VOICE ALARM SYSTEMS

We supply sound, not equipment.
www.toa.eu

Steps, noises, hustle and bustle...

... and yet you are still led out quickly and safely in an emergency.

Security with conviction.

Proven quality by TOA.

Consistently TOA has continued to strengthen its role as an innovative leader and redefined the standards of technical improvement. Founded 1934 in Kobe, Japan, we benefit from 80 years of experience in research, development and international sales and marketing of numerous products in the field of public address systems. Thereby our longstanding know-how guarantees proven quality and the upmost peace of mind.

It is our goal to provide you high quality products, as well as first-class sound, to find the ideal acoustic solution for each of your applications.
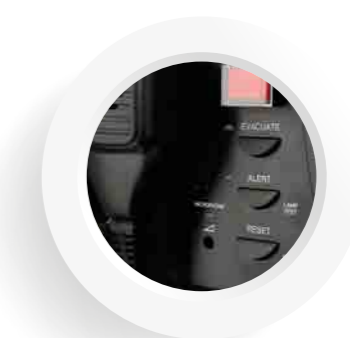
We are proud to be one of the first companies to develop a fully EN 54 compliant voice alarm systems and that we can offer four different systems along with a variety of certified loudspeakers for several applications today.

Since April 2011 the EN 54 standards are mandatory in all EU member states and consist of three parts (part 4: refers to power supplies, part 16: refers to voice alarm control and indicating equipment and part 24: refers to loudspeakers), which ensure the functionality of the system under extreme external conditions.

At TOA, we don't only guarantee you the very best sound quality, but a dependable system to go with it.

Content

VX-3000 series   Highly Integrated Voice Alarm & Public Address System

VX-3000
series

Description

The issue of security is more than ever important. Our VX-3000 is a reliable and energy-saving voice alarm system that combines all important functions for PA/VA in one unit frame. The limited number of components makes the design and installation much easier, as well as saving space and reducing cable complexity. This enables rapid system configuration and makes the VX-3000 a cost effective system.

It comes with low loss modular class D amplifiers, with 3 different output ratings. These can easily be removed or replaced simply by unplugging them; there is no need for specialist tools. By using low loss modular class D amplifiers and modern power supply switching technology the system becomes much more energy efficient and keeps the operating costs low.
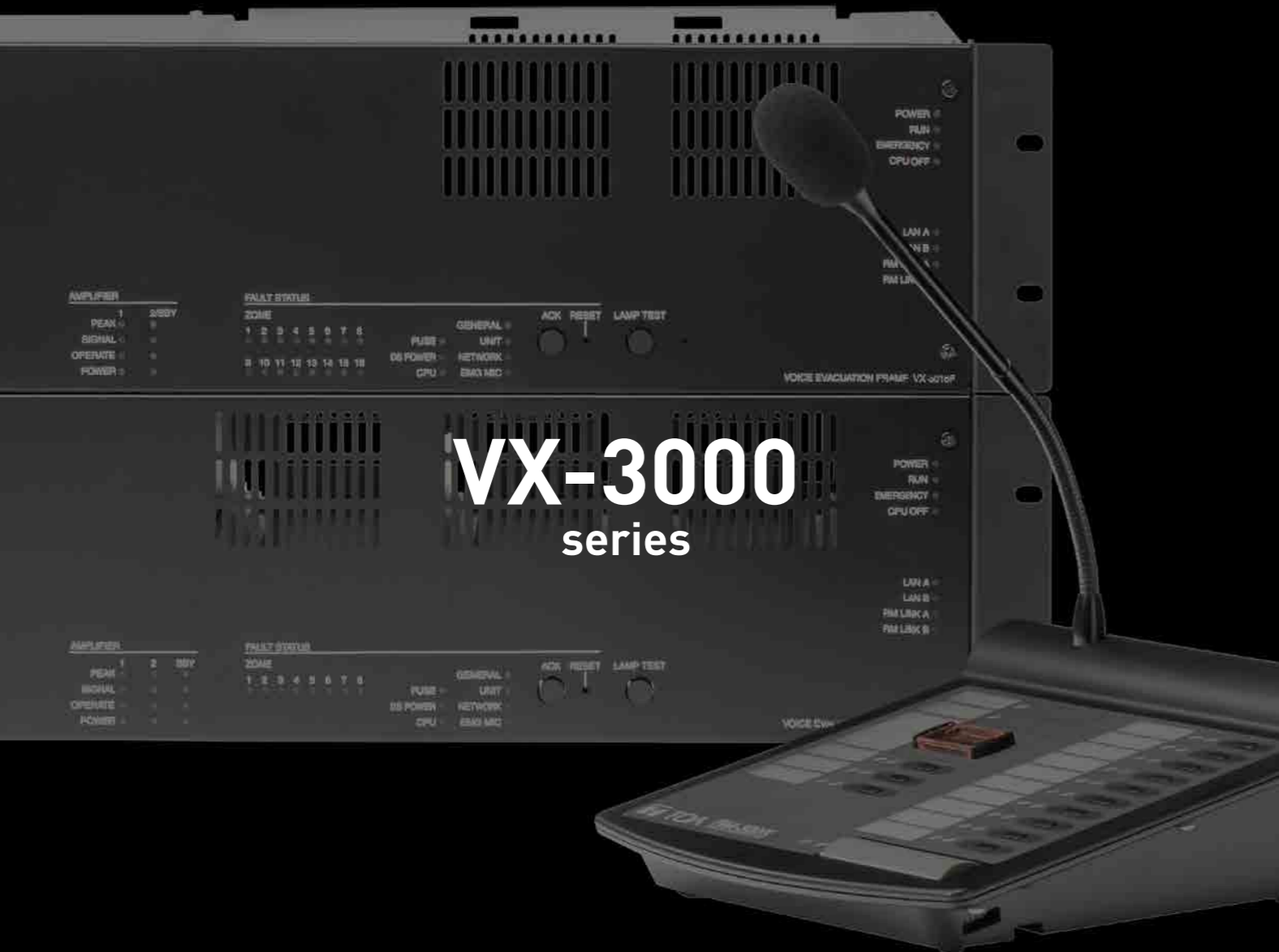
Thanks to its flexible and scalable system architecture the VX-3000 system can be used for both small and large applications, with up to 256 remote microphones and 128 audio sources.
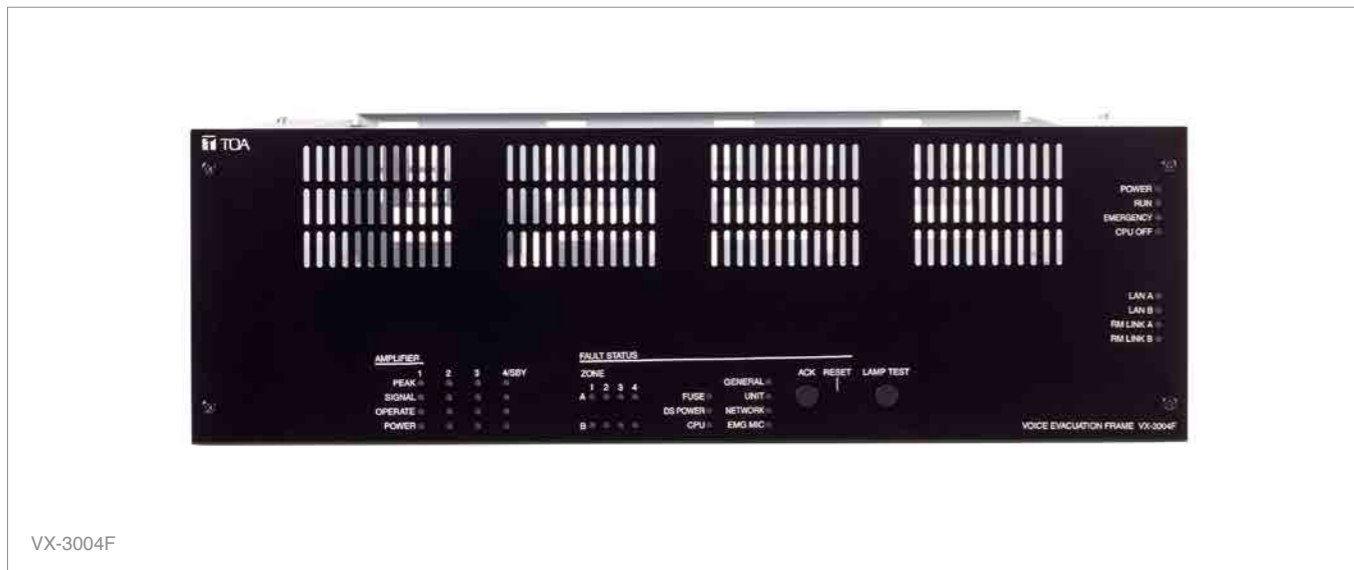
System Features

> Compact: All functions, all inputs and outputs in one unit
> Cost effective: Easy system configuration thanks to small number of system components
> Flexible: Broadcast of many different audio signals simultaneously, flexible speaker driving from 1 zone per amplifier up to 64 zones per amplifier
> Scalable: up to 256 remote microphones
> Light-weight: Modern supply switching technology and digital amplifiers

> Energy saving: Standby mode for low power consumption during battery backup reduces the required battery capacity
> Decentralized: IP Network based
> Advanced ambient noise control (ANC) (Q4)
> Master-less system provides high security if one line fails (Q4)

Maximum System Capacity	
Output Power	64.000 W
Speaker Zones	512
Remote Mic connection	256

VX-3004F

VX-3004F / VX-3008F / VX-3016F

- VX-3004F: up to 4 amps (1-zone - 1 amp, 4 AB-zones or 3 AB zones + standby amp)
- VX-3008F: up to 3 amps (8 zones switching between 2 amps + standby amp or 8 zones freely assignable to 1 of 2 amps)
- VX-3016F: up to 2 amps (16 switched zones + standby amp or 2 x 8 switched zones)

- All mandatory indications by EN54-16
- Status indication for each speaker line
- Falut acknowledge and lamp test button
- Input DSP: flexible filtertypes and compressor (Q4)
- Output DSP: flexible filtertypes, compressor and delay up to 2.7 sec. (Q4)

Specifications	VX-3004F	VX-3008F	VX-3016F
Applicable Model	System VX-3000		
Power Source	31 V DC (operating range: 20 – 40 V DC)		
Speaker Output	4 AB Zones	8	16
Power Amplifier	4	3	2
Audio input	4 (Line: -20 dBV / Mic: -60 dBV, phantom power selectable)		
RM Link	2 (max. 8 RM)		
LAN	2		
Control Input	16+2 (FDS)		
Control Output	8+3 (CPU OFF)		
ATT Control Output	8	8	16
Finish	Panel: Surface treated steel plate, black, 30% gloss, paint		
Dimensions (W x H x D)	482 x 132.6 x 345 mm (19", 3U)		
Weight	7.6 kg	7.9 kg	

VX-050DA

VX-015DA / VX-030DA / VX-050DA

- Low loss modular class D amplifiers
- Modules to be mounted in the frame units
- Three different power levels: 150 W, 300 W or 500 W
- Can easily be removed or replaced simply by unplugging them; no need for special tools
- Dust filter, easy to clean
- 100 V Output without transformer resulting in light-weight units
- Fuse easily accessible from rear

Specifications	VX-015DA	VX-030DA	VX-050DA
Applicable Model	VX-3004F, VX-3008F, VX-3016F		
Power Source	31 V DC (operating range: 20 – 40 V DC)		
Amplification System	Class D		
Rated Output Power	150 W (100 V)	300 W (100 V)	500 W (100 V)
Supported Loads	50 V / 70 V / 100 V		
Frequency Response	40 Hz – 16 kHz ± 3 dB		
Distortion	1 % or less (at 100 V line, A-weighted)		
Finish	Surface-treated steel plate		
Dimensions (W x H x D)	79 x 91 x 358.2 mm		
Weight	1.4 kg		

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RM-200SF

Alarm Switch

Microphone

RM-320F

RM-200SF / RM-320F

- For emergency broadcast
- For activation of emergency mode, start and stop automatic broadcasts of emergency announcements, reset emergency signals, and live microphone announcements
- CPU-switch for emergency broadcast to all zones even in case of a CPU error
- Up to 4 RM-320F Remote Microphone Extension units can be used with each RM-200SF Remote Microphone

Options

- RM-320F: Key extension unit
- RM-210: Key extension unit
- WB-RM200: Wall-mounting bracket

Specifications	RM-200SF	RM-320F
Applicable Model	VX-3004F, VX-3008F, VX-3016F, RM-210, RM-320F, SX-200RM in SX-2100AI	RM-200SF, RM-300MF, RM-200XF, RM-200M
Power Requirement	24 V DC (operating range: 15 – 40 V DC)	From remote microphone
Distortion	Under 1 %	-
Frequency Response	200 Hz – 15 kHz	-
Signal-to-Noise Ratio	Over 55 dB	-
Audio Output	0 dBV, 600 Ω, balanced	-
Microphone	Unidirectional dynamic microphone AGC	-
Volume Control	Microphone, speaker	-
Key Extension	Max. 4 RM-320F	20 keys, freely assignable
Finish	ABS resin, bluish gray (PANTONE 538 or its equivalent)	
Dimensions (W x H x D)	200 x 215 x 95 mm	175 x 215 x 70 mm
Weight	1.48 kg	700 g

RM-300X

RM-210F

RM-300X / RM-210F

- For both emergency and general purpose broadcast
- Zone selection or all call
- PC-programmable system software permits desired functions to be assigned to individual function keys (equipped with 2 LED indicators)
- RM-210F: Key extension unit with 10 additional keys
- Up to 7 RM-210F Remote Microphone Extension units can be used with each RM-300X Remote Microphone

Options

- AD-246: Power supply unit
- WB-RM200: Wall-mounting bracket

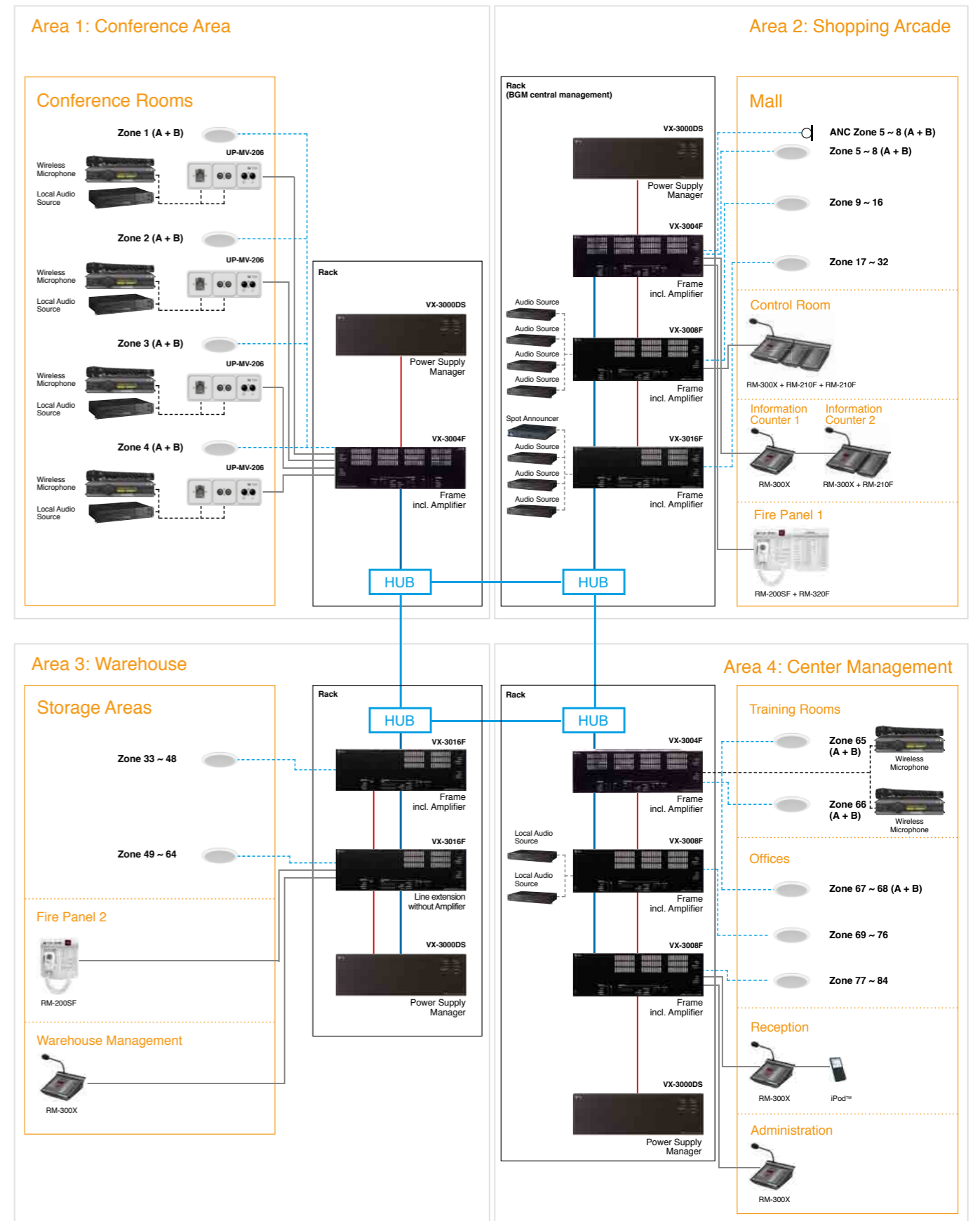| Specifications	RM-300X	RM-210F
Applicable Model	VX-3004F, VX-3008F, VX-3016F	
Power Source	24 V DC (operating range: 15 - 40 V DC), supplied from the audio input unit or DC input power supply connector	From remote microphone
Current Consumption	Under 240 mA	80 mA max. (from remote microphone)
Audio Output	0 dBV, 600 Ω, balanced	-
External Microphone Input	-40 dB, 2.2 kΩ, unbalanced, mini jack, phantom powering	-
Frequency Response	100 Hz – 20 kHz	-
Distortion	Under 1 %	-
Signal-to-noise Ratio	Over 60 dB	-
Volume Control	Microphone volume control, Monitor speaker volume control	-
Key Extension	Max. 7 RM-210F	10 keys, freely assignable
Maximum Cable Distance	1,200 m	-
Finish	ABS resin, black	
Dimensions (W x H x D)	190 x 76.5 x 215 mm (gooseneck microphone excluded)	110 x 76.5 x 215 mm
Weight	850 g	350 g

VX-3000DS

VX-3000DS / VX-3150DS

➤ DC power supply to all system components
➤ Combination of two built-in power source units with a high-performance charger
➤ Automatical switch to auxiliary battery power if the AC power supply is down
➤ VX-3000DS: EN 54-4 certified, Certificate No: 1134-CPR-137

