



# VOICE ALARM SYSTEMS

We supply sound, not equipment.  
[www.toa.eu](http://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 utmost 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 system 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.

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## Overview Remote Microphones

System	Remote microphone	Key extension unit	Max. key extension units per remote microphone	General broadcast	Emergency broadcast
VX-3000 Series	RM-300X	RM-210F	7	•	•
	RM-200SF	RM-320F	4	•	•
VM-3000 Series	RM-200M	RM-210	4	•	-
	RM-300MF	RM-320F	3	-	•
VX-2000 Series	RM-200X	RM-210	9	•	•
	RM-200XF	RM-210 RM-320F	10 5	• •	• •
SX-2000 Series	RM-200SA	RM-210	4	•	•
	RM-200SF	RM-210 RM-320F	5 2	• •	• •
	N-8610RM	RM-210	4	•	-

## VX-3000 Series

# Combined highly integrated voice alarm and public address system.

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.



Certificate No: 1134-CPR-195

Maximum System Capacity	
Output Power	320,000W
Speaker Zones	2560
Remote Mic connection	1280

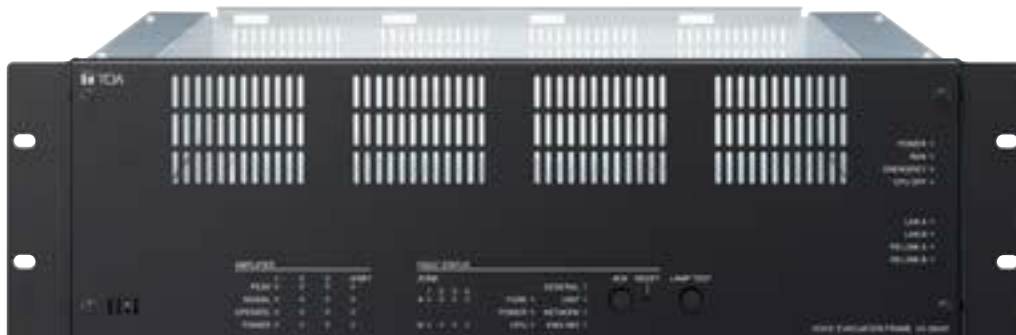
## Features

- 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 1280 remote microphones
- Light-weight: Modern supply switching technology and digital amplifiers
- Energy saving: Standby function for low power consumption during battery backup reduces the required battery capacity
- Decentralized: IP Network based
- Advanced ambient noise control (ANC)
- Master-less system providing high security if one line fails

## Applications

- Office buildings
- Airports
- Hotels
- Factories
- Schools
- Hospitals
- Shopping centres
- Congress centres
- Exhibition halls

VX-3000 Series/Frame/**VX-3004F / VX-3008F / VX-3016F**



VX-3004F



Features

- 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
- Fault acknowledge and lamp test button
- Input DSP: flexible filter types and compressor
- Output DSP: flexible filter types, compressor and delay up to 2.7 sec.

Options

- Q-SX-200EL: Pilot Tone Detection Module (VX-3004F)
- VM-300SV: Pilot Tone Detection Module (VX-3008F/VX-3016F)

Specifications

	VX-3004F	VX-3008F	VX-3016F
Power Source	31 VDC (operating range: 20 – 40VDC)		
Speaker Output	4 AB Zones	8	16
Power Amplifier	4	3	2
Audio Input	4 (Line: -20dBV / Mic: -60dBV, 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	7.6kg		7.9kg

VX-3000 Series / System Amplifier / **VX-015DA / VX-030DA / VX-050DA / IES-2000**



VX-015DA

VX-030DA

VX-050DA



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

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

IES-2000 Series

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

Specifications

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

Specifications

	IES-2042FX-MM-SC	IES-2042FX-SS-SC	IES-2060
Supply Voltage		12 – 48VDC	
Power Consumption (typ.)		7W	5W
Network Ports		4 x RJ45, 2 x SC	6 x RJ45
Fiber optical cable type	Multi-mode; 62.5/125 μm 50/125 μm	Single-mode 9/125 μm	-
Max. Cable Length	RJ45: 100m, SC: 2km	RJ45: 100m, SC: 30km	RJ45: 100m
Fault Output		Relay, 24 VDC, 1 A	
Dimensions (W x H x D)		54.2 x 154.4 x 106.1 mm	
Weight		0.67kg	0.66kg

## VX-3000 Series/Power Supply/**VX-3000DS/VX-3150DS-EB**



VX-3000DS



### Features VX-3000DS/VX-3150DS-EB

- 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/VX-3150DS: EN54-4 certified, Certificate No: 1134-CPR-137

### Specifications

	VX-3000DS	VX-3150DS-EB
Power Source	220 – 230VAC, 50 / 60Hz	
Power Consumption	2800W max. in total (at rated output with charging), 350W max. each (EN 60065)	Approx. 1460W max. in total (at rated output with charging), 460W max. each (EN 60065)
DC Power Output (AC mode)	Rated output: 2300W (31V, 72.5A, total DC power output), Peak output: 2780W (29V, 50A, total DC power output)	Rated output: 1140W (31V, 25A, total DC power output), Peak output: 1280W (29V, 48A, total DC power output)
DC Power Output	8 x 31V (19 – 33V) 25A max. each, M4 screw terminal, distance between barriers: 11 mm 3 x 31V (19 – 33V) 5A max. each, removable terminal block (3 x 2 pins) 1 x 24V (16 – 25V) 0.3A max., removable terminal block (1 x 2 pins)	
Charging Method	Temperature compensated trickle charging	
Charging Output Voltage	27.3V ±0.3V (at 25°C), Temperature correction coefficient: -40mV/°C	
Battery Connection	One each positive and negative terminal, applicable cable diameter: AWG 6 – AWG 0 (AWG 1/0) (16mm <sup>2</sup> – 50mm <sup>2</sup> ) Line resistance within 4mΩ / 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 400.5mm (19", 3U)	
Weight	11.8kg	9kg



