure, and stop can be remotely controlled by external equipment.
- Detachable front cover protects the memory cards from tampering.

IT-450
Input Transformer

The IT-450 input transformer can be used to isolate AUDIO INPUTS 1-3, the remote microphone, as well as the telephone paging input on the VM-2120/2240. Each transformer must be installed individually for an input to be isolated.

Impedance: 600Ω ±10%
Frequency Response: 200 – 10,000Hz