Specifications	VX-3000DS	VX-3150DS
Applicable Model	System VX-3000 / VX-2000 / SX-2000; all amplifiers	
Power Source	220 – 230 V AC, 50/60 Hz	
Power Consumption	2800 W max in total (at rated output with charging), 350 W max each (EN 60065)	approx. 1450 W max in total (at rated output with charging), 200 W max each (EN 60065)
DC Power Output (AC mode)	Rated output: 2300 W (31 V, 72.5 A, total DC power output), Peak output: 2780 W (29 V, 96 A, total DC power output)	Rated output: 1150 W (31 V, 25 A, total DC power output), Peak output: 1390 W (29 V, 48 A, total DC power output)
DC Power Output	8 x 31 V (19 – 33 V) 25 A max. each, M4 screw terminal, distance between barriers: 11 mm 3 x 31 V (19 – 33 V) 5 A max. each, removable terminal block (3 x 2 pins) 1 x 24 V (16 – 25 V) 0.3 A max., removable terminal block (1 x 2 pins)	
Charging Method	Temperature compensated trickle charging	
Charging Output Voltage	27.3 V ±0.3 V (at 25 ˚C), Temperature correction coefficient: -40 mV/˚C	
Battery Connection	One each positive and negative terminal, applicable cable diameter: AWG 6 – AWG 0 (AWG 1/0) (16 mm2 – 50 mm2) Line resistance within 4 mΩ/ total	
Control Connector DS LINK IN/OUT	RJ45 female connector for connecting the system and cascade connection, Shielded Twisted-pair straight cable (TIA/EIA-568A standard) Type of control signal: Battery check, AC power status, DC power status, charging circuit failure, battery failure, and communication	
Panel Indicator	AC power IN 1, IN 2 (Green), Charging (Green), Battery power (Green), Battery connect (Green), Battery condition (Green)	AC power IN 1, Charging (Green), Battery power (Green), Battery connect (Green), Battery condition (Green)
Finish	Panel: Surface-treated steel plate, black, 30 % gloss, paint	
Dimensions (W x H x D)	482 x 132.6 x 400.5 mm (19", 3U)	
Weight	11.8 kg	approx. 8 kg

Area 1: Conference Area

Conference Rooms

Zone 1 (A + B)
Wireless Microphone
Local Audio Source
UP-MV-206

Zone 2 (A + B)
Wireless Microphone
Local Audio Source
UP-MV-206

Zone 3 (A + B)
Wireless Microphone
Local Audio Source
UP-MV-206

Zone 4 (A + B)
Wireless Microphone
Local Audio Source
UP-MV-206

Rack
VX-3000DS
Power Supply Manager
VX-3004F
Frame incl. Amplifier

HUB

Area 2: Shopping Arcade

Rack (BGM central management)
VX-3000DS
Power Supply Manager
VX-3004F
Frame incl. Amplifier
VX-3008F
Frame incl. Amplifier
VX-3016F
Frame incl. Amplifier

Audio Source
Audio Source
Audio Source
Spot Announcer
Audio Source
Audio Source
Audio Source

Mall
ANC Zone 5 ~ 8 (A + B)
Zone 5 ~ 8 (A + B)
Zone 9 ~ 16
Zone 17 ~ 32

Control Room
RM-300X + RM-210F + RM-210F

Information Counter 1
RM-300X

Information Counter 2
RM-300X + RM-210F

Fire Panel 1
RM-200SF + RM-320F

HUB

Area 3: Warehouse

Storage Areas

Zone 33 ~ 48
Zone 49 ~ 64

Fire Panel 2
RM-200SF

Warehouse Management
RM-300X

Rack
HUB
VX-3016F
Frame incl. Amplifier
VX-3016F
Line extension without Amplifier
VX-3000DS
Power Supply Manager

Area 4: Center Management

Rack
HUB
VX-3004F
Frame incl. Amplifier
VX-3008F
Frame incl. Amplifier
VX-3008F
Frame incl. Amplifier
VX-3000DS
Power Supply Manager

Local Audio Source
Local Audio Source

Training Rooms
Zone 65 (A + B) — Wireless Microphone
Zone 66 (A + B) — Wireless Microphone

Offices
Zone 67 ~ 68 (A + B)
Zone 69 ~ 76
Zone 77 ~ 84

Reception
RM-300X   iPod™

Administration
RM-300X

VM-3000 series

series

Description

The VM-3000 is a cost-effective integrated public address and voice alarm system. It is designed to fulfil the EN 54 European regulation for voice alarm and also engineered with powerful digital signal processor (DSP), ensuring high quality audio broadcasting for proper speech intelligibility. The compact design enables the system to fit best in various small to medium sized applications such as schools, shopping centres or restaurants.

System Features

> Cost-effective integrated public address and voice evacuation system
> Easy installation and compact design
> EN 54 certified
> Intuitive and userfriendly configuration through dedicated PC-Software

> 6 – 60 assignable speaker zones
> 4 – 13 MIC/LINE audio inputs (volume setting for each audio output)
> 8 remote microphones max. (4 x general + 4 x emergency; EN 54: max. 2 x emergency or 4 x general + 1 x emergency)
> 2 selectable BGM audio inputs
> 8 priority levels
> 1,000 system events can be logged
> 6 high quality electronic voice messages

> LCD display of current status and configuration settings
> Built-in emergency microphone
> Simultaneous broadcast of 2 emergency messages (alert and evacuation)
> Remote maintenance via LAN
> Continuous speaker line monitoring without interruption of BGM or paging announcements (no external amplifier required)
> Modbus protocol ready
> Complete fault detection and indication

Maximum System Capacity	
Output Power	3,600 W
Speaker Zones	60
Remote Mic connection	8

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Certificate No: 1438-CPD-0180

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VM-3240VA

VM-3240VA / VM-3360VA

- 1 unit per system
- 2 models available: 240 W or 360 W power output
- 6 recorded general announcements and 2 recorded emergency announcements
- 8 remote microphones max. (up to 4 emergency remote microphones)
- 6 zones selectable from the front panel
- Built-in high quality electronic voice message

Options

- VM-3240E: 240 W Extension Amplifier
- VM-3360E: 360 W Extension Amplifier
- RM-300MF: Emergency Microphone
- RM-200M: General Remote Microphone
- IT-450: Input Transformer
- VM-300SV: Pilot Tone Detection Module

VM-300SV Pilot Tone Detection Module

- Speaker line failure can be detected with high accuracy when a VM-300SV unit (specifically designed for 100 V speaker line) is connected between the speaker line end and the emergency input terminal of the VM-3240VA, VM-3360VA, VM-3240E, or VM-3360E.

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VM-3240VA (Rear)

Specifications

Specifications	VM-3240VA	VM-3360VA
Applicable Model	VM-3240E, VM-3360E, VP-2241, VP-2421, VX-2000DS	
Power Requirement	230 V AC, 50 / 60 Hz	
Power Consumption (AC mains)	600 W (with rated output signal), 260 W (according to EN 60065)	850 W (with rated output signal), 380 W (according to EN 60065)
Rated Output	240 W	360 W
Frequency Response	50 Hz – 20 kHz, ±3 dB (at 1/3 rated output)	
Distortion	Under 0.7 % (at rated output, 1 kHz)	
Signal-to-Noise Ratio	Over 85 dB	
Inputs	Input 1 – 3: -50 dBV (MIC) / -10 dB (LINE) (changeable), 600 Ω, electronically balanced combined, XLR connector (female) / phone jack Input 4: -50 dBV (MIC) / -10 dB (LINE) (changeable), 600 Ω, electronically balanced, removable terminal block (14 x 2 pins) BGM 1 - 2: -10 dB, 10 kΩ unbalanced, RCA pin jack (2 x 2) External amplifier Input: 100 V Line removable terminal block (14 pins)	
Outputs	Speaker output 1 - 6: Total within rated output, removable terminal block (14 pins) Direct output from internal or external amplifier, removable terminal block (16 pins) Recording output BGM / Paging 0 dBV, 10 kΩ, unbalanced, RCA pin jack	
Control	Input 1 - 8: No-Voltage make contact input, open voltage: 24 V DC, short-circuit current: under 2 mA, removable terminal block (14 pins) Output 1 - 8: Isolated open collector output, withstand voltage: 30 V DC, operating current: under 10 mA, removable terminal block (14 x 2 pins)	
Emergency Control	Input 1 - 5: No-Voltage make contact input, open voltage : 24 V DC, short-circuit current: under 2mA, RJ45 female connector Input 6: Isolated voltage input: Inactive; -24 V ±20 % / Active; +24 V ±20 %, RJ45 female connector Status out: Relay contact output, withstand voltage: 40 V DC, operating current: 2 – 300 mA, RJ45 female connector	
Regulated Voltage Output	24 V DC, maximum feeding current 0.3 A	
Finish	Panel: Surface-treated steel plate, black, 30 % gloss, paint	
Dimensions (W x H x D)	482 x 132.6 x 431.2 mm (19", 3U)	
Weight	16.5 kg	19 kg

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VM-3360E

VM-3240E / VM-3360E

> System management amplifier can be expanded by connecting up to 9 extension amplifiers
> 2 models available: 240 W or 360 W
> 6 speaker line outputs
> 8 control inputs and 8 control outputs for general purpose
> 6 control inputs for emergency purpose and 3 control outputs for status information
> Connection to system management amplifier via VM Link

Options

> VM-3240VA: 240 W System Amplifier
> VM-3360VA: 360 W System Amplifier
> IT-450: Input Transformer
> VM-300SV: Pilot Tone Detection Module

Specifications	VM-3240E	VM-3360E
Applicable Model	VM-3240VA, VM-3360VA, VP-2241, VP-2421, VX-2000DS	
Power Requirement	230 V AC, 50 / 60 Hz	
Power Consumption (AC mains)	600 W (with rated output signal), 260 W (according to EN 60065)	850 W (with rated output signal), 380 W (according to EN 60065)
Rated Output	240 W	360 W
Frequency Response	50 Hz – 20 kHz ±3 dB (at 1/3 rated output)	
Distortion	Under 0.7 % (at rated output, 1 kHz)	
Signal-to-Noise Ratio	Over 85 dB	
Inputs	External amplifier Input: 100 V Line removable terminal block (14 pins) Local input -50 dB (Mic) / -10 dB (Line), 600 Ω / electronically balanced, removable terminal block (14 x 2 pins)	
Outputs	Speaker output 1 – 6: Total within rated output, removable terminal block (14 pins) Direct output from internal or external amplifier, removable terminal block (16 pins)	
Control	Input 1 – 8: No-Voltage make contact input, open voltage: 24 V DC, short-circuit current: under 2 mA, removable terminal block (14 pins) Ouput 1 – 8: Isolated open collector output, withstand voltage: 30 V DC, operating current: under 10 mA, removable terminal block (14 pins)	
Emergency Control	Input 1 – 5: No-Voltage make contact input, open voltage : 24 V DC, short-circuit current: under 2 mA, female connector RJ45 Input 6: Isolated voltage input: Inactive; -24 V ±20 % / Active; +24 V ±20 %, RJ45 female connector Status out: Relay contact output, withstand voltage: 40 V DC, operating current: 2 – 300 mA, RJ45 female connector	
Regulated Voltage Output	24 V DC, maximum feeding current 0.3 A	
Finish	Panel: Surface-treated steel plate, black, 30 % gloss, paint	
Dimensions (W x H x D)	482 x 132.6 x 407 mm (19", 3U)	
Weight	16.5 kg	19 kg

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RM-300MF   Alarm Switch   Microphone   Function keys

RM-300MF

> Exclusively for broadcasts made by firemen in emergency situations
> For activation of emergency mode, start and stop automatic broadcasts of emergency announcements, reset emergency signals, and live microphone announcements
> CPU-switch for emergency broadcast to all zones even in case of a CPU error

RM-320F

> 20 function buttons per extension unit
> System software allows assigning of functions to the individual keys
> Up to 3 RM-320F extension units can be connected to the emergency microphone

Specifications	RM-300MF	RM-320F
Applicable Model	VM-3240VA, VM-3360VA, RM-320F	RM-300MF, RM-200XF, RM-200SF
Power Requirement	24 V DC (operating range: 14 – 28 V DC)	From remote microphone
Current Consumption	100 mA (up to 550 mA with 3x RM-320F)	180 mA max. (in terms of DC power inputs of RM-300MF)
Frequency Response	200 Hz – 15 kHz	-
Distortion	Under 1 %	-
Signal-to-Noise Ratio	Over 55 dB	-
Audio Output	0 dBV, 600 Ω, balanced	-
Microphone	Unidirectional dynamic microphone	-
Volume Control	Microphone, buzzer	-
Key Extension	Max. 3 RM-320F	20 keys, freely assignable
Connection Cable	Shielded CPEV cable or Category 5 STP cable, by M3 screw terminal	Connection by way of dedicated cable
Finish	ABS resin, bluish gray (PANTONE 538 or its equivalent)	
Dimensions (W x H x D)	200 x 215 x 82.5 mm	175 x 215 x 70 mm
Weight	1.1 kg	700 g

| RM-200M | RM-210 | WB-RM200 |

RM-200M / RM-210

> 11 function keys, 10 freely assignable
> Zone, group and all-call paging, and activating pre-recorded messages
> Extraordinary clarity and freedom from distortion by built-in compression circuit
> Up to 4 RM-200M per system management amplifier
> Up to 800 m total cable length
> RM-210: Extension unit with 10 keys with similar functions as the remote microphone RM-200M
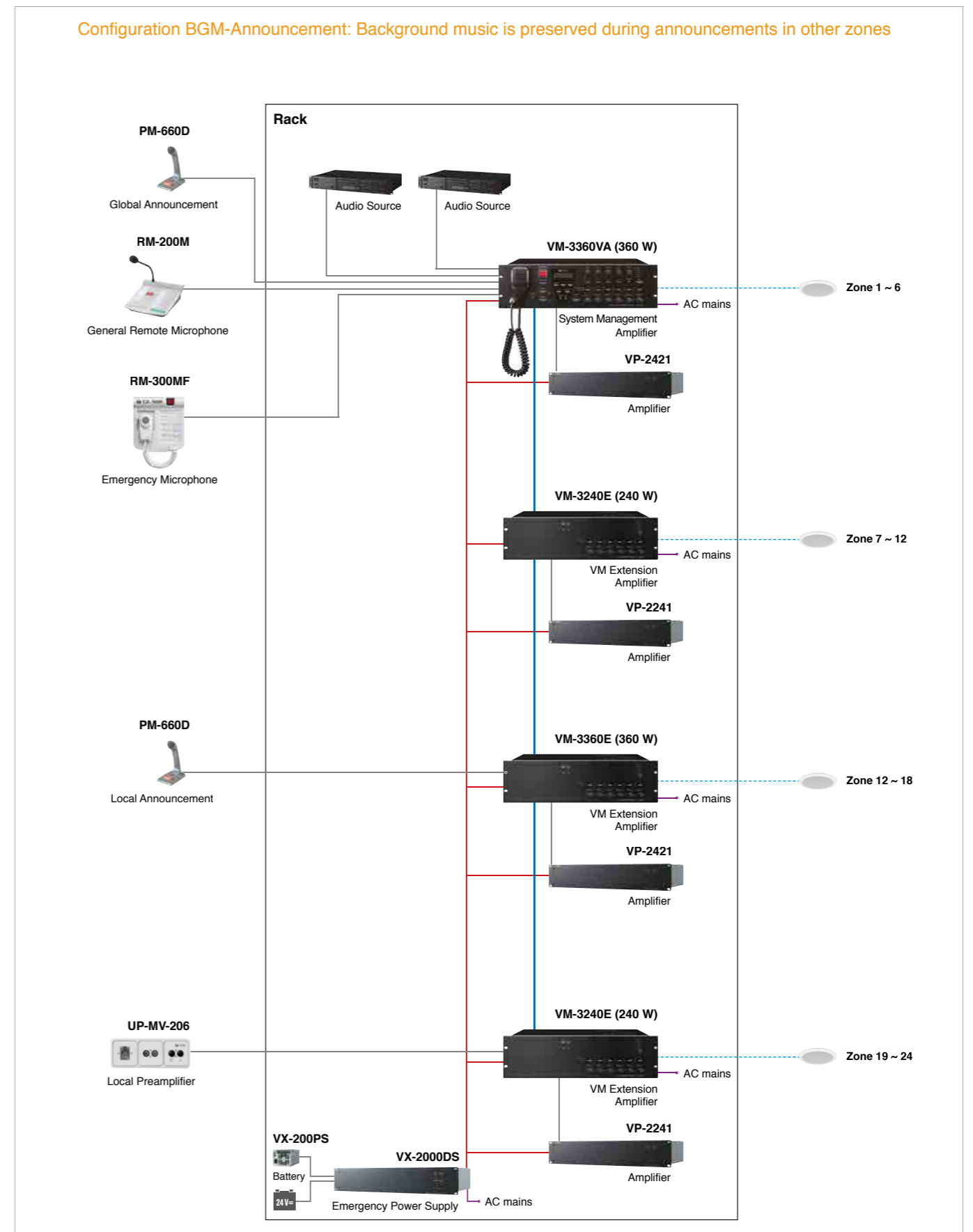
Options

> WH-4000A: Headset
> WB-RM200: Wall-mounting bracket

Specifications

Specifications	RM-200M	RM-210
Applicable Model	VM-3240VA, VM-3360VA, RM-210	RM-200M, RM-200X, RM-200XF, RM-200SA, RM-200SF
Power Requirement	24 V DC (operating range: 14 – 28 V DC)	From remote microphone
Current Consumption	100 mA maximum	20 mA max. (in terms of RM-200M's DC power input)
Frequency Response	100 Hz – 20 kHz	-
Distortion	Under 1 %	-
Signal-to-Noise Ratio	Over 60 dB	-
Audio Output	0 dBV, 600 Ω, balanced	-
Microphone	Unidirectional electret condenser microphone	-
Zone Control	Assignable by PC setting software, Zones, Groups, All call	
Voice Message Control	Activation of 6 messages	
Key Extension	Max. 4 RM-210	10 keys, freely assignable
Connection Cable and Connector	Category 5 STP cable, RJ45 connector	Connection by way of dedicated cable
Finish	ABS resin, bluish gray (PANTONE 538 or its equivalent)	
Dimensions (W x H x D)	190 x 76.5 x 215 mm (Gooseneck microphone excluded)	110 x 76.5 x 215 mm
Weight	750 g	350 g

Configuration BGM-Announcement: Background music is preserved during announcements in other zones

VX-2000 series   EN 54 Certified Voice Evacuation System

VX-2000
series

Description

The VX-2000 Series is a versatile broadcast and public address system that fulfills the requirements of EN60849 / IEC60849 standard for general purpose and emergency broadcasts. It is configured for simple as well as for complex installations.

The total system is composed of a System Manager, Surveillance Frame, Power Amplifiers, Power Supply, Emergency Power Supply, Fireman's Microphone and user-specified number of Remote Microphones.

The most important factor in an emergency system is total reliability. The VX-2000 features include multiple failure detection measures that constantly check components and speaker lines for any faults or abnormalities which are informed via indicators and buzzers. Its fully modular configuration facilitates assembling a system that is ideally optimized for a particular application with specific modules.