VX-3000 Series/Emergency Remote Microphone/ **RM-200SF / RM-320F**



RM-200SF



RM-320F



Features

- 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 Key Extension Units per Emergency Remote Microphone

Options

- RM-320F: Key Extension Unit

Specifications

	RM-200SF	RM-320F
Power Source	24VDC (operating range: 15 – 40VDC)	From RM-200SF
Distortion	Under 1%	-
Frequency Response	200Hz – 15kHz	-
Signal-to-Noise Ratio	Over 55dB	-
Audio Output	0dBV, 600Ω, 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 95mm	175 x 215 x 70mm
Weight	1.48 kg	700 g

## VX-3000 Series/Remote Microphone/ **RM-300X/ RM-210F**



RM-300X



RM-210F



### Features

- 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)
- AUX Input for BGM distribution

- RM-210F: Key Extension Unit with 10 additional keys (up to 7 units can be used with each RM-300X Remote Microphone)

### Options

- AD-246: Power Supply Unit
- WB-RM200: Wall Mounting Bracket

### Specifications

	<b>RM-300X</b>	<b>RM-210F</b>
Power Source	24 VDC (operating range: 15 – 40VDC), supplied from the audio input unit or DC input power supply connector (when the optional AD-246 Power Supply Unit used)	From Remote Microphone
Current Consumption	Under 240mA	Under 80 mA (from Remote Microphone)
Audio Output	0 dBV, 600Ω, balanced	-
External Microphone Input	-40 dB, 2.2kΩ, unbalanced, mini jack, phantom powering	-
Frequency Response	100Hz – 20kHz	-
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	1,200m	-
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	850g	350g

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## VX-3000 Series / Audio Network Adapter / **NX-300W**

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NX-300W



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### NX-300W

- Audio network adapter for transmitting audio and control signals via LAN
- Dual-channel capable of bi-directional (full-duplex) dual mono signals
- Up to 500 NX-300s can be connected to each other via LAN
- Up to 1,000 links can be established
- 1 input audio signal can be streamed to max. 16 NX-300W (unicast) or max. 64 NX-300W (multicast) simultaneously

### Options

For installation in cabinet racks:

- MB-15B-BK: Half Width Blank Panel (installation of one unit)
- MB-15B-J: Rack Joint Bracket (installation of two units)

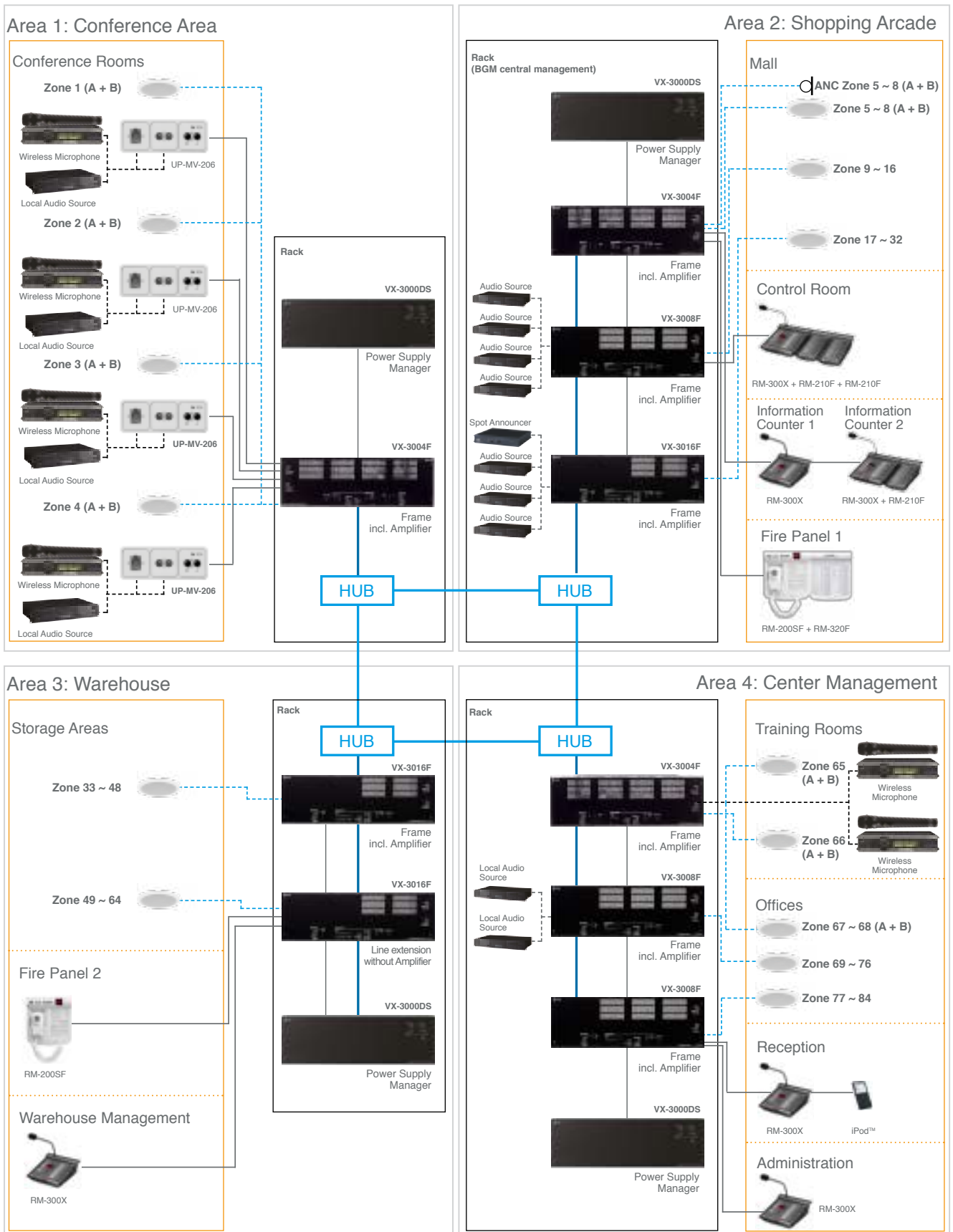
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### Specifications