System Features

> Module-base sound system
> Max. 15 external audio inputs and 80 speaker lines
> 4 bus audio matrix
> Max. 128 control inputs and outputs
> Built-in yearly program timer for scheduled broad-casting
> Continuous speaker line monitoring without interruption of BGM or paging announcements

> System status can be confirmed on Remote Microphone
> Simultaneous 2-channel recorded message broadcasts
> Convenient multi-language software for easy configuration and settings included

Maximum System Capacity	
Output Power	40,000 W
Speaker Zones	80
Remote Mic connection	8

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Certificate No: 1134-CPR-110

VX-2000

VX-2000

> Functions as the VX-2000 System Manager
> Input matrix unit that assigns input signals to 4 audio buses
> Up to 8 units of input modules can be mounted in the System Manager
> The VX-2000 can control audio signal routing, priorities, and contacts to peripheral equipment
> Input and output control settings are configured by way of a PC software
> Up to 2,000 system events can be logged and viewed from a PC
> Rack-mountable, 3 units height

Options

> VX-200XR: Remote Mic Input Module
> VX-200XI: Audio / Control Input Module
> 900 series plug-in modules: M-01F, U-01F, U-01R, U-03R

Specifications

Specifications	VX-2000
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC (operating range: 20 – 40 V DC)
Current consumption	Under 650 mA (20 V DC)
Number of module slots	8
Audio Link Output	Number of audio buses: 4, 0 dB V, electronically balanced, RJ45 female connector
Monitor Output	0 dB V, electronically balanced, XLR receptacle (3 pins)
Frequency Response	20 Hz – 20 kHz
Distortion	Under 0.5 %
Signal-to-noise Ratio	Over 60 dB
Cross Talk	Under -60 dB (1 kHz, 0 dB V)
Controls	16 inputs, RJ45 connector x 2 16 outputs, RJ45 connector x 2
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 connector, twisted-pair straight cable (TIA/ EIA-568A standard), LONWORKS RS-485
Finish	Panel: Surface-treated steel plate, black, 30 % gloss, paint
Dimensions (W x H x D)	482 x 132.6 x 337 mm (19", 3U)
Weight	6.4 kg

VX-2000SF

VX-2000SF

> Surveillance Frame is the output matrix section of the VX-2000 system
> A total of 10 modules and control modules can be installed
> Assigns audio signals to individual zones from 4 audio buses
> Expandable to up to 8 units
> Rack-mountable, 3 units height
> In case of power amplifier failure, output is automatically switched to the standby amplifier
> Output volume setting with PC system software
> 7 types of modules can be used (please see options)

Options

> Pilot Tone Detection Modules: VX-200SP, VX-200SP-2, VX-200SP-ANC
> Impedance Detection Modules: VX-200SZ, VX-200SZ-2
> VX-200SI: Control Input Module
> VX-200SO: Control Output Module

Specifications

Specifications	VX-2000SF
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC (operating range: 20 – 40 V DC)
Current Consumption	Under 2 A (40 V DC)
Number of Module Slot	10, usable modules: VX-200SZ, VX-200SZ-2, VX-200SP, VX-200SP-2, VX-200SP-ANC, VX-200SI, VX-200SO
Frequency Response	20 Hz – 20 kHz (when use VX-200SZ / VX-200SZ-2: 120 Hz – 20 kHz)
Distortion	Under 0.5 %
Signal-to-Noise Ratio	Over 60 dB
Cross Talk	Under -60 dB (1 kHz, 0 dB V)
Audio Link Input / Output	Number of audio busses: 4, 0 dB V, electronically balanced, RJ45 female connector
Standby Amplifier connection	RJ45 female connector for connecting the VP-3154, VP-3304, VP-3504, VP-2064, VP-2122, VP-2241, VP-2421 Power Amplifier
Connector	VX-2000 / VX-2000SF: RJ45 female connector x 2, LONWORKS RS-485 VX-2000DS: RJ45 connector x 2
Finish	Panel: Surface-treated steel plate, black, 30 % gloss, paint
Dimensions (W x H x D)	482 x 132.6 x 337 mm (19", 3U)
Weight	5.6 kg

VP-2421

VP-200VX

VP-200VX-BGM

VP-2064 / VP-2122 / VP-2241 / VP-2421

> 4 different power configurations:
>   60 W x 4 Channels (VP-2064)
>   120 W x 2 Channels (VP-2122)
>   240 W x 1 Channel (VP-2241)
>   420 W x 1 Channel (VP-2421)
> Usable as standby amplifier for emergency switch over
> Power Amplifier uses 1 VP-200VX or VP-200VX-BGM
>   Power Amplifier Input Module per channel

> Programmable power amplifier standby function extends battery-powered operation time in emergency cases

Options

> VP-200VX: Amplifier Input Module
> VP-200VX-BGM: Amplifier Input Module with additional input for BGM

Specifications

	VP-2064	VP-2122	VP-2241	VP-2421
Applicable Model	VX-2000DS, VX-3000DS, System VX-2000 / SX-2000		VX-2000DS, VX-3000DS, System VM-3000 / VX-2000 / SX-2000	
Power Source	28 V DC (operating range: 20 – 40 V DC) M4 screw terminal			
Current Consumption (EN60065)	4.8 A in total			7.6 A
Rated Output Power	4 x 60 W	2 x 120 W	1 x 240 W	1 x 420 W
Output Voltage/Impedance	167 Ω (100 V line), 83 Ω (70 V line), 41 Ω (50 V line) (selectable by the internal wiring change)	83 Ω (100 V line), 41 Ω (70 V line), 21 Ω (50 V line) (selectable by the internal wiring change)	41 Ω (100 V line), 21 Ω (70 V line), 10 Ω (50 V line) (selectable by the internal wiring change)	24 Ω (100 V line), 12 Ω (70 V line), 6 Ω (50 V line) (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 / VP-200VX-BGM	2, usable module: VP-200VX / VP-200VX-BGM	1, usable module: VP-200VX / VP-200VX-BGM	
Output	Power amplifier output (speaker line): M3.5 screw terminal			
Frequency Response	40 Hz – 16 kHz, ±3 dB (at 1/3 rated output)			
Distortion	Under 1 % (at rated output, 1 kHz)			
Signal-to-noise Ratio	Over 80 dB			
Panel Indicator	Channel power indicator: 4 channels, dual Colour LED Overheat indicator: Yellow LED			
Finish	Panel: Surface-treated steel plate, black, 30 % gloss, paint			
Dimensions (W x H x D)	482 x 88.4 x 340.5 mm (19", 2U)			
Weight	11.2 kg	9.1 kg	8.1 kg	9.5 kg

VP-3304

VP-3154 / VP-3304 / VP-3504

> System amplifier for VX-2000 and SX-2000
> 3 different power configurations:
>   150 W x 4 Channels (VP-3154)
>   300 W x 4 Channels (VP-3304)
>   500 W x 4 Channels (VP-3504)

> Usable as standby amplifier for emergency switch over
> Compact, lightweight and energy efficient
> 4 amplifier input modules are built-in
> With BGM input ports
> Usable with VX-3000DS, system VX-2000 / SX-2000

Specifications

	VP-3154	VP-3304	VP-3504
Applicable Model	VX-3000DS, System VX-2000 / SX-2000		
Power Source from VX-3000DS	31 V DC (operating 20 – 34 V DC) DC power in: M4 screw terminal		
Amplification System	Class D		
Current Consumption	6 A (Rated Output Power), 0.6 A (Surveillance), 0.1 A (Standby), at 31 V DC, 100 V line, each channel	9 A (Rated Output Power), 0.6 A (Surveillance), 0.1 A (Standby) at 31 V DC, 100 V line, each channel	13 A (Rated Output Power), 0.6 A (Surveillance), 0.1 A (Standby) at 31 V DC, 100 V line, each channel
Rated Output Power	150 W x 4 (at 100 V line) 105 W x 4 (at 70 V line) 75 W x 4 (at 50 V line)	300 W x 4 (at 100 V line) 210 W x 4 (at 70 V line) 150 W x 4 (at 50 V line)	500 W x 4 (at 100 V line) 350 W x 4 (at 70 V line) 250 W x 4 (at 50 V line)
Output Voltage	100 V (70 V, 50 V: selectable by internal change)		
Minimum Resistive Load	67 Ω (at 100 V line), 47 Ω (at 70 V line), 33 Ω (at 50 V line)	33 Ω (at 100 V line), 23 Ω (at 70 V line), 17 Ω (at 50 V line)	20 Ω (at 100 V line), 14 Ω (at 70 V line), 10 Ω (at 50 V line)
Maximum Capacitive Load	500 nF		
Number of Channels	4		
Input	PA link: 4 channels, RJ45 connector, BGM: 4 channels, removable terminal block (5 pins) BGM INPUT (H, C, E): -10 dB/0 dB (LINE, changeable), 22 kΩ, electronically balanced BGM MUTE (G, +): no-voltage make contact input, open voltage: 15 V DC, short-circuit current: 2 mA, Volume adjustment: 4 channels		
Output	PA out (speaker line): removable terminal block (9 pins) x 1		
Frequency Response	40 Hz – 16 kHz, ±3 dB (at 100 V line, 1/3 rated output)		
Distortion	1 % or less (at 100 V line, rated output, 1 kHz)		
Signal-to-noise Ratio	80 dB or more (at 100 V line, A-weighted)		
Crosstalk	60 dB or more (at 100 V line, A-weighted)		
Panel Indicator	Power indicator x 4 (Green), Operate indicator x 4 (Green), Input signal indicator x 4 (Green), Peak signal indicator x 4 (Red)		
Operating Temperature	-5 °C to +45 °C		
Operating Humidity	90 % RH or less (no condensation)		
Finish	Panel: Surface-treated steel plate, black, 30 % gloss, paint		
Dimensions (W x H x D)	482 x 88.4 x 390 mm (19", 2U)		
Weight	7.3 kg		7.7 kg

VX-2000DS

VX-2000PF   VX-200PS

VX-2000DS

- Supplies the DC power to each component in the VX-2000 system by means of the VX-200PS Power Supply Unit
- Keeps the batteries charged
- Ambient temperature controlled charging voltage
- Matching battery: 2 x 12 V sealed lead batteries
- Automatically switch-over in case of AC mains failure
- EN 54-4 certified, Certificate No: 1134-CPR-083

VX-200PS

- Power Supply Frame
- 2 DC output channels per unit
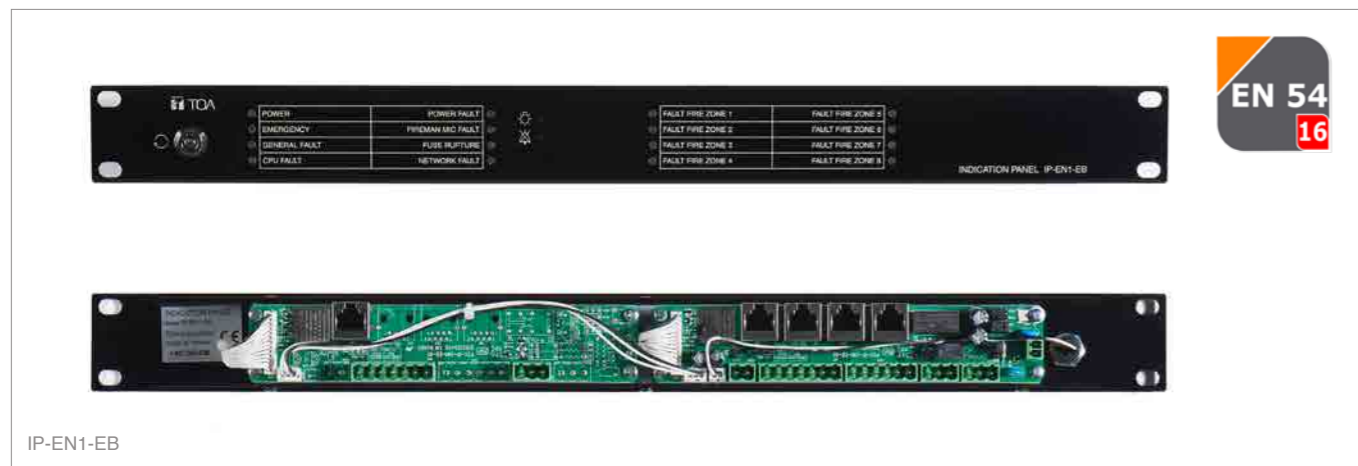- EN 54-4 certified, Certificate No: 1134-CPR-083

VX-2000PF

- VX-2000PF frame for rack mounting of up to 3 VX-200PS Power Supply Units
- EN 54-16 certified, Certificate No: 1134-CPR-110

Specifications

	VX-2000DS
Applicable Model	System VM-3000 / VX-2000 / SX-2000, not the VP-3000 Series amplifier
Power Source	230 V AC, 50/60 Hz
Power Consumption	240 W max.
Applicable Battery	Panasonic LC-X1265PG / APG (65 Ah) (12 V x 2 or 4)
Charging Method	Trickle charging
Charging Current	5 A max
Charging Output Voltage	27.3 V ±0.3 V (at 25 ˚C) Temperature correction coefficient: -40 mV/ ˚C
Power Supply Input	6 / M4 screw terminal
DC Power Output	6 (25 A max. each) M4 screw terminal, distance between barriers: 11 mm
Control Connector	RJ45 female connector for connecting the VX-2000SF. 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 0 1/0
Operating Temperature	0 ˚C to +40 ˚C
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint
Dimensions (W x H x D)	482 x 88.4 x 377.6 mm (19", 2U)
Weight	10.5 kg

Specifications

	VX-200PS	VX-2000PF
Applicable Model	VX-2000DS	VX-200PS
Power Source	230 V AC, 50/60 Hz	-
Power Consumption	580 W	-
DC Power Output	Rated output: 210 W (29 V, 7.25 A) x 2, Peak output: 400 W x 2, M4 screw terminal	-
Operating Temperature	0 ˚C to +40 ˚C	-
Finish	Surface-treated steel plate	Panel: Surface-treated steel plate, black, 30 % gloss, paint
Dimensions (W x H x D)	135 x 118.2 x 324.8 mm	483 x 132.6 x 324.8 mm (19", 3U)
Weight	13.2 kg	5.5 kg

IP-EN1-EB

IP-EN1-EB

> Status indication panel for the mandatory indications required by EN 54-16: emergency mode, general fault, fuse rupture, power fault, emergeny microphone fault, network fault, CPU fault
> With indication of faults in 8 fire areas (EN 54-16 option)
> Emergency control input from fire detection system
> General fault output allows surveillance by the to the fire detection system
> For VX-2000 and SX-2000 systems

Specifications

Specifications	IP-EN1-EB
Applicable Model	VX-2000 system, SX-2000 system
Operation Voltage Range	20 – 40 VDC
Current Consumption	max. 60 mA
Control Input	Emergency activation, Emergency reset, Silence
Activation	Contact: break, make; voltage: on, off
Contact Control	Open voltage: 24 VDC, make current: 12 mA
Voltage Control	12 VDC, 12 mA (1 kΩ) / 24 VDC, 12 mA (2 kΩ)
General Fault	Potential-free NO and NC contacts, resistors can be added for surveillance
Switch Capacity	max. 40 VDC, max. 100 mA
Connectors	Removable screw terminals, RJ45 jacks
Finish	Aluminium, black
Dimensions (W x H x D)	483 x 44 x 47 mm (19", 1U)
Weight	470 g

NX-100S

NX-100S

> Audio network adapter for transmitting audio and control signals via LAN
> Transmission to up to 64 NX-100S simultaneously
> Allows de-centralised installation of the VX-2000 system

Options

For installation in cabinet racks:
> MB-15B-BK (installation of one unit)
> MB-15B-J (installation of two units)

IES-3000 Series Ethernet Switches
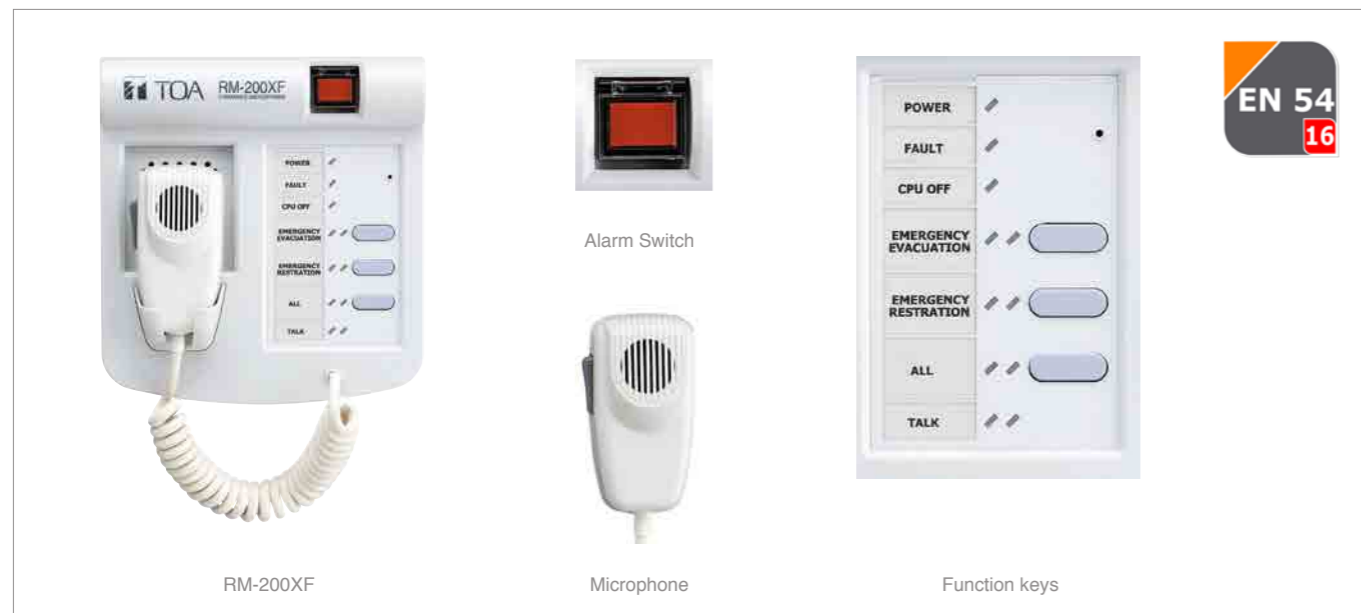
> Managed Ethernet Switches
> Several redundancy modes: STP, RSTP, ring
> Mounting on DIN rail

Specifications

Specifications	NX-100S
Applicable Model	VX-2000 system
Supply Voltage	24 VDC
Current Consumption	200 mA
Audio Input	balanced, sensitivity -58/0 dBV selectable
Audio Output	balanced, 0 dBV, min. 600 Ω
Control Inputs	8 (12 VDC, 10 mA)
Control Outputs	8 (open collector, 30 VDC, 50 mA)
Network Connection	RJ45, 10BASE-T/100BASE-TX, automatic
Finish	Steel plate, painted black
Dimensions (W x H x D)	210 x 44.7 x 188 (1/2 19", 1U)

Specifications

Specifications	IES-3080	IES-3062GT	IES-3062FX-MM-SC	IES-3062GF-MM-SC	IES-3062FX-SS-SC	IES-3062GF-SS-SC
Applicable Model			VX-2000 system, SX-2000 system			
Supply Voltage			12 - 45 VDC, 2 redundant inputs, removable screw terminal			
Power Consumption (typ.)	5 W	8 W	9 W	7 W	9 W	7 W
Network Ports	8 x RJ45, 10/100TX	6 x RJ45, 10/100TX, 2 x RJ45 1000 Base-T	6 x RJ45, 10/100TX, 2 x SC, 100FX	6 x RJ45, 10/100TX, 2 x SC, 1000SX	6 x RJ45, 10/100TX 2 x SC, 100FX	6 x RJ45, 10/100TX 2 x SC, 1000LX
Fiber optical cable type	-	-	Multi-mode (850 nm, 50/125 µm to 62.5/125 µm)		Single-mode (1310 nm (9/125 µm))	
Max. Cable Lengh	RJ45: 100 m		RJ45: 100 m, SC: 2 km	RJ45: 100 m, SC: 550 m	RJ45: 100 m, SC: 30 km	RJ45: 100 m, SC: 10 km
Fault Output			NO contact, 24 VDC, 1 A, removable screw terminal			
Dimensions (B x H x T)			56 x 144.3 x 106.1 mm			
Weight	710 g	722 g	735 g	740 g	735 g	740 g

RM-200XF   Alarm Switch   Microphone   Function keys

RM-200XF

- For emergency broadcast and general purpose broadcast applications
- Push-button zone selection
- PC-programmable system software allows assigning of functions to the individual keys (each with 2 LED)
- Per 1 RM-200XF up to 10 extensions of RM-210 or RM-320F
- Up to 4 Emergency microphones per 1 system
- CPU-switch for emergency broadcast to all zones even in case of a CPU error

- Automatic failure detection of emergency keys and in the signal path (control and audio signals) between microphone (including microphone element) and system manager

Options

- RM-210: Extension Unit
- RM-320F: Extension Unit
- WB-RM200: Wall-mounting bracket