	<b>NX-300W</b>
Applicable Model	VX-3000 system
Supply Voltage	24VDC
Current Consumption	310mA
Audio Input	Balanced, sensitivity -58/0dBV selectable
Audio Output	Balanced, 0dBV, min. 600Ω
Control Inputs	8 (12VDC, 10mA)
Control Outputs	8 (open collector, 30VDC, 50mA), 2 Relais
Network Connection	RJ45, 10BASE-T/100BASE-TX, automatic
Finish	Steel plate, painted black
Dimensions (W x H x D)	210 x 44.7 x 188mm (1/2 19", 1U)
Weight	1.2kg

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# VX-3000 Series / System Configuration



## VM-3000 Series

# Cost-effective system for small to medium sized applications.

The VM-3000 is a cost-effective integrated public address system designed to fulfill the EN54 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, retail stores or restaurants.

- Cost-effective integrated public address and voice evacuation system
- Easy installation and compact design
- EN 54 certified, UL 2572 and CAN/ULC-S576 listed
- Intuitive and userfriendly configuration through dedicated PC-Software
- Easy integration into existing building management systems
- Convenient remote maintenance saves time, effort and costs



Certificate No: 1438-CPR-0180

## Features

- 6 – 60 assignable speaker zones (volume setting for each audio output)
- 4 – 13 MIC/LINE audio inputs
- 8 remote microphones max. (4x general + 4x emergency; EN 54: max. 2x emergency or 4x general + 1x 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
- Modbus protocol ready
- Complete fault detection and indication

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

## Applications

- Schools
- Retail stores
- Bars & restaurants
- Hotels
- Gymnasiums

## VM-3000 Series / System Management Amplifier / **VM-3240VA / VM-3360VA**



VM-3240VA



### Features

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

### Specifications

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

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## VM-3000 Series/Pilot Tone Detection Module/**VM-300SV**

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### Features

- Speaker line failure can be detected with high accuracy
  - Module for installation 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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### Specifications

	<b>VM-300SV</b>
Power Source	Supplied from VM-3240VA, VM-3360VA, VM-3240E, VM-3360E
Power Consumption	0.2W
Speaker Line Input	Screw connector, applicable cable diameter: AWG 24 – AWG 19
Contact Output	Connected to the emergency contact input of VM-3240VA, VM-3360VA, VM-3240E, VM-3360E Connector cable: Twisted pair cable (shielded type is recommended) Max. cable length: 10m
Speaker Line	Max. cable length: 500m Max. load: 100W Applicable only for 100V speaker line
Dimensions (W x H x D)	70 x 18 x 45mm
Weight	20g

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## VM-3000 Series / Extension Amplifier / **VM-3240E** / **VM-3360E**



VM-3240E



### Features

- 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: 240W System Amplifier
- VM-3360VA: 360W 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	230VAC, 50/60Hz	
Power Consumption (AC mains)	600W (with rated output signal), 260 W (according to EN 60065)	850 W (with rated output signal), 380 W (according to EN 60065)
Rated Output	240W	360W
Frequency Response	50Hz – 20kHz ±3dB (at 1/3 rated output)	
Distortion	Under 0.7% (at rated output, 1kHz)	
Signal-to-Noise Ratio	Over 85 dB	
Inputs	External amplifier Input: 100V Line removable terminal block (14 pins) Local input -50dB (Mic) / -10dB (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: 24VDC, short-circuit current: under 2mA, removable terminal block (14 pins) Output 1 – 8: Isolated open collector output, withstand voltage: 30VDC, operating current: under 10mA, removable terminal block (14 pins)	
Emergency Control	Input 1 – 5: No-Voltage make contact input, open voltage: 24VDC, short-circuit current: under 2mA, female connector RJ45 Input 6: Isolated voltage input: Inactive; -24V ±20% / Active; +24V ±20%, RJ45 female connector Status out: Relay contact output, withstand voltage: 40VDC, operating current: 2 – 300mA, RJ45 female connector	
Regulated Voltage Output	24VDC, maximum feeding current 0.3A	
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	16.5kg	19kg



## VM-3000 Series / Emergency Remote Microphone / **RM-300MF / RM-320F**



RM-300MF



Alarm switch



Microphone



Function keys



RM-320F



### 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 Key Extension Units can be connected to the Emergency Microphone

### Specifications

	<b>RM-300MF</b>	<b>RM-320F</b>
Applicable Model	VM-3240VA, VM-3360VA, RM-320F	RM-300MF, RM-200XF, RM-200SF
Power Requirement	24VDC (operating range: 14 – 28VDC)	From RM-300MF / RM-200M
Current Consumption	120mA (up to 660mA with 3x RM-320F)	180mA max. (in terms of DC power inputs of RM-300MF)
Frequency Response	200Hz – 15kHz	-
Distortion	Under 1%	-
Signal-to-Noise Ratio	Over 55dB	-
Audio Output	0dBV, 600Ω, 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	0.7 kg

VM-3000 Series / General Remote Microphone / **RM-200M / RM-210**



RM-200M



RM-210

**RM-200M**

- 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 800m total cable length

**RM-210**

- Key Extension Unit with 10 freely assignable keys

**Options**

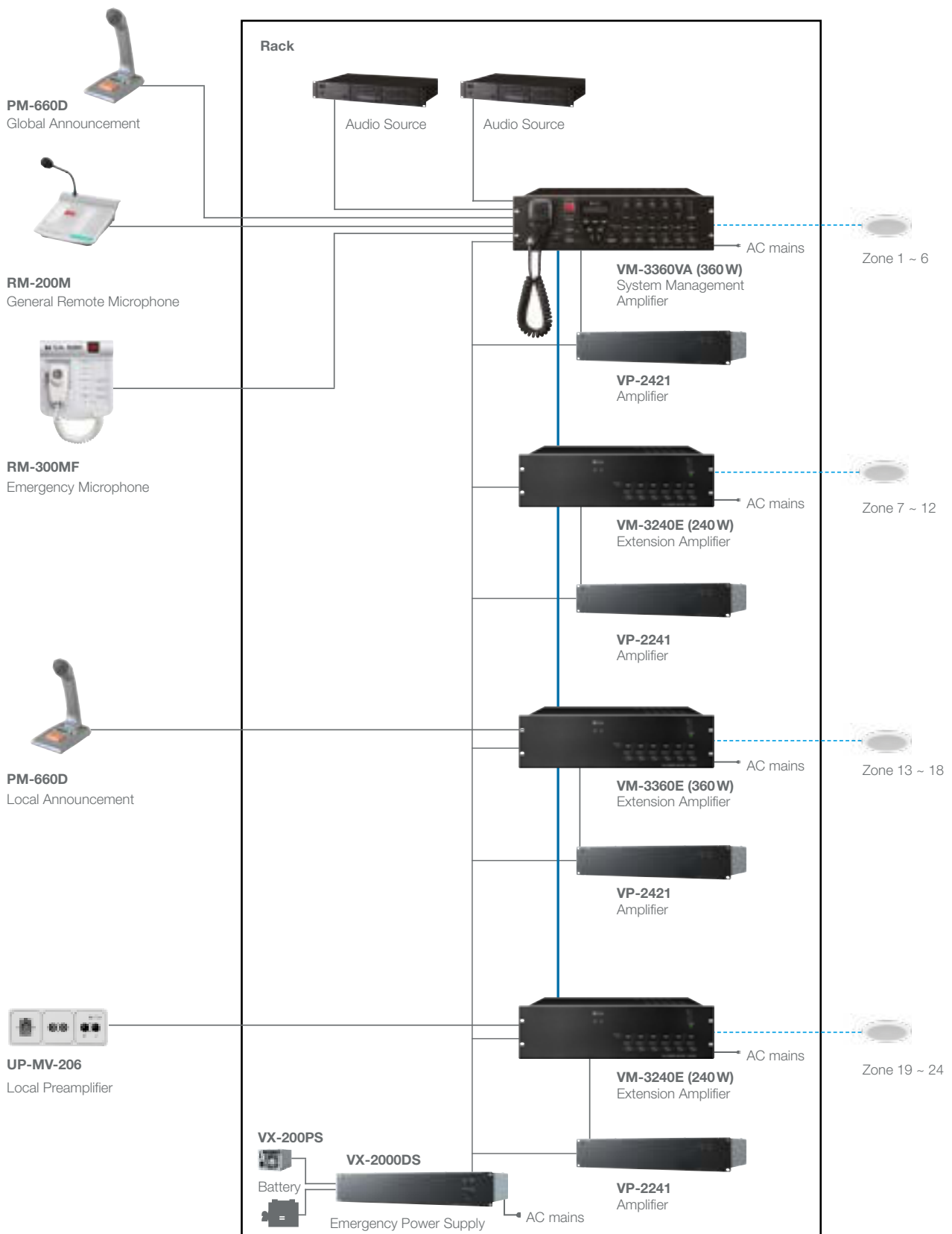
- WH-4000A: Headset
- WB-RM200: Wall Mounting Bracket

**Specifications**

	<b>RM-200M</b>	<b>RM-210</b>
Applicable Model	VM-3240VA, VM-3360VA, RM-210	RM-200M, RM-200X, RM-200XF, RM-200SA, RM-200SF
Power Requirement	24VDC (operating range: 14 – 28VDC)	From remote microphone
Current Consumption	100mA maximum	20 mA max. (in terms of RM-200M's DC power input)
Frequency Response	100Hz – 20kHz	-
Distortion	Under 1 %	-
Signal-to-Noise Ratio	Over 60dB	-
Audio Output	0dBV, 600Ω, 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	0.75 kg	0.35 kg