Specifications

	RM-200XF
Applicable Model	VX-200XR in VX-2000, RM-210, RM-320F
Power Source	24 V DC (operating range: 16 – 40 V DC)
Current Consumption	Under 200 mA (RM-200XF), 850 mA (with 10 RM-210s connected)
Audio Output	0 dBV, 600 Ω, balanced
Hand-Held Microphone	Dynamic microphone, function switch (default: press-to-talk), microphone element fault detection
Frequency Response	200 Hz – 15 kHz
Signal-to-noise Ratio	Over 55 dB
Functions	Internal monitor speaker 200 mW / Volume control: microphone, monitor speaker
Operation Keys	5 (including hand-held microphone's switch), extendable up to 105 (with 10 RM-210s connected)
Key Extension	Max. 10 RM-210 or 5 RM-320F, 10 keys per RM-210, 20 keys per RM-320F
Communication	System: LONWORKS twisted pair free topology transceiver, Distance: max. 500 m (Free topology wiring)
Connection Cable and Connector	Category 5 STP cable, plug-in screw connector
Finish	ABS resin, bluish gray (PANTONE 538 or equivalent)
Dimensions (W x H x D)	200 x 215 x 82.5 mm (excluding the coiled cord)
Weight	1.2 kg

RM-200X   RM-210   WB-RM200

RM-200X

- For emergency broadcast and general purpose broadcast applications
- PC-programmable system software permits desired functions to be assigned to individual function keys (equipped with 2 LED indicators)
- Up to 8 in total of RM-200X and RM-200XF units can be connected within one system

RM-210

- Key extension unit with 10 additional keys
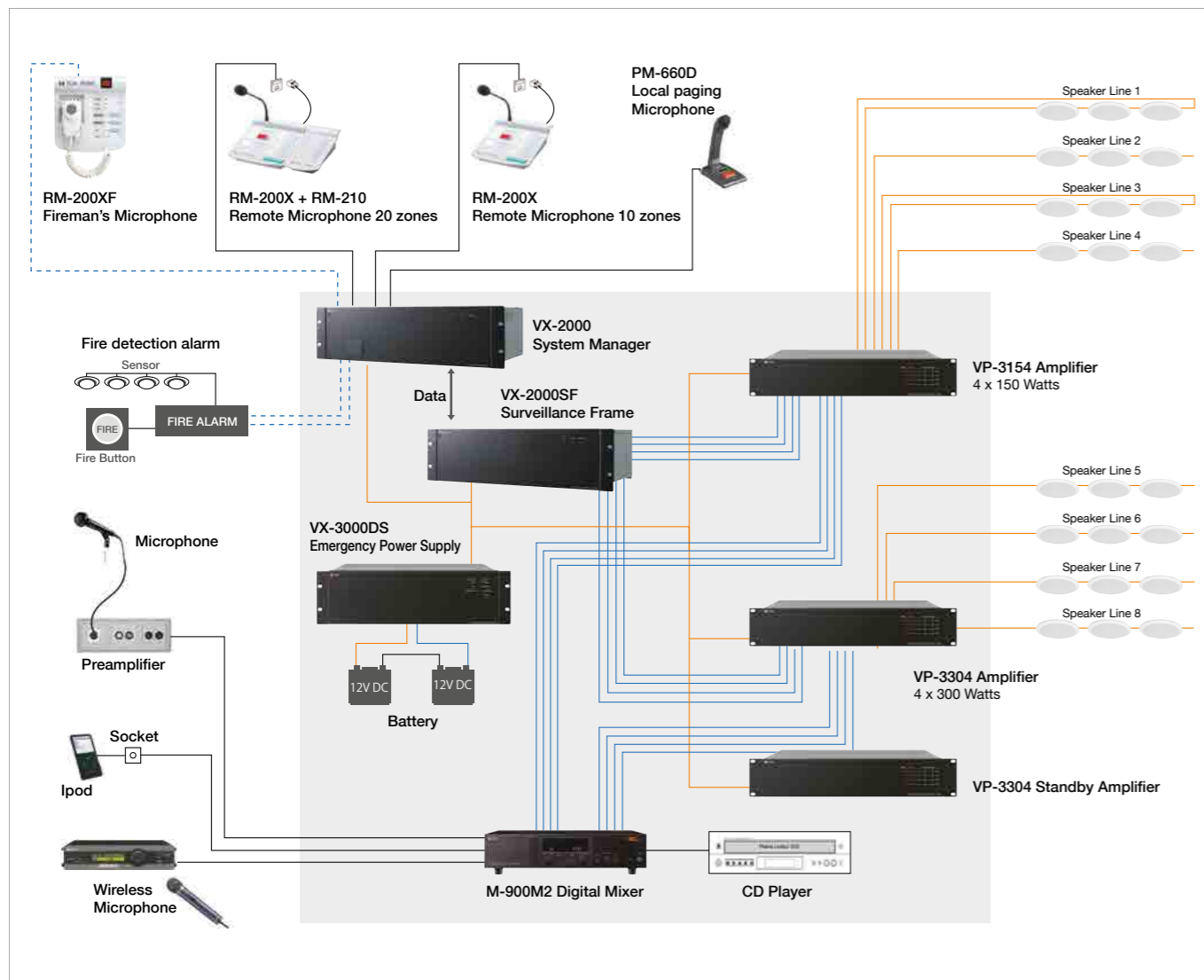- Up to 9 RM-210 Remote Microphone Extension Units can be used with each RM-200X Remote Microphone

Options

- WB-RM200: Wall mounting bracket
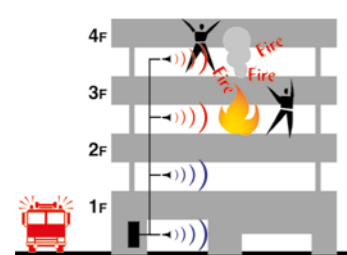- WH-4000A: Headset

Specifications

	RM-200X	RM-210
Applicable Model	VX-200XR in VX-2000, RM-210	RM-200M, RM-200X, RM-200XF, RM-200SA, RM-200SF
Power Source	24 V DC (operating range: 16 – 40 V DC), supplied from RJ45 connector or power input jack (non-polarity type)	From remote microphone
Current Consumption	Under 200 mA (RM-200X), 750 mA (with 9 RM-210s connected)	75 mA max. (from remote microphone)
Audio Output	0 dBV, 600 Ω, balanced, RJ45 connector	-
External Microphone Input	-40 dB V, 2.2 kΩ, unbalanced, mini jack, phantom powering	-
Frequency Response	100 Hz – 20 kHz	-
Distortion	Under 1 %	-
Signal-to-noise Ratio	Over 60 dB	-
Internal Monitor Speaker	200 mW	-
Volume Control	Microphone volume control, Monitor speaker volume control	-
Key Extension	Max. 9 RM-210	10 keys, freely assignable
Connectable Units	8 (including RM-200XF)	-
Communication	System: LONWORKS twisted pair free topology transceiver, Distance: max. 500 m (Free topology wiring)	-
Connection Cable and Connector	Category 5 STP cable, RJ45 connector way of dedicated cable	Connection with dedicated cable
Finish	ABS resin, bluish gray (PANTONE 538 or its equivalent)	ABS resin, bluish gray (PANTONE 538 or its equivalent)
Dimensions (W x H x D)	190 x 76.5 x 215 mm (gooseneck microphone excluded)	110 x 76.5 x 215 mm
Weight	850 g	350 g

Speaker Line 1
Speaker Line 2
Speaker Line 3
Speaker Line 4
Speaker Line 5
Speaker Line 6
Speaker Line 7
Speaker Line 8

PM-660D
Local paging
Microphone

RM-200XF
Fireman's Microphone

RM-200X + RM-210
Remote Microphone 20 zones

RM-200X
Remote Microphone 10 zones

Fire detection alarm
Sensor
FIRE
Fire Button
FIRE ALARM

VX-2000
System Manager

Data

VX-2000SF
Surveillance Frame

VP-3154 Amplifier
4 x 150 Watts

Microphone

VX-3000DS
Emergency Power Supply

Preamplifier

12V DC   12V DC
Battery

VP-3304 Amplifier
4 x 300 Watts

Socket

Ipod

VP-3304 Standby Amplifier

Wireless
Microphone

M-900M2 Digital Mixer   CD Player

Automatic Dual Broadcasting

When activated by a remote microphone or fire detection system link, simultaneous dual broadcasting is possible by using 2 voice announcement cards to allow different messages* to be available at the same time such as alert and evacuation messages.
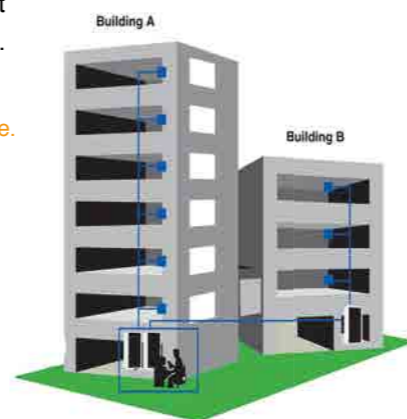
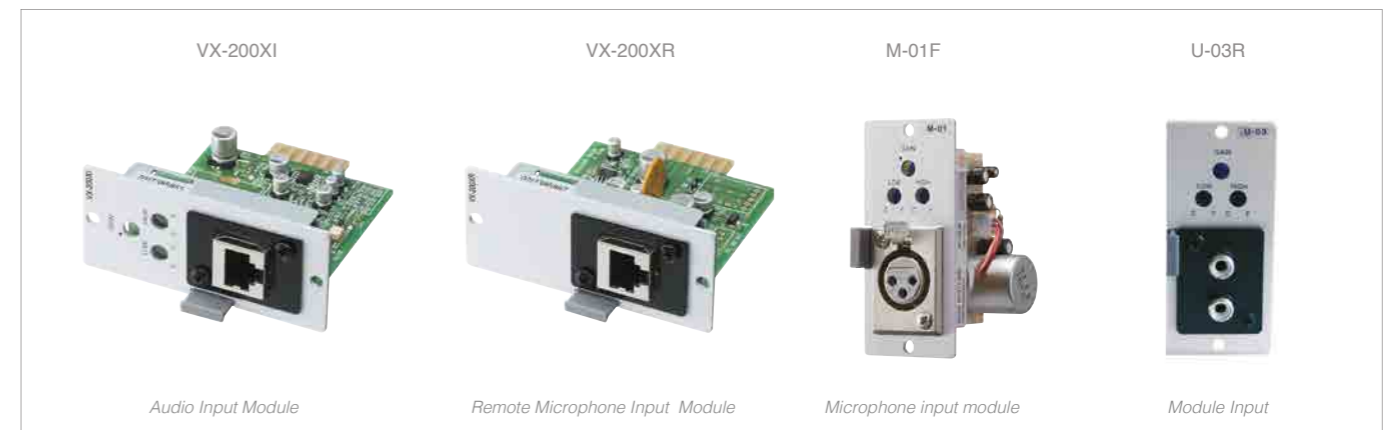*A maximum of 2 broadcasts are simultaneously possible.
(2 EV-200M voice announcement boards installed in the VX-2000)

Red
In an emergency, the system automatically broadcasts one evacuation message to the buildings 3rd and 4th floors.

Blue
Along with the evacuation message, the system automatically broadcasts an alert message to the 1st and 2nd floors simultaneously.

4F   3F   2F   1F   Fire

Building A
Building B

VX-200XI   VX-200XR   M-01F   U-03R

Audio Input Module   *Remote Microphone Input Module*   *Microphone input module*   *Module Input*

VX-200XI

> Audio Input Module with Control Input
> Control input terminals
> Low-cut and high-cut filters
> Gain controls
> Connects e.g. to paging microphone or other sound source equipment with both audio and control outputs
> Audio input sensitivity -70 dB or -20 dB by internal switch

VX-200XR

> Remote Microphone Input Module for RM-200X Remote Microphone or RM-200XF Fireman's Microphone

M-01F

> Phantom power
> Balanced, low impedance
> Filter: High pass, low pass
> Connector: XLR

U-03R / U-01F / U-01S

> U-03R: Module Input (RCA connector)
> U-01F: Module AUX Input (XLR connector)
> U-01S: Module Input (Phoenix connector)

Specifications

Specifications	VX-200XI	VX-200XR	M-01F	U-03R / U-01F / U-01S
Power Source	Supplied from VX-2000			
Input Impedance	-	-	600 Ω, balanced	-
Current Consumption	Under 30 mA	Under 17 mA	9 mA	Under 8 mA
Frequency range	-	-	25 Hz – 20 kHz	20 Hz – 20 kHz
Connectable Microphones	-	RM-200X and RM-200XF	-	-
Input Sensitivity	MIC: -70 to -42.5 dBV LINE: -20 to +7.5 dBV MIC or LINE with selector switch	-	-60 dBV	100 – 3,600 mV (adjustable)
Control Input	No-voltage make contact, open voltage: 17 V DC, short circuit current: Under 5 mA	-	-	-
Finish	Panel: Aluminium, hairline		Front: Steel plate	
Dimensions (W x H x D)	35 x 78 x 88 mm			
Weight	70 g	70 g	110 g	appro. 75 g

VX-200SZ	VX-200SZ-2	VX-200SP
EN 54 16

Impedance Monitoring — *Dual circuit Impedance Monitoring* — *Return Loop Monitoring*

VX-200SZ

> Impedance Detection Module is an audio signal output module
> Speaker line impedance detection
> Detection of speaker line short circuits, open circuits and ground fault

VX-200SZ-2

> Impedance Detection Module
> Similar to the VX-200SZ's features
> 2 speaker outputs (A and B), broadcasts can be maintained even if 1 of the 2 outputs fails
> Failures indication by LED on the panel

VX-200SP

> Pilot Tone Detection Module
> Audio signal output module with speaker line pilot tone detection
> Detection of speaker line short circuits, open circuits and ground fault

Specifications

	VX-200SZ	VX-200SZ-2	VX-200SP
Power Source	Supplied from VX-2000SF		
Current Consumption	Under 150 mA	Under 170 mA	Under 100 mA
Power Amplifier Link	RJ45 female connector for connecting the VP-3154, VP-3304, VP-3504, VP-2064, VP-2122, VP-2241, VP-2421 Power Amplifier		
Control Output	Transfer type, withstand voltage: 30 V DC, 250 V AC, contact current: under 7 A		
Speaker Output	Plug-in screw connector, AWG 24-22	2 outputs (A, B), plug-in screw connector, AWG 24-16	Plug-in screw connector, AWG 24-16
Power Amplifier Input	Plug-in screw connector for connecting the VP-3154, VP-3304, VP-3504, VP-2064, VP-2122, VP-2241, VP-2421 Power Amplifier		
Fault Detection System	Short circuit, open circuit (pilot tone detection method), ground fault		
Finish	Panel: Surface-treated steel plate		
Dimensions (W x H x D)	30.5 x 132.6 x 290.3 mm		
Weight	320 g	335 g	240 g

VX-200SP-2	VX-20SP-ANC	VX-200SE
		EN 54 16

End of Line Monitoring — *Return Loop Monitoring* — *Equalizer Card*

VX-200SP-2

> Consists of Pilot Tone Detection Module + End of Line Module
> Similar to the VX-200SP's features
> Shielded cable must be used for the speaker line

VX-200SP-ANC

Line surveillance by pilot tone
> with cable return
Detection of speaker line short
> circuits, open circuits and ground fault
Ambient noise controller for ad-
> justing the output volume according to the ambient noise
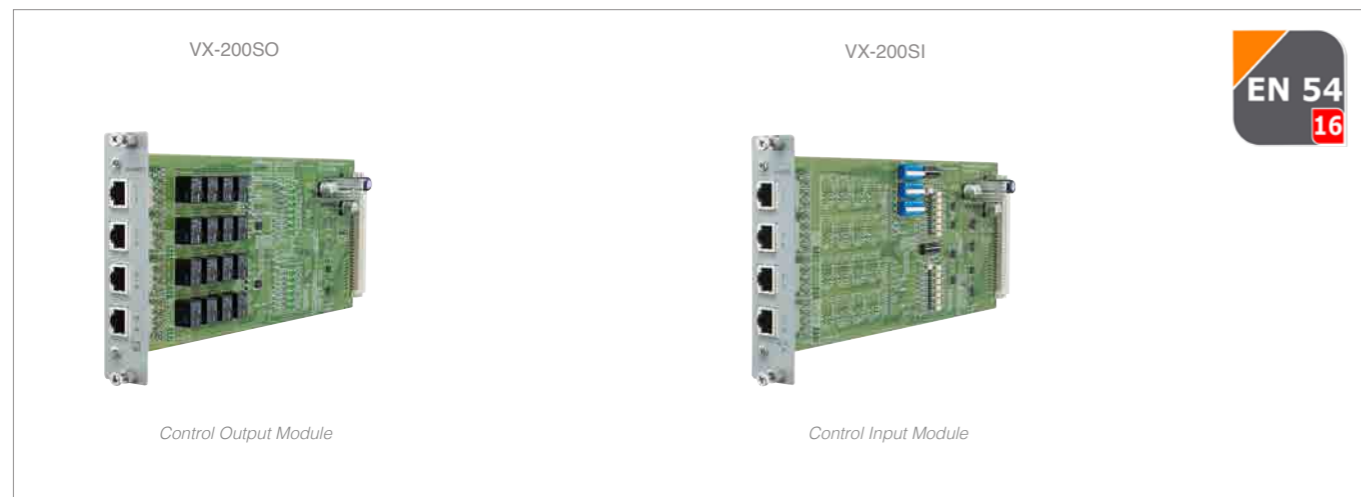Automatic switch-over to
> standby amplifier

VX-200SE

> 9-band, 1-channel equalizer
> To be mounted on the circuit board of the VX-200SP / VX-200SP-2 Pilot Tone Detection module or VX-200SZ / VX-200SZ-2 Impedance Detection module
> Settings are performed by using the PC system software

Specifications

	VX-200SP-2	VX-200SP-ANC	VX-200SE
Power Source	Supplied from VX-2000SF		Supplied from VX-200SZ, VX-200SP
Current Consumption	Under 100 mA	Under 130 mA	Under 50 mA
Power Amplifier Link	RJ45 female connector for connecting the VP-3154, VP-3304, VP-3504, VP-2064, VP-2122, VP-2241, VP-2421 Power Amplifier		-
Line Monitor	Plug-in screw connector		-
Equalizer Centre Frequency	-		80 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 12 kHz
Gain Range	-		±12 dB, adjustable in 2 dB steps
External Attenuator	Plug-in screw connector, relay, no-voltage make contact output		-
Control Output	Transfer type, withstand voltage: 30 V DC, 250 V AC, contact current: under 7 A		-
Fault Detection System	Short circuit, open circuit (pilot tone detection method), ground fault		-
Volume Control Range	-	21 dB	-
Attack Time	-	2 sec, 10 sec, 1 min. (selectable)	-
Audio Input	-	Bal., -10/-20 dBV, 10 kΩ	-
Sensor Input	-	-38 dBV ~ -2 dBV, phantom p. 17 VDC	-
Finish	Panel: Surface-treated steel plate		-
Dimensions (W x H x D)	30.5 x 132.6 x 290.3 mm		110 x 90 x 21.4 mm
Weight	260 g (incl. end of line module)	520 g	50 g
End Of Line Unit (Accessory)	Power supplied from the VX-200SP-2, speaker line connection: Plug-in connector, weight: 22 g	-	-

VX-200SO

Control Output Module

VX-200SI

Control Input Module

EN 54 16

VX-200SO

> Increases the number of control outputs in the VX-2000 system
> 16 control outputs
> No-voltage, make contact to external equipment depending on the event
> Up to 128 control outputs per system

VX-200SI

> Increases the number of control inputs
> 16 control inputs
> Receives a contact signal from connected external equipment and controls the system
> Up to 128 control inputs per system

Specifications	VX-200SO	VX-200SI
Power Source	Supplied from VX-2000SF	
Current Consumption	Under 150 mA	Under 100 mA
Control Output	16 outputs, no-voltage make contact contact capacity: 28 V DC, 1 A, RJ45 connector	16 inputs, no-voltage make contact, open voltage: 24 V DC, short-circuit current: under 10 mA, RJ45 connector
Finish	Panel: Surface-treated steel plate	Panel: Surface-treated steel plate
Dimensions (W x H x D)	30.5 x 132.6 x 290.3 mm	30.5 x 132.6 x 290.3 mm
Weight	250 g	200 g

VP-200VX (For VP-2000 Amps)

Power Amplifier Input Module

VP-200VX-BGM

Power Amplifier Input Module

EV-200M (For VX-2000)

Sound Repeater Module

EN 54 16

VP-200VX

> For transmission of status and audio signal between amplifier and control module
> To be built into the VP-2064, VP-2122, VP-2241 or VP-2421 power amplifier

VP-200VX-BGM

> In comparison to VP-200VX the VP-200VX-BGM features additional BGM input plus muting

EV-200M

> Sound Repeater Module for VX-2000
> Up to 8 messages, can be used for Alert & Evacuation, general messages or music
> Includes compact memory flash card
> Single source playback
> Distortion: under 0.3 % (44.1 kHz, recording method: Extremely high)

Specifications	VP-200VX	VP-200VX-BGM	EV-200M
Power Source	Supplied from amplifier (VP-2064, VP-2122, VP-2241, VP-2421)		24 V DC (by VX-2000 system)
Power Consumption	Under 30 mA	Under 35 mA	0.2 A
Frequency Response	20 Hz – 20 kHz	20 Hz – 20 kHz (RJ45) 100 Hz – 20 kHz (program input)	20 Hz – 20 kHz (44.1 kHz sampling)
Finish	Panel: Surface-treated steel plate		-
Dimensions (W x H x D)	88 x 25.8 x 53.2 mm		120 x 18.6 x 121 mm
Weight	50 g	60 g	120 g

SX-2000
Serie

Description

The SX-2000 is a scalable system for configuring versatile and highly effective PA systems. The system features new matrix capabilities, so that a single system can have its components distributed in different locations under centralized control. Ideal for large scale installations ranging from multiple buildings to local systems, the versatile SX-2000 Series is particularly suitable for using in airports and railway stations, factories, shopping malls and large offices. The system's versatility such as dual power source and redundancy for fail-safe operation makes it a reliable solution for any specific installation without long lead times and the expense of custom systems.