## VM-3000 Series / System Configuration

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



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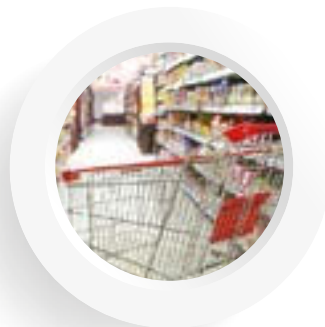
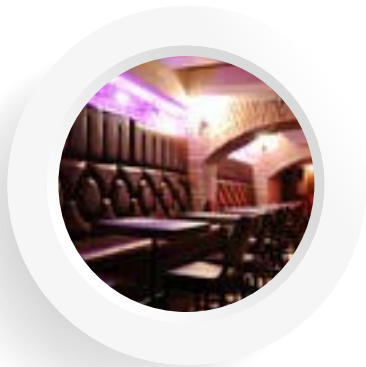
## Where we are heard.

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Thanks to their high performance and flexibility, our products can be used in practically all areas for sound applications.

Whether for schools, concert halls, airports or stadiums – we find the ideal acoustic solution for rooms of different applications.

This is proven by the fact that we cultivate long-term partnerships with most of our customers in the entire field of sound reinforcement. On the other hand many practical examples shows this, too. It is not by chance that our solutions have been installed in numerous buildings worldwide. Take a look and get an idea of our reference projects.



## VX-2000 Series

# Flexible system for simple as well as complex installations.

The VX-2000 Series is a versatile broadcast and public address system that fulfills the requirements of the applicable standards for general purpose and emergency broadcasts.

Its fully modular configuration facilitates assembling a system that is ideally optimized for a particular application with specific modules. This makes the VX-2000 series a powerful and cost-effective platform for almost any application.

- High reliability
- Non-interruptive surveillance
- Network-compatible design
- Individual assignment
- Reasonable system status
- Automatic dual broadcasting
- Versatile software
- Systemdesign support tool available



Certificate No: 1134-CPR-110

### Features

- Integrated system for public address and voice evacuation
- Fulfills all requirements of the applicable standards
- System status can be confirmed on the central indication panel and remote microphones
- Optional linkable central control units possible
- OPC Client for connection to external systems
- Simultaneous 2-channel recorded message broadcasts
- Continuous speaker line monitoring without interruption of BGM or paging announcements
- Convenient multi-language software
- Event memory for efficient system maintenance
- Remote maintenance with optional accessories

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

### Applications

- Department stores
- Hotels
- Hospitals
- Exhibitions
- Schools
- Retail- and supermarkets
- Train stations

## VX-2000 Series / System Manager / **VX-2000**



### Features

- 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
- M-01F, U-01F, U-01R, U-03R, U-01S: Input Modules
- VSX-2000OP Software: VX-SX Operation Software Kit

### Specifications

	<b>VX-2000</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24VDC (operating range: 20 – 40VDC)
Current Consumption	Under 650 mA (20VDC)
Number of module slots	8
Audio Link Output	Number of audio buses: 4, 0 dBV, electronically balanced, RJ45 female connector
Monitor Output	0 dBV, 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 dBV)
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-2000 Series/System Amplifier/**VP-2064/VP-2122/VP-2241/VP-2421**



VP-2421



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

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

Specifications

	VP-2064	VP-2122	VP-2241	VP-2421
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS, System VX-2000 / SX-2000		VX-2000DS, VX-3000DS, VX-3150DS, System VM-3000 / VX-2000 / SX-2000	
Power Source	28VDC (operating range: 20 – 40VDC) M4 screw terminal			
Current Consumption (EN60065)	4.8A in total			7.6A
Rated Output Power	4 x 60W	2 x 120W	1 x 240W	1 x 420W
Output Voltage/Impedance	167Ω (100V line), 83Ω (70V line), 41Ω (50V line) (selectable by the internal wiring change)	83Ω (100V line), 41Ω (70V line), 21Ω (50V line) (selectable by the internal wiring change)	41Ω (100V line), 21Ω (70V line), 10Ω (50V line) (selectable by the internal wiring change)	24Ω (100V line), 12Ω (70V line), 6Ω (50V 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	40Hz – 16kHz, ±3dB (at 1/3 rated output)			
Distortion	Under 1% (at rated output, 1kHz)			
Signal-to-Noise Ratio	Over 80dB			
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 340.5mm (19", 2U)			
Weight	11.2kg	9.1kg	8.1kg	9.5kg

## VX-2000 Series/Power Supply/**VX-2000DS**/**VX-200PS**/**VX-2000PF**



VX-2000DS



VX-200PS



VX-2000PF



### 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 12V 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 Unit
- 2 DC output channels per unit
- EN 54-4 certified, Certificate No: 1134-CPR-083

### 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	VX-200PS	VX-2000PF
Applicable Model	System VM-3000 / VX-2000 / SX-2000, not the VP-3000 Series amplifier	VX-2000DS	VX-200PS
Power Source	230VAC, 50 / 60Hz		-
Power Consumption	240W max.	580W	-
Applicable Battery	Panasonic LC-X1265PG / APG (65Ah) (12V x 2 or 4)		-
Charging Method	Trickle charging		-
Charging Current	5A max		-
Charging Output Voltage	27.3V ±0.3V (at 25°C) Temperature correction coefficient: -40mV/°C		-
Power Supply Input	6 / M4 screw terminal		-
DC Power Output	6 (25A max. each) M4 screw terminal, distance between barriers: 11 mm	Rated output: 210W (29V, 7.25A) x 2, Peak output: 400W x 2, M4 screw terminal	-
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		-
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint	Surface-treated steel plate	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)	135 x 118.2 x 324.8 mm	483 x 132.6 x 324.8 mm (19", 3U)
Weight	10.5 kg	13.2 kg	5.5 kg