System Configuration

The basic system comprises one SX-2100AI Audio Input Unit, one SX-2000AO or SX-2100AO Audio Output Unit and the SX-2000SM System Manager. It enables from 2 inputs / 8 outputs right up to 64 inputs and 256 outputs, with further expansion to 1,416 control inputs/outputs if needed. The SX-2000 Series makes it simple to control an expanded system by use of networking with commercial switching hub and cables, IP Intercom Network audio adaptor(s) can also be used. It features functions such as feedback suppressor, compressor / auto-leveler, equalizer / filters, and auto mixing (with feedback ducker) to ensure high sound quality. The SX-2100AI modular construction simplifies system configuration as only plug-in modules have to be used. Therefore it allows flexibility of use with a wide range of input devices such as CD player, FM etc. to suit a particular application.

Fail-Safe Operation

The system is featuring a self-diagnosis to continuously monitor the status as well as speaker lines and connections. It generates alerts and email notifications to the system administrator along with a failure log. Power failure protection is given by two power supply channels plus a battery back-up that keeps the system in operation without requiring an UPS. An additional analog backup line from the microphone to the amplifier allows simultaneous broadcasting even during a breakdown of the system's digital functions. The SX-2000 system can be password-protected and key locked at external devices.

Features

> Network-base sound system
> Max. 64 audio inputs and 256 outputs with 16 bus lines
> Max. 1,416 control inputs and outputs for system integration
> Built-in DSP function, event logger and surveillance of
  amplifiers and speaker lines
> Max 1,536 zones in combination with VM-3000
> Max 2,048 zones in combination with TOA's N-8000 series
  IP Intercom System

Maximum System Capacity	
Output Power	128,000 W
Speaker Zones	256
Remote Mic connection	64

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Certificate No: 1134-CPR-102

SX-2000 series — System Manager

SX-2000SM

SX-2000SM

- Matrix system in combination with an audio input unit, audio output unit and remote microphone
- Audio signal routing and priority control
- 8 control inputs, 8 control outputs
- Failure status outputs, failure data inputs/switches
- Access indicators, mode indicators and failure indicators enabling a wide range of controls and status monitoring
- Control can be performed by way of a CF card inserted into the SX-2000SM unit
- Operations can be recorded and their contents stored on a CF card as an operation log

- Two power inputs for creation of a dual-redundant power system
- Automatic voice announcement for emergency purpose available
- System settings via Dual LAN connection

Options

- SX-2000AO: Audio Output Unit
- SX-2100AI: Audio Input Unit
- SX-2100AO: Audio Output Unit

Specifications

	SX-2000SM
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC; 2 power inputs
Current Consumption	Under 0.8 A
SX Link Network I/F	2 x 100 BASE-TX circuits
LAN	Network I/F 1 10 BASE-T/100 BASE-TX circuit. Network Protocol TCP/IP. Connection Cable Shielded Category 5 twisted pair cable for LAN (CAT5-STP)
Analog Link	Input/output connector output: 2. Connection cable shielded category 5 twisted pair cable for LAN (CAT5-STP)
Failure Data	3 inputs (ACK/RESET/LAMP TEST) and 4 outputs (CPU FAULT/GENERAL FAULT/CPU OFF/BUZZER)
Memory Card	Insertion slot: 1 (supplied CF card (128MB))
Control	8 control outputs, 8 control inputs
Finish	Panel: Aluminum, black, alumite, case: Surface-treated steel plate
Dimensions (W x H x D)	482 x 44 x 333 mm (19", 1U)
Weight	3.8 kg

SX-2000 series — Audio Input Unit

SX-2100AI

SX-2100AI

- Modular audio input
- 2 to 8 audio inputs per unit
- Multiple units can be decentralized in a whole system
- Audio signals are transmitted digitally to the audio output unit
- Analog audio output function (1 channel) enables simultaneous all-zone calls for use in emergency situations
- Audio input levels (post-fader levels) are indicated on the level meters provided for each input channel
- Volumes can be adjusted for each channel using the volume controls on the front panel or the SX-2000 software
- Volume controls can be locked using the SX-2000 software

- Input channels can be monitored using the internal speaker
- 2 power inputs for redundant power system to support a dual-redundant power supply system

Options

- SX-200RM: Remote Microphone Interface Module
- RM-200SF: Remote Microphone
- RM-200SA: Remote Microphone
- RM-210: Extension Unit
- D-921E: Mic/Line Input Module
- D-921F: Mic/Line Input Module
- D-922E: Mic/Line Input Module
- D-922F: Mic/Line Input Module
- D-936R: Stereo Select Input Module

Specifications

	SX-2100AI
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC (2 independent power inputs)
Current Consumption	Under 1.5 A (when operated on 24 V DC)
Audio Inputs	8 inputs, for up to 4 modules
Audio Input Characteristics	Sampling frequency: 48 kHz
Analog Link — Input / Output Connector — Connection Cable / Device	1 input, 1 output, CAT5-STP, max. cable length 800m, 2 x RJ45 connector
SX Link Network I/F — Connection Cable / Device	2 x 100 Base-TX CAT5-STP, maximum cable length 100m to hub
Operating Temperature	0 ˚C to +40 ˚C
Finish	Panel: Aluminum, black, alumite, case: Surface-treated steel plate
Dimensions (W x H x D)	482 x 88.4 x 349 mm (19", 2U)
Weight	7 kg

SX-2100AI (Rear)

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SX-200RM

Remote Microphone Interface Module

> Can be used to connect two remote microphones
> Input sensitivity can be adjusted

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Specifications	SX-200RM
Power Source	Supplied from SX-2100AI
Input	2 x RJ45 connector for remote microphones
A/D Converter	24 bits
Frequency Response	20 Hz – 20 kHz, ± 1 dB
Sampling Frequency	48 kHz
Dynamic Range	> 100 dB (IHF-A weighted)
Total Harmonic Distortion	< 0.05 %
Finish	Panel: Pre-coated steel plate, black, 30 % gloss
Dimensions (W x H x D)	35 x 119.5 x 178.4 mm
Weight	190 g

SX-200IP

IP Interface Module

> Module for mounting in the SX-2100AI, RJ45 connectors
> Enable paging announcement from the N-8000 Series stations
  (N-8600MS and N-8610RM) to the SX-2000 System

Specifications	SX-200IP
Network Section	Network I/F: 10BASE-T/100BASE-TX (Automatic-Negotiation) Network Protocol: TCP/IP, UDP, HTTP, RTP, ARP, ICMP, IGMP Voice sampling frequency: 16 kHz, 8 kHz (controllable on the software) Voice packet loss recovery: Silence insertion Audio delay time: 80 ms, 320 ms (controllable on the software)
Indicator	Operation indicator (RUN)
Finish	Panel: Pre-coated steel plate, black, 30 % gloss
Dimensions (W x H x D)	35 x 119.5 x 178.4 mm
Weight	150 g

D-921E

Mic/Line Input Module (24 bits monaural type)

> 2-channel microphone/line input module designed for use with the SX-2100AI
> Equipped with removable terminal block type connectors

D-921F

Mic/Line Input Module (24 bits monaural type)

> 2-channel microphone/line input module designed for use with the SX-2100AI
> Equipped with XLR connectors

D-922E

Mic/Line Input Module (20 bits monaural type)

> 2-channel microphone/line input module designed for use with the SX-2100AI
> Equipped with removable terminal block type connectors

D-922F

Mic/Line Input Module (20 bits monaural type)

> 2-channel microphone/line input module designed for use with the SX-2100AI
> Equipped with XLR connectors

D-936R

Stereo Select Input Module

> 4 stereo input module designed for use with the SX-2000AI
> Equipped with standard RCA pin jacks

SX-2000AO

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SX-2000AO

> Audio output unit
> Units can be operated in a decentralized system
> 8 audio outputs and 2 inputs, can be mixed
> 8 control inputs and 8 control outputs
> Receives audio signals from the audio input unit via digital transmission
> Analog audio input function (1 channel) enables simultaneous all-zone calls for use in emergency situations
> Audio output levels (post-fader levels) indicated on the level meters separate for each output channel
> Volumes adjustable for each channel by front volume controls or the SX-2000 software
> The volume controls can be locked by SX-2000 software
> Any output channel can be monitored using the internal speaker

> Emergency audio input and 24 V emergency cut-off input
> 2 power inputs for dual-redundant power supply system
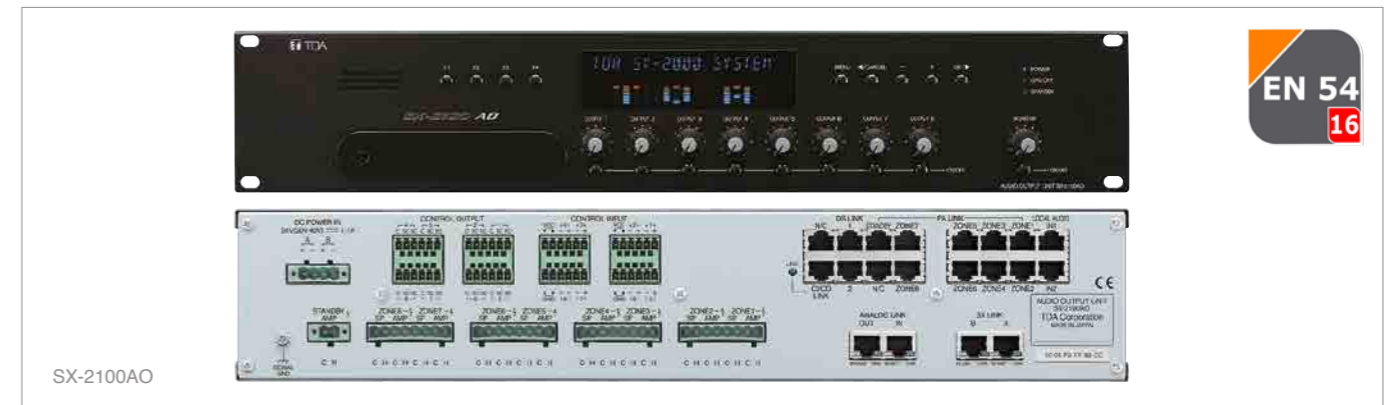> For public address applications

Options

> SX-2000CI: Control Input Unit
> SX-2000CO: Control Output Unit
> DA-250DH: Digital 2 Channel Amplifier 100 V
> DA-250FH: Digital 4 Channel Amplifier 100 V
> DA-550FH: Digital 4 Channel Amplifier 100 V
> DA-250D: Digital 2 Channel Amplifier 4/8 Ω
> DA-250F: Digital 4 Channel Amplifier 4/8 Ω
> DA-550F: Digital 4 Channel Amplifier 4/8 Ω

Specifications

	SX-2000AO
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC (operating range: 20 – 40 V DC from VX-200PS)
Current Consumption	Under 0.79 A
Audio Output	8 outputs, 0 dB V, load: 600 Ω or more
Audio Output Characteristics	Frequency Response: 20 Hz – 20 kHz , sampling frequency 48 kHz, D/A converter 24 bit
Control Input / Control Output	8 inputs / 8 outputs, removable terminal blocks (6 pins)
Emergency Line Input	Emergency signals switched and sent to input 1 (H,C,E) by relay, removable terminal blocks (3 pins)
Emergency-Cutoff 24 V Input	1 input, input current < 5 mA, removable terminal block (2 pins)
Analog Link	1 input, 1 output, connection cable CAT5-STP, max. cable length 800 m, 2 x RJ45 connector
SX Link	2 x 100 Base - TX circuits with RJ 45 connector. Connection cable CAT5-STP, maximum cable length of 100 m to hub
Finish	Panel: Aluminum, black, alumite, case: Surface-treated steel plate
Dimensions (W x H x D)	482 x 88.4 x 349 mm (19", 2U)
Weight	6.2 kg

SX-2100AO

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SX-2100AO

> Multiple units can be decentralized in a system
> 8 audio outputs
> 8 control inputs and 8 control outputs
> 1 SX-2000CI Control Input Unit and 1 SX-2000CO Control Output Unit each can be cascaded
> 2 local audio inputs with control inputs are provided for the audio inputs
> Emergency switch over to a standby amplifier
> Analog transmission path (1 channel) enables all-zone calls for use in emergency situations
> 2 channels of link connection terminals for connecting to two VX-2000DS or VX-3000DS
> 2 inputs can be mixed and output
> 2 power inputs for redundant power supply
> Level meters for each output channel allow monitoring of audio output levels
> Output volumes adjustable on the front panel

> Any output channel can be monitored using the internal speaker
> Key lock function
> Automatic control of stand-by amplifier

Options

> SX-2000CI: Control Input Unit
> SX-2000CO: Control Output Unit
> VP-3154: 150 W by 4 channels amplifier
> VP-3304: 300 W by 4 channels amplifier
> VP-3504: 500 W by 4 channels amplifier
> VP-2064: 60 W by 4 channels amplifier
> VP-2122: 120 W by 2 channels amplifier
> VP-2241: 240 W by 1 channel amplifier
> VP-2421: 420 W by 1 channel amplifier

Specifications

	SX-2100AO
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC (2 power inputs)
Current Consumption	Under 1.2 A
Audio Output	8 outputs, 0 dB V, load: 600 Ω or more
Audio Output Characteristics	Frequency Response: 20 Hz – 20 kHz , sampling frequency 48 kHz, D/A converter 24 bit
CI/CO Link	SX-2000CI / SX-2000CO: 1 interface, connection cable CAT5-STP, RJ45 connector
Local Audio Input	2 audio inputs, 0 dB V, 10 kΩ, electronically balanced, RJ45 connector Frequency Response: 20 Hz – 20 kHz , sampling frequency 48 kHz, D/A converter 24 bit 2 Control inputs Connection cable CAT5-STP,
DS Link	VX-2000DS, VX-3000DS: 2 interfaces, connection cable CAT5-STP, RJ45 connector, VX-3000DS
Analog Link	1 input, 1 output, connection cable CAT5-STP, RJ45 connector
SX Link	2 x 100 Base-TX with RJ 45 connector, connection cable CAT5-STP
Finish	Panel: Aluminum, black, alumite, Case: Surface-treated steel plate
Dimensions (W x H x D)	482 x 88.4 x 349 mm (19", 2U)
Weight	7.1 kg

SX-2000CI

SX-2000CO

SX-2000CI

> 32 control inputs
> Control input line failure detection
> Front panel LED for monitoring the line status
> Supply of stabilized 24 V DC
> 2 independent power inputs
> Decentralised installation of multiple units possible
> RJ45 connectors

Options

> SX-2100AO: Audio Output Unit
> SX-2000AO: Audio Output Unit

SX-2000CO

> 32 control outputs
> Front panel LED for monitoring the line status
> Supply of stabilized 24 V DC
> 2 independent power inputs
> Decentralised installation of multiple units possible
> RJ45 connectors

Options

> SX-2100AO: Audio Output Unit
> SX-2000AO: Audio Output Unit

Specifications

Specifications	SX-2000CI
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC, 2 independent Inputs
Current Consumption	Under 0.55 A (when operated on 24 V DC)
Control Outputs	32 inputs
Input/Output Connector	Input: 1, output: 1 RJ45 connector
Connection cable	Shielded category 5 twisted pair cable (CAT5-STP)
Maximum Cable Distance	800 m
Output Voltage	24 V DC ±10 % or less
Maximum Feeding Current	100 mA
Connector	Removable terminal block (2 pins)
Finish	Panel: Aluminum, black, alumite, Case: Surface-treated steel plate
Dimensions (W x H x D)	482 x 44 x 331.5 mm (19", 1U)
Weight	3.6 kg

Specifications

Specifications	SX-2000CO
Applicable Model	VX-2000DS, VX-3000DS
Power Source	24 V DC, 2 independent Inputs
Current Consumption	Under 0.29 A (when operated on 24 V DC)
Control Outputs	32 outputs, max. 40 V DC, 2 – 300 mA
Input/Output Connector	Input: 1, output: 1 RJ45 connector
Connection cable	Shielded category 5 twisted pair cable (CAT5-STP)
Maximum Cable Distance	800 m
Finish	Panel: Aluminum, black, alumite, Case: Surface-treated steel plate
Dimensions (W x H x D)	482 x 44 x 331.5 mm (19", 1U)
Weight	3.6 kg

RM-200SA/RM-210   RM-200SF   WB-RM200

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RM-200SA / RM-210

> 13 function switches
> Zone, group, all-call paging, and activate pre-recorded messages
> Emergency sequence can be started with the alarm button which is covered by a hinged lid
> Indication of system failure, line failure, busy zones, etc.
> Extraordinary clarity and freedom from distortion by built-in compression circuit
> Up to 64 remote microphones can be connected
> Covered switch prevents against accidental use
> RM-210: Allows extended zone selection

RM-200SF

> Further product information and specifications please see page 7

Options

> WH-4000A: Headset
> WB-RM200: Wall mounting bracket

Specifications

Specifications	RM-200SA	RM-210
Applicable Model	SX-200RM in SX-2100AI, RM-210	RM-200M, RM-200X, RM-200XF, RM-200SA, RM-200SF
Power Requirement	24 V DC (operating range: 15 – 40 V DC)	From remote microphone
Current Consumption	240 mA maximum	80 mA max. (in terms of DC power inputs of RM-200SA)
Distortion	Under 1 %	-
Frequency Response	100 Hz – 20 kHz	-
Signal-to-Noise Ratio	Over 60 dB	-
Audio Output	0 dBV, 600 Ω, balanced	-
Microphone	Uni directional electret condenser microphone	-
Volume Control	Microphone, buzzer, monitor speaker	-
Emergency Broadcast	Activation of emergency broadcast (pre-recorded announcement or live microphone announcement) by emergency broadcast switch	-
Voice Message Control	Activation of up to 32 messages	-
Key Extension	Max. 4 RM-210	10 keys, freely assignable
Connection Cable and Connector	Category 5 STP cable, RJ45 connector	Connection by way of dedicated cable
Finish	ABS resin, bluish gray (PANTONE 538 or its equivalent)	
Dimensions (W x H x D)	190 x 76.5 x 215 mm (Gooseneck microphone excluded)	110 x 76.5 x 215 mm
Weight	880 g	350 g