## VX-2000 Series/Digital Power Amplifier/**VP-3154/VP-3304/VP-3504**



VP-3304



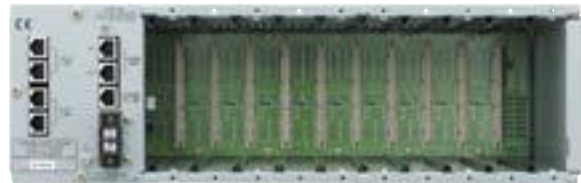
### Features

- System amplifier for VX-2000 and SX-2000
- 3 different power configurations:  
150W x 4 Channels (VP-3154)  
300W x 4 Channels (VP-3304)  
500W x 4 Channels (VP-3504)
- Usable as standby amplifier for emergency switch
- Compact, lightweight and energy efficient
- 4 amplifier input modules are built-in
- With BGM input ports
- Usable with VX-3000DS and VX-3150DS

### Specifications

	VP-3154	VP-3304	VP-3504
Applicable Model	VX-3000DS, VX-3150DS, System VX-2000 / SX-2000		
Power Source from VX-3000DS	31VDC (operating range: 20 – 34VDC), DC power in: M4 screw terminal		
Amplification System	Class D		
Current Consumption	6A (Rated Output Power), 0.6A (Surveillance), 0.1A (Standby), at 31VDC, 100V line, each channel	9A (Rated Output Power), 0.6A (Surveillance), 0.1A (Standby) at 31VDC, 100V line, each channel	13A (Rated Output Power), 0.6A (Surveillance), 0.1A (Standby) at 31VDC, 100V line, each channel
Rated Output Power	150W x 4 (at 100V line), 105W x 4 (at 70V line), 75W x 4 (at 50V line)	300W x 4 (at 100V line), 210W x 4 (at 70V line), 150W x 4 (at 50V line)	500W x 4 (at 100V line), 350W x 4 (at 70V line), 250W x 4 (at 50V line)
Output Voltage	100V (70V, 50V: selectable by internal change)		
Minimum Resistive Load	67Ω (at 100V line), 47Ω (at 70V line), 33Ω (at 50V line)	33Ω (at 100V line), 23Ω (at 70V line), 17Ω (at 50V line)	20Ω (at 100V line), 14Ω (at 70V line), 10Ω (at 50V line)
Maximum Capacitive Load	500nF		
Number of Channels	4		
Input	PA link: 4 channels, RJ45 connector, BGM: 4 channels, removable terminal block (5 pins) BGM INPUT (H, C, E): -10dB/0dB (LINE, changeable), 22kΩ, electronically balanced BGM MUTE (G, +): no-voltage make contact input, open voltage: 15VDC, short-circuit current: 2mA, Volume adjustment: 4 channels		
Output	PA out (speaker line): removable terminal block (9 pins) x 1		
Frequency Response	40Hz – 16kHz, ±3dB (at 100V line, 1/3 rated output)		
Distortion	1% or less (at 100V line, rated output, 1kHz)		
Signal-to-Noise Ratio	80dB or more (at 100V line, A-weighted)		
Crosstalk	60dB or more (at 100V 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)		
Finish	Panel: Surface-treated steel plate, black, 30% gloss, paint		
Dimensions (W x H x D)	482 x 88.4 x 390mm (19", 2U)		
Weight	7.3kg		7.7kg

## VX-2000 Series / Surveillance Frame / **VX-2000SF**



### Features

- 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
- 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)
- Rack-mountable, 3 units height

### Options

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

### Specifications

	<b>VX-2000SF</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24VDC (operating range: 20 – 40VDC)
Current Consumption	Under 2A (40VDC)
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	20Hz – 20kHz (when use VX-200SZ / VX-200SZ-2: 120Hz – 20kHz)
Distortion	Under 0.5%
Signal-to-Noise Ratio	Over 60 dB
Cross Talk	Under -60 dB (1 kHz, 0 dBV)
Audio Link Input / Output	Number of audio busses: 4, 0 dBV, 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	5.6kg

## VX-2000 Series/Status Indication Panel & Ethernet Switches/**IP-EN1-EB**/**IES-3000**



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, emergency microphone fault, network fault, CPU fault
- With indication of faults in 8 fire areas (EN54-16 option)

- Emergency control input from fire detection system
- General fault output allows surveillance by the fire detection system
- For VX-2000 and SX-2000 systems

### IES-3000 Series

- Managed Ethernet Switches
- Several redundancy modes: STP, RSTP, ring
- Mounting on DIN rail
- For VX-2000 and SX-2000 systems