N-8610RM

N-8610RM

> Connection via LAN or switching hub and SX-200IP
> Can make a paging call to any selected zone(s) of SX-2000 System
> Two way communication capability with other stations in N-8000 Intercom System
> 14 function keys
> Up to 4 RM-210 Extension units can be connected
> Powered by PoE-compatible switching hub or optional AC adapter

Options

> RM-210: Key extension unit
> WB-RM200: Wall mounting bracket
> AD-1210P: AC Adapter
> SX-200IP: IP Interface Module

Specifications

Specifications	N-8610RM
Applicable Model	SX-200IP in SX-2100AI
Power Source	Power supply device that complies with IEEE802.3af standard or 12 V DC (supplied from the AC adapter (option))
Power Consumption	4 W (Use of the AC adapter, 12 V DC), 8.5 W (when connecting 4 RM-210 Extension units) 5.2 W (Use of the PoE, 48 V DC), 7.5 W (when connecting 4 RM-210 Extension units)
Key Extension	Max. 4 RM-210 (maximum 2 units at PoE power supply)
Network Section — Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP
Audio Packet Transmission System	Unicast, Multicast
Voice Packet Loss Recovery	Silence insertion
Audio Delay Time	80 ms, 320 ms (controllable on the software)
Finish	ABS resin, bluish gray (PANTONE 538 or its equivalent)
Dimensions (W x H x D)	190 x 76.5 x 215 mm (excluding microphone)
Weight	700 g

RM-200RJ

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RM-200RJ

> Convert the RJ45 connector into a screw terminal block
> Used to connect between a trunk cable (such as CPEV cable) and a feeder cable (such as CAT-5 or CAT-6 cable) in wiring a remote microphone
> Built-in indicator shows the voltage status of DC power cable when the remote microphone cable for the SX-2000 series system is connected

Specifications

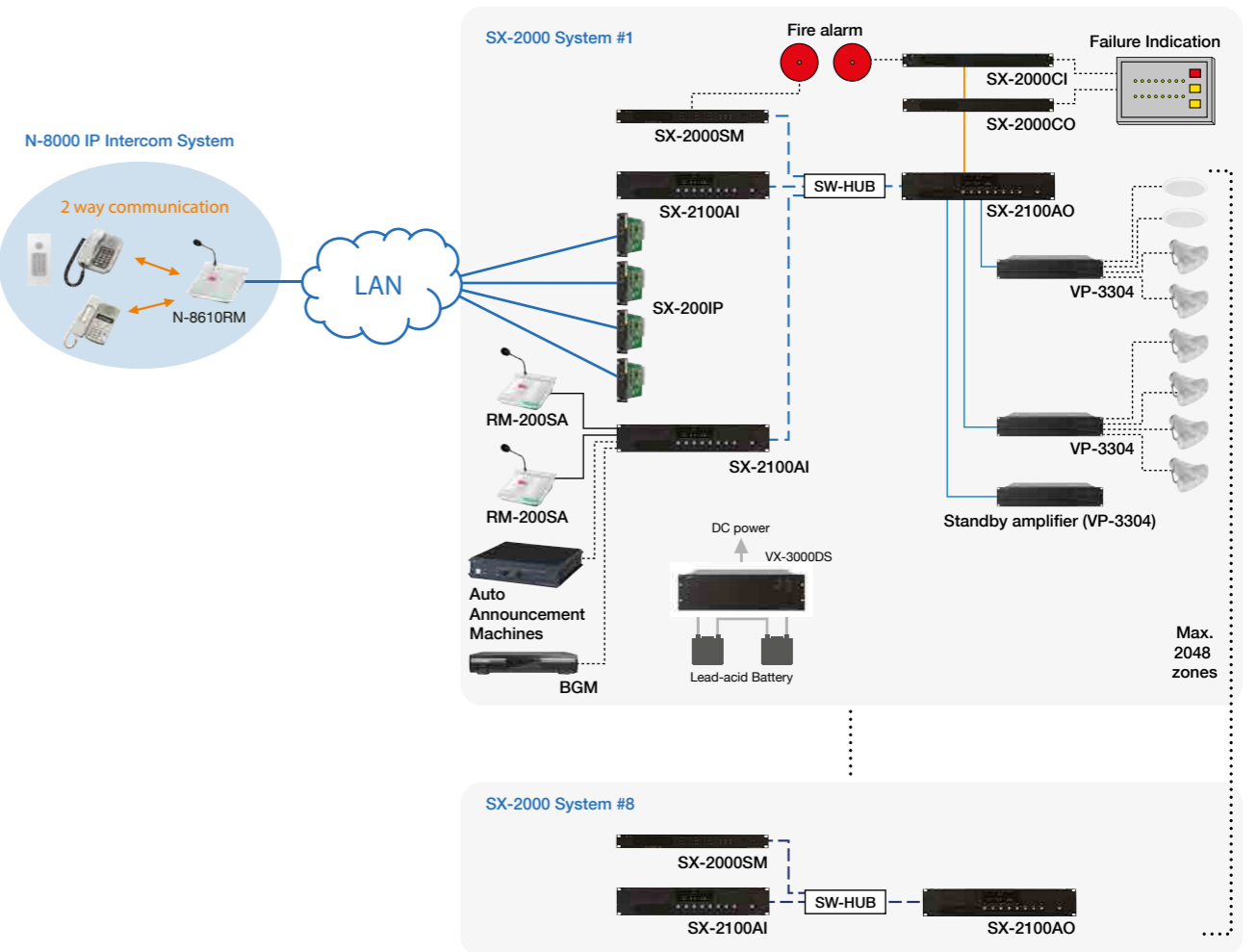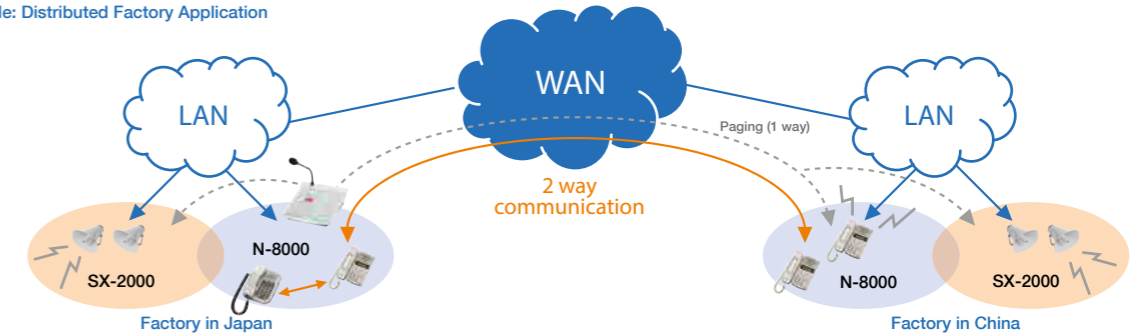| Specifications	RM-200RJ
Applicable Model	SX-2100AI, RM-200SA, RM-200SF
Applied Voltage	Under 40 V
Withstand Voltage	1A
Voltage Indicator	Monitor terminals: terminal No 7 (+) and terminal No 8 (−), extinguish voltage: 14 V or less, lighting voltage: 21 V or more, indicator ON/OFF switchable
Connector	RJ45 connector: 1
Terminal	M3 screw terminal (10 pins), distance between barriers: 6.62 mm
Finish	Surface-treated steel plate, black, paint
Dimensions (W x H x D)	84 x 116 x 25.7 mm
Weight	250 g

Integration of SX-2000 with N-8000 IP Intercom strengthens system capabilities.

A large system with up to 2048 zones is realized on the IP Network.
From a remote location, IP Station* can make a paging call to any selected zone(s).
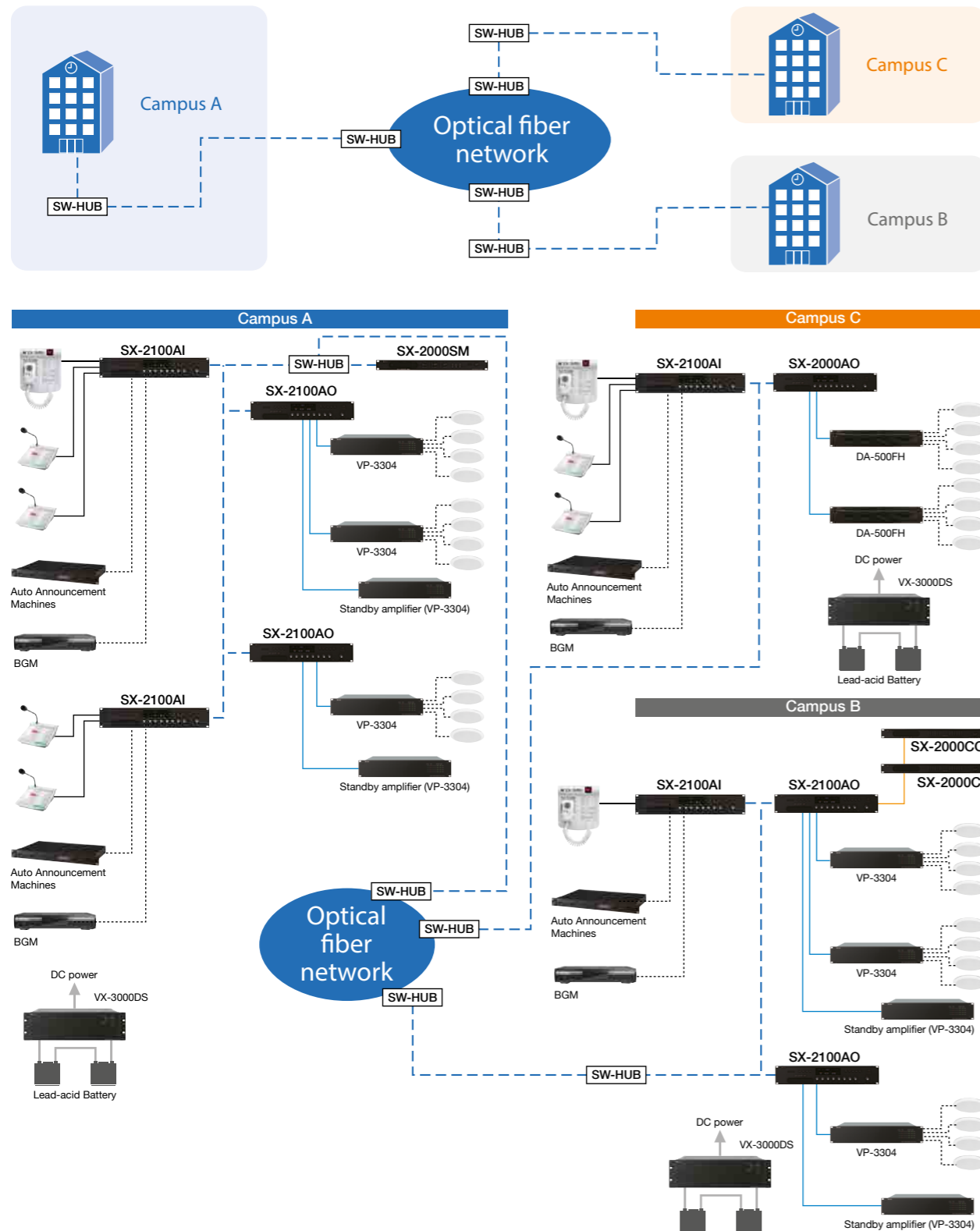*N-8610RM and N-8600MS

Example: Distributed Factory Application

WAN

LAN   Paging (1 way)   LAN

2 way communication

N-8000   N-8000

SX-2000   SX-2000

Factory in Japan   Factory in China

SX-2000 System #1

Fire alarm

Failure Indication

SX-2000CI

SX-2000SM

SX-2000CO

N-8000 IP Intercom System

SW-HUB

SX-2100AI

SX-2100AO

2 way communication

SX-200IP

VP-3304

N-8610RM

LAN

RM-200SA

SX-2100AI

VP-3304

RM-200SA

DC power

VX-3000DS

Standby amplifier (VP-3304)

Auto Announcement Machines

Max. 2048 zones

BGM

Lead-acid Battery

SX-2000 System #8

SX-2000SM

SW-HUB

SX-2100AI   SX-2100AO

Distributed Control System Example (University)

Campus A

Optical fiber network

SW-HUB

Campus C

Campus B

Campus A

SX-2100AI
SX-2000SM
SW-HUB
SX-2100AO

VP-3304

VP-3304

Standby amplifier (VP-3304)

SX-2100AO

VP-3304

Standby amplifier (VP-3304)

Auto Announcement Machines

BGM

SX-2100AI

Auto Announcement Machines

BGM

DC power
VX-3000DS

Lead-acid Battery

Campus C

SX-2100AI
SX-2000AO

DA-500FH

DA-500FH

DC power
VX-3000DS

Lead-acid Battery

Auto Announcement Machines

BGM

Campus B

SX-2000CO

SX-2000CI

SX-2100AI
SX-2100AO

VP-3304

VP-3304

Standby amplifier (VP-3304)

SX-2100AO

VP-3304

Standby amplifier (VP-3304)

Auto Announcement Machines

BGM

DC power
VX-3000DS

Optical fiber network

SW-HUB
SW-HUB
SW-HUB
SW-HUB

SB-4   CB-4   BC-3   LF-4

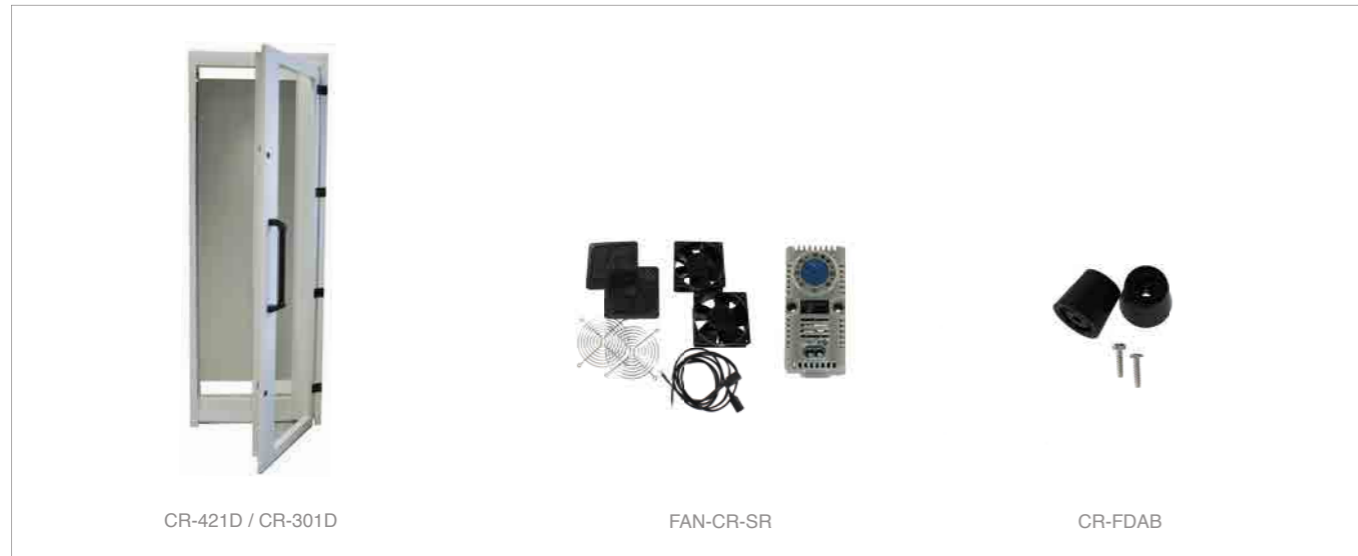CR-Rack   BCK-1   FAN-KIT   SA-1   FDL-1

CR Series

> Available in 6 Versions
> Delivery in individual parts
> 1,5 mm steel plate
> Cable inserts at top and bottom
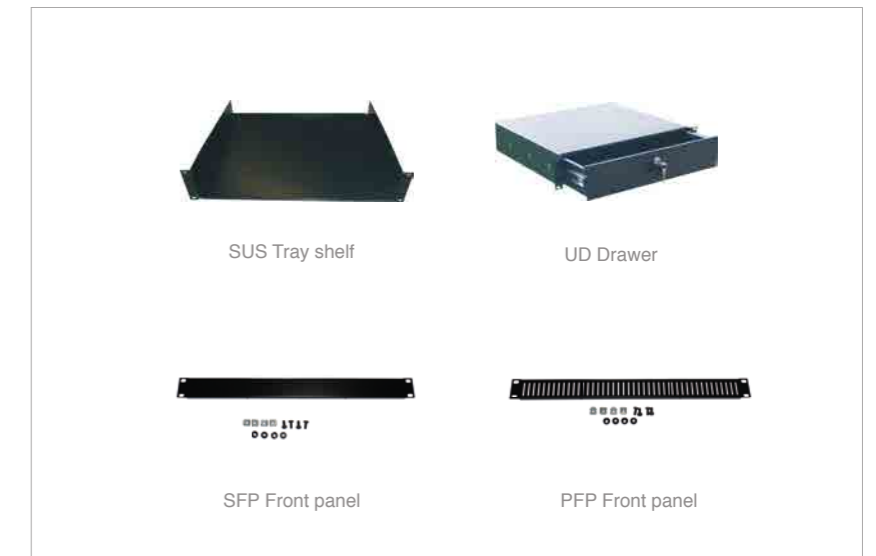> Colour: light grey, RAL 9035, structured paint

RC Rear door / PGD Plexiglass door

Art.-Nr.	Description	Dimensions (W x H x D in mm)	Weight in kg
CR-15	Rack 15 units, incl. side panels	650 x 781 x 600	28.00
CR-22	Rack 22 units, incl. side panels	650 x 1092 x 600	35.00
CR-27	Rack 27 units, incl. side panels	650 x 1314 x 600	40.00
CR-35	Rack 35 units, incl. side panels	650 x 1670 x 600	51.00
CR-40	Rack 40 units, incl. side panels	650 x 1892 x 600	62.00
CR-44	Rack 44 units, incl. side panels	650 x 2070 x 600	66.00
RC-15	Rear door for CR-Series 15 units	485 x 666 x 20	3.90
RC-22	Rear door for CR-Series 22 units	485 x 977 x 20	5.60
RC-27	Rear door for CR-Series 27 units	485 x 1199 x 20	6.80
RC-35	Rear door for CR-Series 35 units	485 x 1555 x 20	8.60
RC-40	Rear door for CR-Series 40 units	485 x 1777 x 20	10.00
RC-44	Rear door for CR-Series 44 units	485 x 1955 x 20	11.00
PGD-15	Plexiglass door for CR-Series 15 units	566 x 781 x 25	6.20
PGD-22	Plexiglass door for CR-Series 22 units	566 x 1092 x 25	8.00
PGD-27	Plexiglass door for CR-Series 27 units	566 x 1314 x 25	9.00
PGD-35	Plexiglass door for CR-Series 35 units	566 x 1670 x 25	11.10
PGD-40	Plexiglass door for CR-Series 40 units	566 x 1892 x 25	12.30
PGD-44	Plexiglass door for CR-Series 44 units	566 x 2070 x 25	13.30
FDV-15	Perforated grid door for CR-Series 15 units	566 x 781 x 25	3.90
FDV-22	Perforated grid door for CR-Series 22 units	566 x 1092 x 25	5.60
FDV-27	Perforated grid door for CR-Series 27 units	566 x 1314 x 25	6.80
FDV-35	Perforated grid door for CR-Series 35 units	566 x 1670 x 25	8.60
FDV-40	Perforated grid door for CR-Series 40 units	566 x 1892 x 25	10.00
FDV-44	Perforated grid door for CR-Series 44 units	566 x 2070 x 25	11.00
SB-4	Caster base for CR-Series	650 x 100 x 600	4.50
CB-4	Rolling caster base, closed for CR-Series	650 x 162 x 600	6.00
BC-3	3-fold bottom plate for CR-Series	480 x 430	
LF-4	Leveller feet, adjustable		
BCK-1	Brush strip for CR-Serie		
FAN-KIT	Top cover with 2 fans		
SA-1	Sliding rail for heavy units		
FDL-1	Lock for racks		
CR-SS	Acessory Set: captive nut, washers (100 pcs)		