### Specifications

	<b>IP-EN1-EB</b>					
Applicable Model	VX-2000 system, SX-2000 system					
Operation Voltage Range	20 – 40VDC					
Current Consumption	Max. 60mA					
Control Input	Emergency activation, Emergency reset, Silence					
Activation	Contact: break, make; voltage: on, off					
Contact Control	Open voltage: 24VDC, current: 12mA					
Voltage Control	12VDC, 12mA (1kΩ) / 24VDC, 12mA (2kΩ)					
General Fault	Potential-free NO and NC contacts, resistors can be added for surveillance					
Switch Capacity	Max. 40VDC, max. 100mA					
Connectors	Removable screw terminals, RJ45 jacks					
Finish	Aluminium, black					
Dimensions (W x H x D)	483 x 44 x 47mm (19", 1U)					
Weight	0.47 kg					
	<b>IES-3080</b>	<b>IES-3062GT</b>	<b>IES-3062FX-MM-SC</b>	<b>IES-3062GF-MM-SC</b>	<b>IES-3062FX-SS-SC</b>	<b>IES-3062GF-SS-SC</b>
Applicable Model	VX-2000 system, SX-2000 system					
Supply Voltage	12 – 45VDC, 2 redundant inputs, removable screw terminal					
Power Consumption (typ.)	5W	8W	9W	7W	9W	7W
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 (850nm, 50/125µm to 62.5/125µm)		Single-mode (1310nm (9/125µm))
Max. Cable Length	RJ45: 100m		RJ45: 100m, SC: 2km	RJ45: 100m, SC: 550m	RJ45: 100m, SC: 30km	RJ45: 100m, SC: 10km
Fault Output	NO contact, 24 VDC, 1 A, removable screw terminal					
Dimensions (W x H x D)	56 x 144.3 x 106.1 mm					
Weight	0.71 kg	0.722kg	0.735kg	0.74kg	0.735kg	0.74kg

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## VX-2000 Series / Audio Network Adapter / **NX-100S**

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NX-100S



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### 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: Half Width Blank Panel  
(installation of one unit)
- MB-15B-J: Rack Joint Bracket  
(installation of two units)

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### Specifications

	<b>NX-100S</b>
Applicable Model	VX-2000 system
Supply Voltage	24VDC
Current Consumption	200mA
Audio Input	Balanced, sensitivity -58/0dBV selectable
Audio Output	Balanced, 0dBV, min. 600Ω
Control Inputs	8 (12VDC, 10mA)
Control Outputs	8 (open collector, 30VDC, 50mA)
Network Connection	RJ45, 10BASE-T/100BASE-TX, automatic
Finish	Steel plate, painted black
Dimensions (W x H x D)	210 x 44.7 x 188mm (1/2 19", 1U)
Weight	1.2kg

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## VX-2000 Series/Emergency Remote Microphone/**RM-200XF**



RM-200XF



Alarm switch



Microphone



Function keys



### Features

- 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: Key Extension Unit
- RM-320F: Key Extension Unit
- WB-RM200: Wall Mounting Bracket

### Specifications

	<b>RM-200XF</b>
Applicable Model	VX-200XR in VX-2000, RM-210, RM-320F
Power Source	24VDC (operating range: 16 – 40VDC)
Current Consumption	Under 200mA (RM-200XF), 850mA (with 10 RM-210s connected)
Audio Output	0dBV, 600Ω, balanced
Hand-Held Microphone	Dynamic microphone, function switch (default: press-to-talk), microphone element fault detection
Frequency Response	200Hz – 15kHz
Signal-to-Noise Ratio	Over 55dB
Functions	Internal monitor speaker 200mW / 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. 500m (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	1.2kg

## VX-2000 Series/Remote Microphone/**RM-200X/ RM-210**



RM-200X



RM-210



### Features

- For emergency broadcast and general purpose broadcast applications
- Zone selection or all call
- 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 Key Extension Units can be used with each RM-200X Remote Microphone

### Options

- WB-RM200: Wall Mounting Bracket
- WH-4000A: Headset
- WH-4000H: Headset

### Specifications

	<b>RM-200X</b>	<b>RM-210</b>
Applicable Model	VX-200XR in VX-2000, RM-210	RM-200M, RM-200X, RM-200XF, RM-200SA, RM-200SF
Power Source	24VDC (operating range: 16 – 40VDC), supplied from RJ45 connector or power input jack (non-polarity type)	From remote microphone
Current Consumption	Under 200mA (RM-200X), 750mA (with 9 RM-210s connected)	75mA max. (in terms of DC power inputs of RM-200X)
Audio Output	0dBV, 600Ω, balanced, RJ45 connector	-
External Microphone Input	-40dBV, 2.2kΩ, unbalanced, mini jack, phantom powering	-
Frequency Response	100Hz – 20kHz	-
Distortion	Under 1%	-
Signal-to-Noise Ratio	Over 60dB	-
Internal Monitor Speaker	200mW	-
Volume Control	Microphone volume control, Monitor speaker volume control	-
Key Extension	Max. 9 RM-210	10 keys, freely assignable
Communication	System: LONWORKS twisted pair free topology transceiver, Distance: max. 500m (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)	
Dimensions (W x H x D)	190 x 76.5 x 215 mm (gooseneck microphone excluded)	110 x 76.5 x 215 mm
Weight	0.85 kg	0.35 kg

## VX-2000 Series/Modules for VX-2000

### VX-200XI

Audio Input Module



#### Features

- 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



#### Features

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

### M-01F

Microphone Input Module



#### Features

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

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

Module Input



#### Features

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

## Specifications

	VX-200XI	VX-200XR	M-01F	U-03R/U-03R/U01F/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 VDC, 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	70g		110g	Max. 75g

## VX-2000 Series/Modules for VX-2000SF

### VX-200SZ

Impedance Monitoring



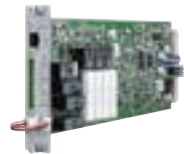
#### Features

- Impedance Detection Module for audio signal output
- Speaker line impedance detection
- Detection of speaker line short circuits, open circuits and ground fault



### VX-200SZ-2

Dual circuit  
Impedance Monitoring



#### Features

- Impedance Detection Module
- Similar to the VX-200SZ 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