CR-421D / CR-301D   FAN-CR-SR   CR-FDAB

CR-D Series

> Available in 4 versions
> Delivery completely mounted
> 2 mm steel plate
> Cable inserts at top and bottom
> Holes for wall- and floor fixation
> Suitable cage nut: Typ W (1.8 - 2.6 mm)
> Colour: light grey, RAL 9035, structured paint

Art.-Nr.	Description	Dimensions (W x H x D in mm)	Weight in kg
CR-301D	Rack 30 units with rotatable frame	750 x 1545 x 500	72.00
CR-301FD	Rack 30 units with rotatable frame, with door	750 x 1545 x 500	72.00
CR-421D	Rack 42 units with rotatable frame	750 x 2080 x 500	104.00
CR-421FD	Rack 42 units with rotatable frame, with door	750 x 2080 x 612	130.00
FAN-CR-SR	Fan Set		
CR-FDAB	Stop for CR-421FD		
YA-707D	Sliding rail, 1 pair		

CR-WG3-15   SUS Tray shelf   UD Drawer   SFP Front panel   PFP Front panel

CR-WG Series

> Available in 4 versions
> 3-part housing
> 1.5 mm steel plate
> Delivery completely mounted
> Cable inserts at top and bottom
> Colour: light grey, RAL 9035, structured paint

Art.-Nr.	Description	Dimensions (W x H x D in mm)	Weight in kg
CR-WG3-12	Wall housing with door, swivelling mid-section and back section, 12 units	600 x 611 x 600	30.00
CR-WG3-15	Wall housing with door, swivelling mid-section and back section, 15 units	600 x 744 x 600	35.00
CR-WG3-18	Wall housing with door, swivelling mid-section and back section, 18 units	600 x 878 x 600	40.00
CR-WG3-21	Wall housing with door, swivelling mid-section and back section, 21 units	600 x 1011 x 600	45.00
CR-SS	Acessory Set: captive nut, washers (100 pcs each)		
CR-WG3-FAN	Fan expansion set		
CR-WG3-RS	Mounting rail		
CR-WG3-GS	Sliding rail, in conjunction with CR-WG3-RS		
CR-WG3-WM	Wall-mounting rail		

Accessories

> For all Rack Series

Art.-Nr.	Description	Dimensions (W x H x D in mm)	Weight in kg
SUS-2	Tray shelf, 2 units, 19 Inch	483 x 88 x 375	3.10
SUS-3	Tray shelf, 3 units, 19 Inch	483 x 88 x 375	3.40
PUS-2	Tray shelf, 2 units, perforated, 19 Inch	483 x 133 x 375	2.80
PUS-3	Tray shelf, 3 units, perforated, 19 Inch	483 x 133 x 375	3.00
UD-2	Drawer 2 units, closed, 19 Inch	483 x 88 x 382	8.00
UD-3	Drawer 3 units, closed, 19 Inch	483 x 133 x 382	9.20
SFP-1	Front panel 1 units, 19 Inch	483 x 44 x 1.5	0.30
SFP-2	Front panel 2 units, 19 Inch	483 x 88 x 1.5	0.56
SFP-3	Front panel 3 units, 19 Inch	483 x 133 x 1.5	0.80
PFP-1	Front panel, perforated, 1 units, 19 Inch	483 x 44 x 1.5	0.26
PFP-2	Front panel, perforated, 2 units, 19 Inch	483 x 88 x 1.5	0.52
PFP-3	Front panel, perforated, 3 units, 19 Inch	483 x 133 x 1.5	0.75

Overview Remote Microphones

System	Sprechstelle	Tastaturerweiterung	Max. Anzahl Tastatur-erweiterungen je Sprechstelle	Allgemeine Durchsagen	Notfall-durchsagen
VX-3000 Serie	RM-300X	RM-210F	7	•	•
	RM-200SF	RM-320SF	4	•	-
VM-3000 Serie	RM-200M	RM-210	4	•	-
	RM-300MF	RM-320F	3	-	•
VX-2000 Serie	RM-200X	RM-210	9	•	•
	RM-200XF	RM-210	10	•	•
		RM-320F	5	•	•
SX-2000 Serie	RM-200SA	RM-210	4	•	•
	RM-200SF	RM-210	5	•	-
		RM-320F	2	•	-
	N-8610RM	RM-210	4	•	-

SPEAKER LINEUP – LEGEND

EN 54 24

This icon indicates that the speaker EN 54-24 certified and is therefore legalised for use in conjunction with fire detection systems.

BS

This icon indicates that the speaker is fully compliant to the BS5839 part 8 code of practice.

IP64

This icon indicates that the speaker complies by the Ingress Protection standard (IP). Seven IP ratings are present within our speaker lineup: IP32, IP34, IP64, IP65, IP66, IPX4 & IPX2. These icons will help show how the speaker can perform within different types of weather conditions.

EASE data

This icon indicates that ease data is available for this speaker.
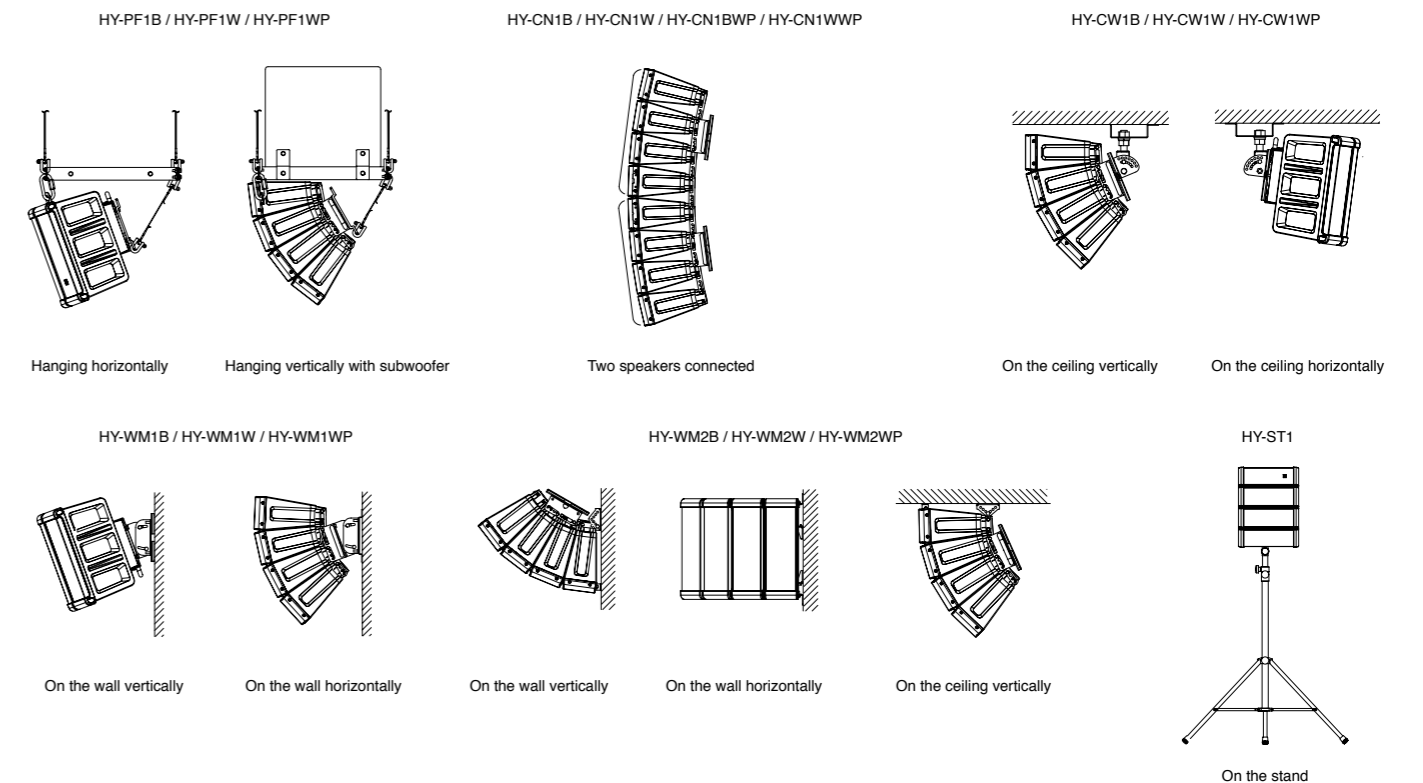
Array-Lautsprecher

HX-5B-WP EB-Q / HX-5W-WP EB-Q

➤ Variable dispersion speaker system
➤ Four speaker modules ensure high power and high quality
➤ Weather & kick proof
➤ The changeable orientation of each of the four speaker modules independently allows the directivity angle of the speaker system to be adjusted
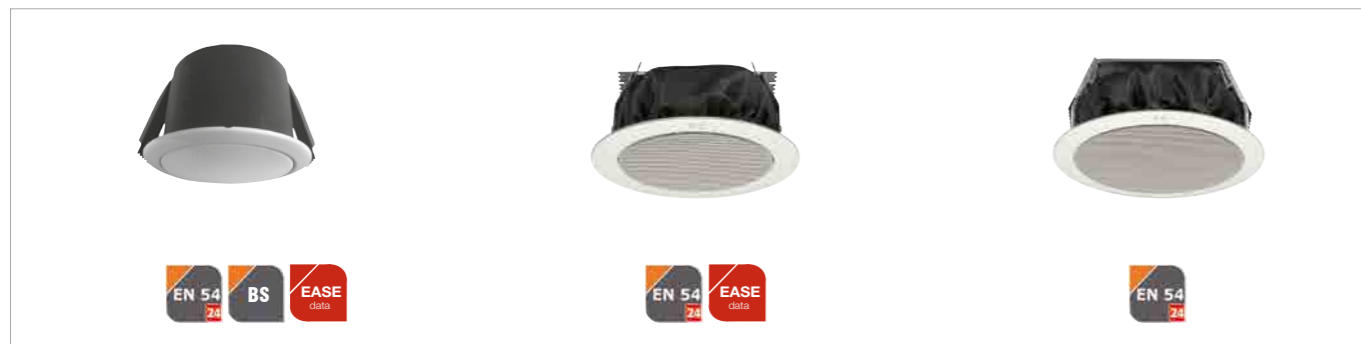
Options

➤ Matching Transformer: MT-200 (Tappings: 60 / 120 / 200 W)
➤ Please find mounting options on the bottom of this page

Specifications	HX-5B-WP EB-Q	HX-5W-WP EB-Q
Power Handling Capacity	Continuous pink noise: 200 W, Program: 600 W	
Rated Impedance	8 Ω	
Sensitivity (1W, 1m)	96 dB (60° mode), 97 dB (45° mode), 98 dB (30° mode), 99 dB (15° mode)*	
Frequency Response	95 Hz – 20 kHz (-10 dB) (60° mode), 100 Hz – 20 kHz (-10 dB) (45° mode), 105 Hz – 20 kHz (-10 dB) (30° mode), 110 Hz – 20 kHz (-10 dB) (15° mode)	
Speaker Component	Low: 5" cone-type x 4, High: balanced dome-type x 12	
Connection	Integrated cable	
Colour	black	white
Dimensions (W x H x D)	408 x 546 x 342 mm	
Weight	16 kg	

Mounting Options

HY-PF1B / HY-PF1W / HY-PF1WP

Hanging horizontally   Hanging vertically with subwoofer

HY-CN1B / HY-CN1W / HY-CN1BWP / HY-CN1WWP

Two speakers connected

HY-CW1B / HY-CW1W / HY-CW1WP

On the ceiling vertically   On the ceiling horizontally

HY-WM1B / HY-WM1W / HY-WM1WP

On the wall vertically   On the wall horizontally

HY-WM2B / HY-WM2W / HY-WM2WP

On the wall vertically   On the wall horizontally   On the ceiling vertically

HY-ST1

On the stand

Ceiling Speaker

PC-1867FC

- 9 W (continuous program)
- Fire dome made of steel
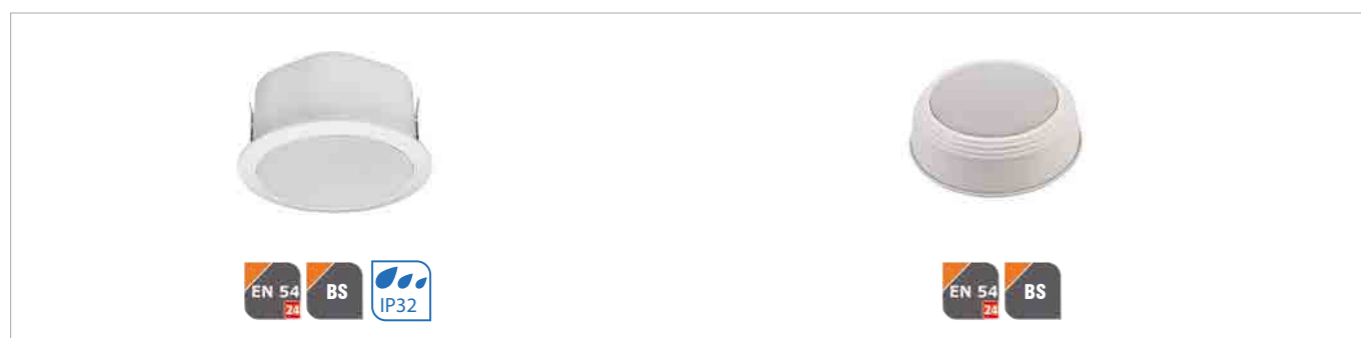- Easy installation
- 12 cm speaker
- For mounting in 156 mm holes

PC-1869EN

- Flat front panel
- Quick and easy installation
- 12 cm speaker
- For mounting in 75 mm depth

PC-2369EN

- 9 W (continuous program)
- Easy installation
- 16 cm speaker
- For mounting in 110 mm depth

Specifications	PC-1867FC	PC-1869EN	PC-2369EN
Rated Input	6 W (100 V), 3 W (70 V)		
Tappings	6 / 3 / 1.5 / 0.8 W (100 V); 3 / 1.5 / 0.8 / 0.4 W (70 V)		
Sensitivity (1W, 1m)	90 dB	94 dB	
Frequency Response	160 Hz – 13 kHz	100 Hz – 18 kHz	70 Hz – 18 kHz
Mounting Hole Diameter	156 (Dia.) ±3 mm	150 (Dia.) ±3 mm	200 (Dia.) ±3 mm
Speaker Component	5" cone-type	5" cone-type	6" cone-type
Connection	Ceramic screw terminals, thermal fuse		
Colour	off-white (RAL 9010 or equivalent colour)		
Dimensions (Dia. x D)	180 x 121 mm	180 × 77.5 mm	230 × 113.8 mm
Weight	1,400 g	820 g	1,100 g

PC-245AB-EB

- A/B wiring
- Firedome prevents passing the flames into the ceiling
- 2 separate 100 V transformer and 2 speaker
- Easy installation

PC-275AB-EB

- A/B wiring
- Only 86 mm depth
- 2 separate 100 V transformer and 2 speaker
- Quick-mount

Specifications	PC-245AB-EB	PC-275AB-EB
Rated Input	2 x 6 W (100 V)	
Tappings	6 / 3 / 1.5 W (100 V)	
Sensitivity (1W, 1m)	79 dB	92 dB
Frequency Response	150 Hz – 20 kHz (-10 dB from sensitivity)	180 Hz – 20 kHz (-10 dB from sensitivity)
Mounting Hole Diameter	220 (Dia) x 116 (D) mm	Depending on back box
Speaker Component	3 x 5" full range dual cone (A/B 2-lines)	6" full range, dual cone (A/B 2-lines)
Connection	2 ceramic screw terminals, thermal fuse	
Colour	off-white (RAL 9010 or equivalent colour)	
Dimensions (Dia. x D)	245 × 131 mm	274.4 × 86.5 mm
Weight	2,050 g	1,490 g

Box Speaker

BS-250AB-EB

- A/B wiring
- For indoor applications
- 2 separate 100 V transformer and 2 speaker
- Wide temperature range of -10 °C to +55 °C
- Fire resistant according to UL 94-V0

BS-678BSB/BSW

- Stylish, compact and unobtrusive design
- Quick and easy wall-mount installation
- Cost effective
- Horizontal and vertical mounting
- Easy impindance selection

Specifications	BS-250AB-EB	BS-678BSB/BSW
Rated Input	2 x 6 W (100 V Line)	6 W (100 V)
Tappings	2 x 6 / 3 / 1.5 W (100 V); 2 x 3 / 1.5 / 0.8 W (70 V)	6 / 3 / 1.5 / 0.8 W (100 V); 3 / 1.5 / 0.8 / 0.4 W (70 V)
Sensitivity (1W, 1m)	89 dB	94 dB
Frequency Response	150 Hz – 20 kHz	150 Hz – 18 kHz
Speaker Component	4" full range dual cone (A/B 2-lines)	6" cone-type
Connection	Ceramic screw terminals, thermal fuse	
Colour	off-white (RAL 9010 or equivalent colour)	BS-678BSB: black (RAL 9011 or equivalent colour) BS-678BSW: white (RAL 9010 or equivalent colour)
Dimensions (W x H x D)	254,5 x 204,5 x 87,5 mm	250 × 190 × 110 mm
Weight	1,750 g	1,700 g

BS-680FC

- Surface or flush-mounting
- 6 W continuous program
- High sound quality & sound pressure
- Bridge wiring possible

BS-1015BSB/BSW
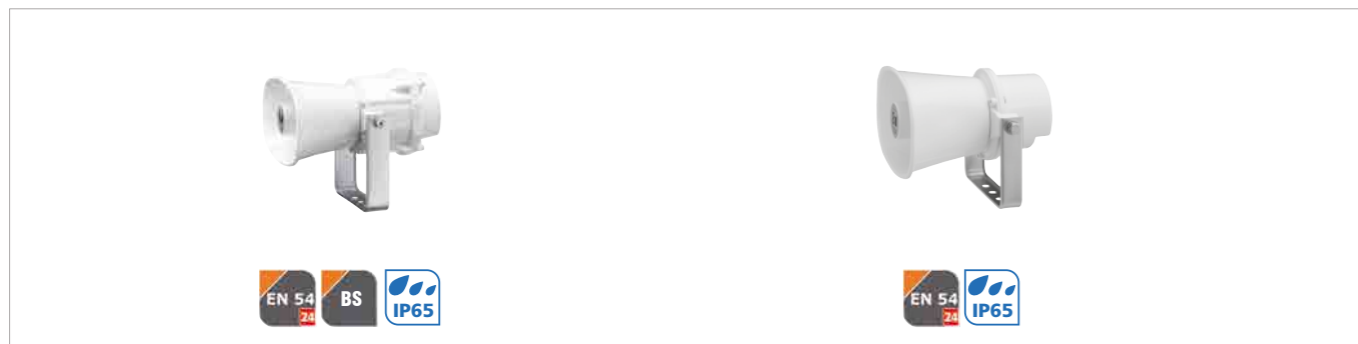
- 2-way hi-fi speaker
- 15 W continous program
- Splash proof
- Options: SP-410 (Wall/Ceiling Mounting Bracket), SP-420 (Flush Mounting Frame), ST-16A (Speaker Stand)

BS-1034EN

- Easy and quick installation
- Beautiful design due to the Golden Ratio
- Fire resistant according to UL 94-V0

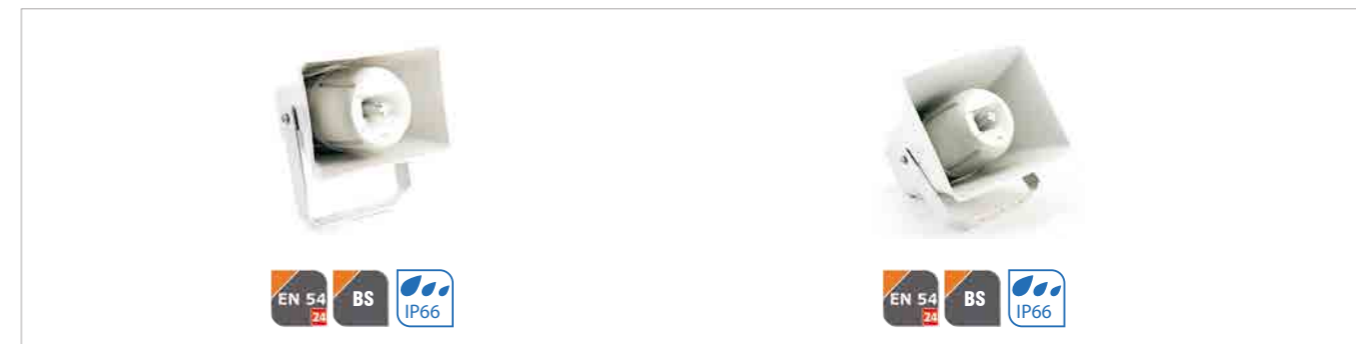| Specifications	BS-680FC	BS-1015BSB/BSW	BS-1034EN
Rated Input	6 W (100 V), 3 W (70 V)	15 W (100 V), 7.5 W (70 V)	10 W (100 V), 10 W (70 V)
Tappings	6 / 3 / 1.5 / 0.8 W (100 V); 3 / 1.5 / 0.8 / 0.4 W (70 V)	15 / 10 / 5 W (100 V); 7.5 / 5 / 2.5 W (70 V)	10 / 5 / 3 / 1 W (100 V); 10 / 5 / 2.5 / 1.5 / 0.5 W (70 V)
Sensitivity (1W, 1m)	94 dB	90 dB	89 dB
Frequency Response	150 Hz – 20 kHz	80 Hz – 20 kHz	120 Hz – 20 kHz
Speaker Component	6" double cone-type	Low: 5" cone-type High balanced dome tweeter	Low: 5" cone-type High balanced dome tweeter
Connection	Ceramic screw terminals, thermal fuse		Ceramic screw terminals, thermal fuse, mounting bracket includes screw terminal
Colour	off-white (RAL 9010 or equivalent colour)	BS-1015BSB: black (RAL 9011 or equivalent colour) BS-1015BSW: white (RAL 9010 or equivalent colour)	off-white (RAL 9010 or equivalent colour)
Dimensions (W x H x D)	310 x 190 x 90 mm	196 × 290 × 186 mm	210 × 330 × 80 mm
Weight	2,600 g	2,400 g	1,400 g

Horn Speaker

SC-615BS

- All weather durabilty
- Unique oval shape
- Excellent speech clarity
- High SPL
- Option: YS-151S Mounting Bracket

SC-630M-EB-Q

- All weather durabilty
- Unique oval shape
- Excellent speech clarity
- High SPL

Specifications	SC-615BS	SC-630M-EB
Rated Input	15 W (100 V)	30 W (100 V)
Tappings	15 / 10 / 5 / 3 W (100 V); 15 / 7.5 / 5 / 2.5 / 1.5 W (70 V)	30 / 15 / 10 / 5 W (100 V); 30 / 15 / 7.5 / 5 / 2.5 W (70 V)
Sensitivity (1W, 1m)	109 dB	113 dB
Frequency Response	315 Hz – 12.5 kHz	250 Hz – 10 kHz
Connection	Ceramic screw terminals, thermal fuse	
Colour	Horn flare: Aluminium, off-white, powder coating / Reflector horn: ABS resin, off-white / Bracket: Stainless steel	
Dimensions (W x H x D)	172 × 195 × 229 mm	285 × 227 × 277 mm
Weight	1,500 g	2,000 g

CS-64BS

- Round projection speaker for outdoor use
- Lightweight and rugged construction
- Exponential horn for improved directivity
- High SPL

CS-154BS

- Square weatherproof speaker for outdoor use
- High SPL
- Impact-proof light weight
- Complete with stainless steel bracket

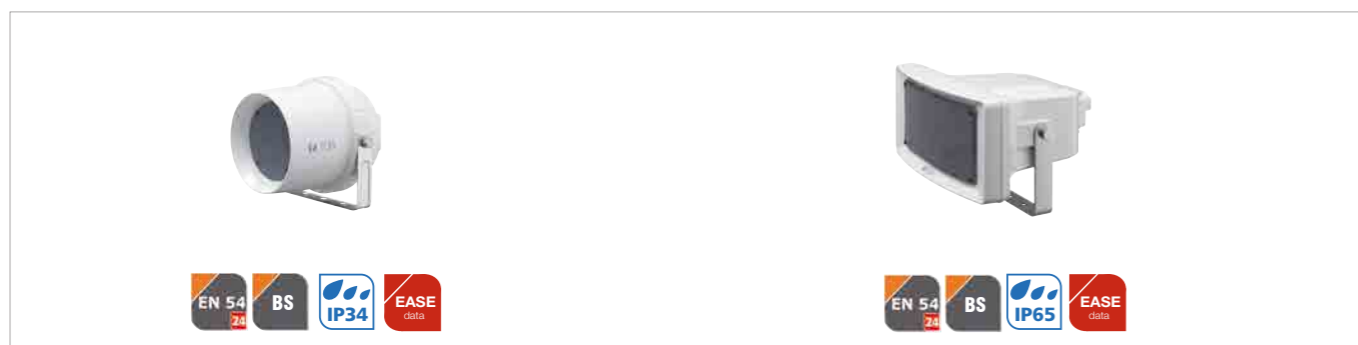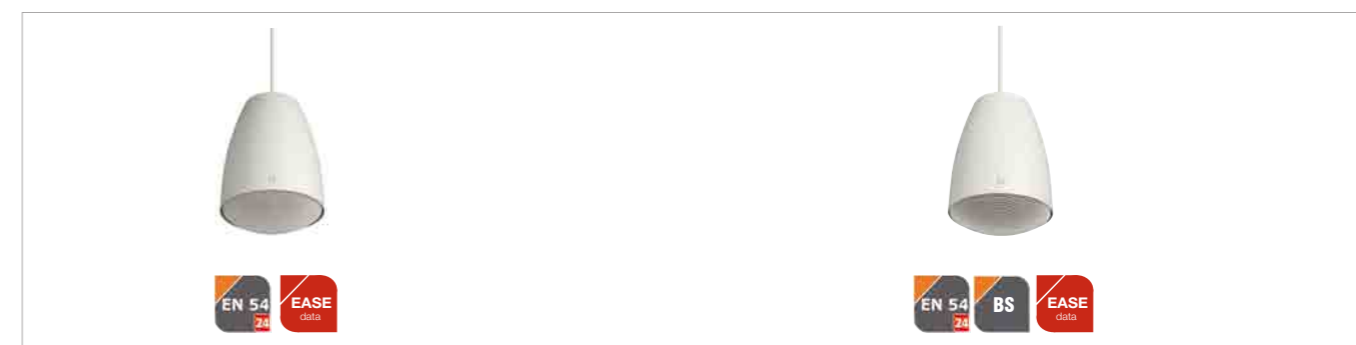| Specifications	CS-64BS	CS-154BS
Rated Input	6 W (100 V)	15 W (100 V)
Tappings	6 / 3 / 1 W (100 V); 6 / 3 / 1.5 / 0.5 W (70 V)	15 / 10 / 5 W (100 V); 15 / 7.5 / 5 / 2.5 W (70 V)
Sensitivity (1W, 1m)	96 dB	97 dB
Frequency Response	130 Hz – 13 kHz	150 Hz – 15 kHz
Speaker Component	-	5" cone-type
Connection	Ceramic screw terminals, thermal fuse	
Colour	Horn, cover: off-white / Punched net: dark-grey	
Dimensions (W x H x D)	233 × 224 × 249 mm	366 × 230 × 310 mm
Weight	1,700 g	3,000 g

Horn & Pendant Speaker

CS-530BS-EB

- Highly intelligible by 2-way system
- All weather durability, water and dust protection
- Impedance change available by tapping changing

CS-660BS-EB

- Highly intelligible by 2-way system
- All weather durability, water and dust protection
- Impedance change available by tapping changing

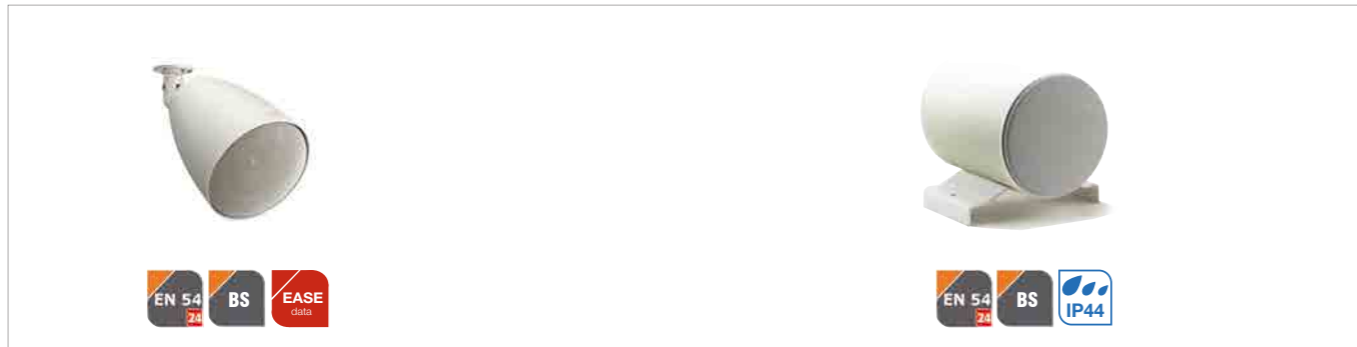| Specifications	CS-530BS-EB	CS-660BS-EB
Rated Input	30 W (100 V)	60 W (100 V)
Tappings	30 / 15 / 7.5 / 3.75 W (100 V)	15 / 10 / 5 W (100 V), 15 / 7.5 / 5 / 2.5 W (70 V)
Sensitivity	96 dB (1W, 1m)	97 dB (1W, 1m)
Frequency Response	120 Hz – 20 kHz	100 Hz – 20 kHz
Connection	Screw terminal	
Colour	Horn and terminal cover: ABS resin, light grey (RAL7035 or equivalent); Brackets and screws: Stainless steel	
Dimensions (W x H x D)	315 × 215 × 355.5 mm	418 × 332 × 291 mm
Weight	4,700 g	7,100 g

PE-154EN

- Special design to blend with lighting equipment
- Rugged HIPS resin enclosure
- Excellent sound quality

PE-154BS

- Special design to blend with lighting equipment
- Rugged HIPS resin enclosure
- Excellent sound quality
- Fire resistant cable, 3 m

Specifications	PE-154EN	PE-154BS
Rated Input	15 W (100 V)	
Tappings	15 / 10 / 5 W (100 V); 7.5 / 5 / 2.5 W (70 V)	
Sensitivity (1W, 1m)	91 dB	
Frequency Response	70 Hz – 20 kHz	
Speaker Component	Low: 5" cone-type, High: 1" balanced dome tweeter	
Connection	Ceramic screw terminals, thermal fuse	
Colour	off-white (RAL 9010 or equivalent colour)	
Dimensions (Dia. x H)	186 × 251 mm	
Weight	2,100 g	2,330 g

PJ-154BS

> Wide range frequency response
> Complete with mounting bracket for easy installation

PJ-202DL-EB

> For indoor and outdoor applications
> 2 x 5" cone speaker + HC
> Ceramic screw terminal
> Rugged bracket included
> Extreme wide temperature range: -25 °C to +70 °C

Specifications	PJ-154BS	PJ-202DL
Rated Input	15 W (100 V)	20 W (100 V)
Tappings	15 / 10 / 5 W (100 V); 7.5 / 5 / 2.5 W (70 V)	20 / 10 / 5 W (100 V); 10 / 5 / 2.5 W (70 V)
Sensitivity (1W, 1m)	91 dB	89 dB
Frequency Response	70 Hz – 20 kHz	120 Hz – 20 kHz
Speaker Component	Low: 5" cone-type, High: 1" balanced dome tweeter	5" P.P. cone + HC x 2
Connection	Ceramic screw terminals, thermal fuse, external connection box, 5-wire BS-compliant	
Colour	off-white (RAL 9010 or equivalent colour)	
Dimensions	186 (Dia.) × 251(H) mm	146 (Dia.) × 186 (D) mm
Weight	2,100 g	3,300 g

F-1000BTWP EB-Q / F-1300BTWP EB-Q / F-2000BTWP EB-Q
F-1000WTWP EB-Q / F-1300WTWP EB-Q / F-2000WTWP EB-Q

> 15 W, 30 W or 60 W
> 4 ", 5 " or 6 "
> Provides wide dispersion

> For any environment
> Built-in speaker protection
> Easy connection

Specifications	F-1000 WP-EB	F-1300 WP-EB	F-2000 WP-EB
Rated Input	15 W (100 V)	30 W (100 V)	60 W (100 V)
Tappings	15 / 5 / 3 / 1 W (100 V); 15 / 7.5 / 2.5 / 1.5 / 0.5 W (70 V)	30 / 10 / 3 / 1W (100 V); 30 / 15 / 5 / 1.5 / 0.5 W (70 V)	60 / 30 / 15 / 5 / 3 W (100 V); 15 / 7.5 / 2.5 / 1.5 W (70 V)
Sensitivity (1W, 1m)	87 dB	90 dB	92 dB
Frequency Response	85 Hz – 20 kHz	80 Hz – 20 kHz	65 Hz – 20 kHz
Speaker Component	Low: 4" cone-type, High: Balabced dome tweeter	Low: 5" cone-type, High: 2.5 cm dome tweeter	Low: 8" cone-type, High: 2.5 cm dome tweeter
Connection	Screw terminals		
Colour	Enclosure: HIPS resin, black or white/Punched net: Surface-treated steel plate, black or white, paint		
Dimensions (W x H x D)	130 x 202 x 131 mm	162 x 250 x 161mm	244 x 373 x 235 mm
Weight	2,000 g	3,600 g	7,400 g

Find out more about TOA?

Our portfolio covers a wide range of products to find the ideal acoustic solution:

IP Intercom Systems

> Short response times in case of risks and emergency situations
> Integration into telephone and voice alarm systems
> Comprehensive management options of e.g. doors, gates, lighting and signals
> High flexibility and almost unlimited system scalability

Professional Sound Systems

> Amplifiers
> Mixer and Control Units
> DSP
> Line Array Speakers
> Design Speakers

Wireless Microphone Systems

> Wireless Microphones for the whole gamut of applications: speech, vocals, theater, stage, aerobic or fixed installations.

Conference Systems

> Efficient communication for any type of conference
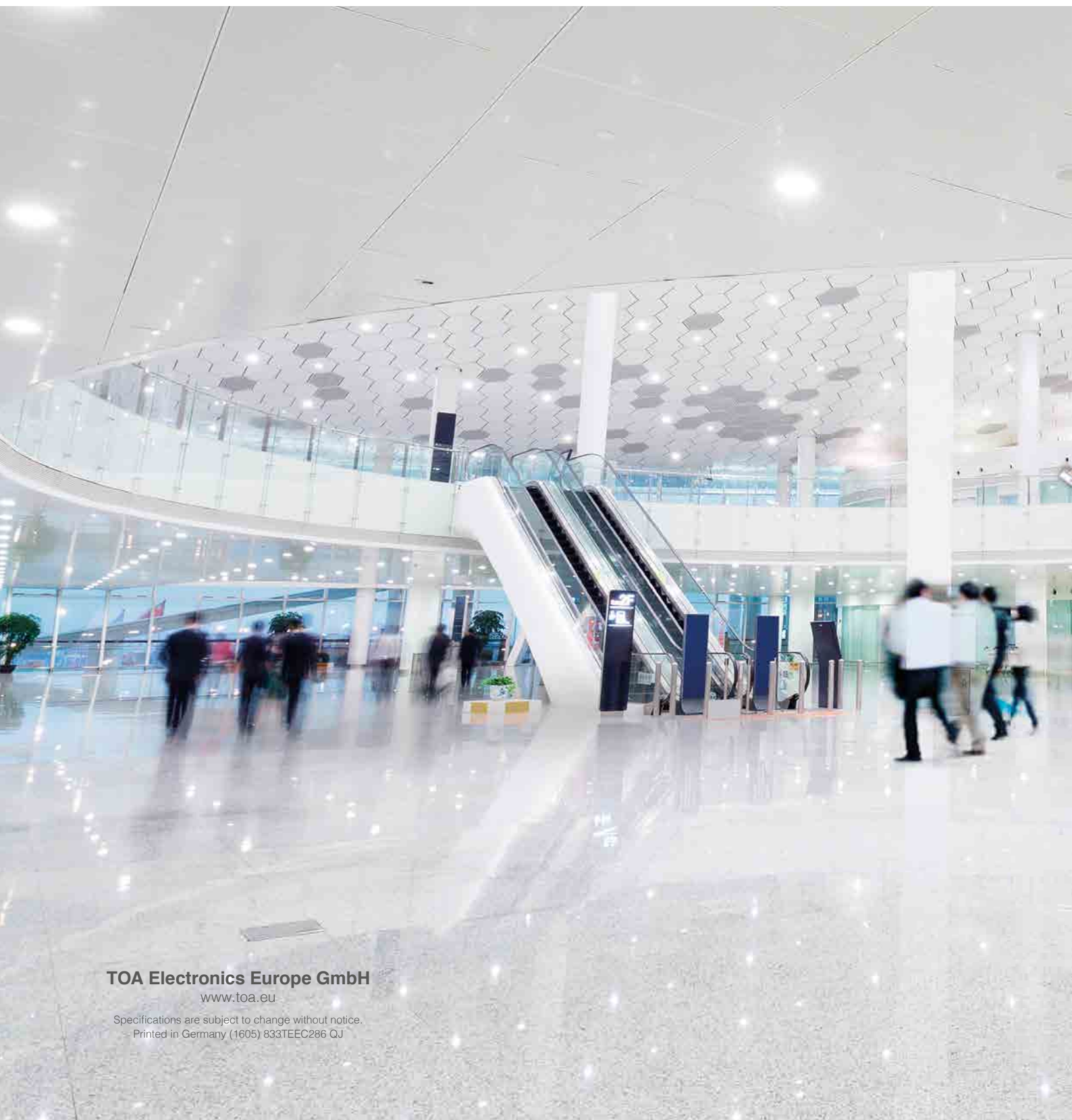> Flexible adaptation of different attendance figures and system configurations

Audio

> More speakers for all applications
> Microphones
> Megaphones
> Measuring instruments

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