Return Loop Monitoring



#### Features

- 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



### VX-200SP-2

End of Line Monitoring



#### Features

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



### VX-200SP-ANC

Return Loop Monitoring



#### Features

- Line surveillance by pilot tone with cable return
- Detection of speaker line short circuits, open circuits and ground fault
- Ambient noise controller for adjusting the output volume according to the ambient noise
- Additional audio input (Bal., -10/-20dBV, 10kΩ)
- Automatic switch-over to standby amplifier
- Attack time selectable (2sec, 10sec, 1min)



## Specifications

	VX-200SZ	VX-200SZ-2	VX-200SP	VX-200SP-2	VX-200SP-ANC
Power Source	Supplied from VX-2000SF				
Current Consumption	Under 150mA	Under 170mA	Under 100mA		Under 130mA
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	
External Attenuator	-			Plug-in screw connector, relay, no-voltage make contact output	
Control Output	Transfer type, withstand voltage: 30VDC, 250VAC, contact current: under 7A				
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				
Volume Control Range	-				21 dB
Finish	Panel: Surface-treated steel plate				
Dimensions (W x H x D)	30.5 x 132.6 x 290.3mm				
Weight	320g	335g	240g	260g (incl. end of line module)	520g



## VX-2000 Series/Modules

### VX-200SE

Equalizer Card



#### Features

- 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
- Gain range:  $\pm 12$  dB, adjustable in 2 dB steps
- Equalizer Centre Frequency: 80Hz, 125Hz, 250Hz, 500Hz, 1 kHz, 2kHz, 4 kHz, 8 kHz, 12 kHz



### VX-200SO

Control Output Module



#### Features

- 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

Control Input Module



#### Features

- 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



### VP-200VX

Power Amplifier Input Module



#### Features

- For VP-2000 Amps
- 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

Power Amplifier Input Module



#### Features

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



### EV-200M

Sound Repeater Module



#### Features

- 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

	VX-200SE	VX-200SO	VX-200SI	VP-200VX	VP-200VX-BGM	EV-200M
Power Source	Supplied from VX-2000SZ, VX-200SP	Supplied from VX-2000SF		Supplied from amplifier (VP-2064, VP-2122, VP-2241 or VP-2421)		24VDC
Current Consumption	Under 50mA	Under 150mA	Under 100mA	Under 30mA	Under 35mA	0.2A
Frequency Response	-			20Hz – 20kHz	20Hz – 20kHz (RJ45); 100Hz – 20kHz (program input)	20Hz – 20kHz (44.1 kHz sampling)
Control Output	-	16 outputs, no-voltage make contact, contact capacity: 28VDC, 1A, RJ45 connector	16 inputs, no-voltage make contact, open voltage: 24VDC, short circuit current: under 10mA, RJ45 connector	-		-
Finish	- Panel: Surface-treated steel plate					-
Dimensions (W x H x D)	110 x 90 x 21.4mm	30.5 x 132.6 x 290.3mm		88 x 25.8 x 53.2mm		120 x 18.6 x 121 mm
Weight	0.05 kg	0.25 kg	0.2kg	0.05kg	0.06kg	0.12kg

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## VX-2000 Series/**Accessories**

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### **DS-EC1**

Control Interface  
for VX-2000DS



#### Features

- Can disable the (AC/DC) power failure information to VM-3000, VX-2000 and SX-2000 by activating its control input DIS so that the VA system stays in normal mode even during battery backup
- The failure information is available at the separate control output EXT.F., so that the failure can be indicated by the function "external failure" via the failure receipt function
- Can be mounted on DIN-rails

---

### **ATT-100VI**

Attenuator Board



#### Features

- Designed to transform a 100 volt signal from a power amplifier's speaker output to line level
- The line level output is isolated from the 100 volt input and can be connected to line level inputs of power amplifiers and other devices
- Designed for an attenuation ratio of 100 : 1.26, then the output signal is 2 dB above 0 dBV, i.e. 1.26 volt
- Can be mounted on DIN rails

---

### **VX-RJB QJ**

RJ45 - Screw  
Terminal Adapter



#### Features

- Designed to make each pin of an RJ45-connector available on screw terminals for connecting installation cables with a cross section area from 0.5mm<sup>2</sup> up to 2.5mm<sup>2</sup>
- A separate terminal is provided for powering remote microphones from an external power source (VX-2000DS, VX-3000DS and VX-3150DS) instead of powering from the RJ45 connector
- The power from the external source is fused, interrupting the power when the current to the remote microphone exceeds 1.1A
- Can be mounted on DIN rails

---

### **RC-2144**

Modem



#### Features

- Modem for remote maintenance or transmission of alarm and system data
- Up and leased line capability
- Analog, on request: ISDN, DECT, GSM
- Can be mounted on DIN rails

---

### **RK-8VXA**

Relay Board



#### Features

- With low-drop voltage regulator to secure safe operation also during battery backup
- Provides a further fused 24VDC output for external equipment
- Overheat protection is provided
- Can be used for zone selection, control of external high current devices and other
- Can be mounted on DIN rails and can be cut at certain lines to obtain single devices.

---

### **SOB-1**

Switch-Over-Box



#### Features

- Can be used to switch over a local PA to a central PA system or to supply a line level signal into a local PA amplifier with priority
- 4 switch over contacts are available for priority control and switching over speakers
- Low impedance speaker can be connected to a 100 volts line via a build-in 5 watts transformer

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### **VSX-2000OP-SW**

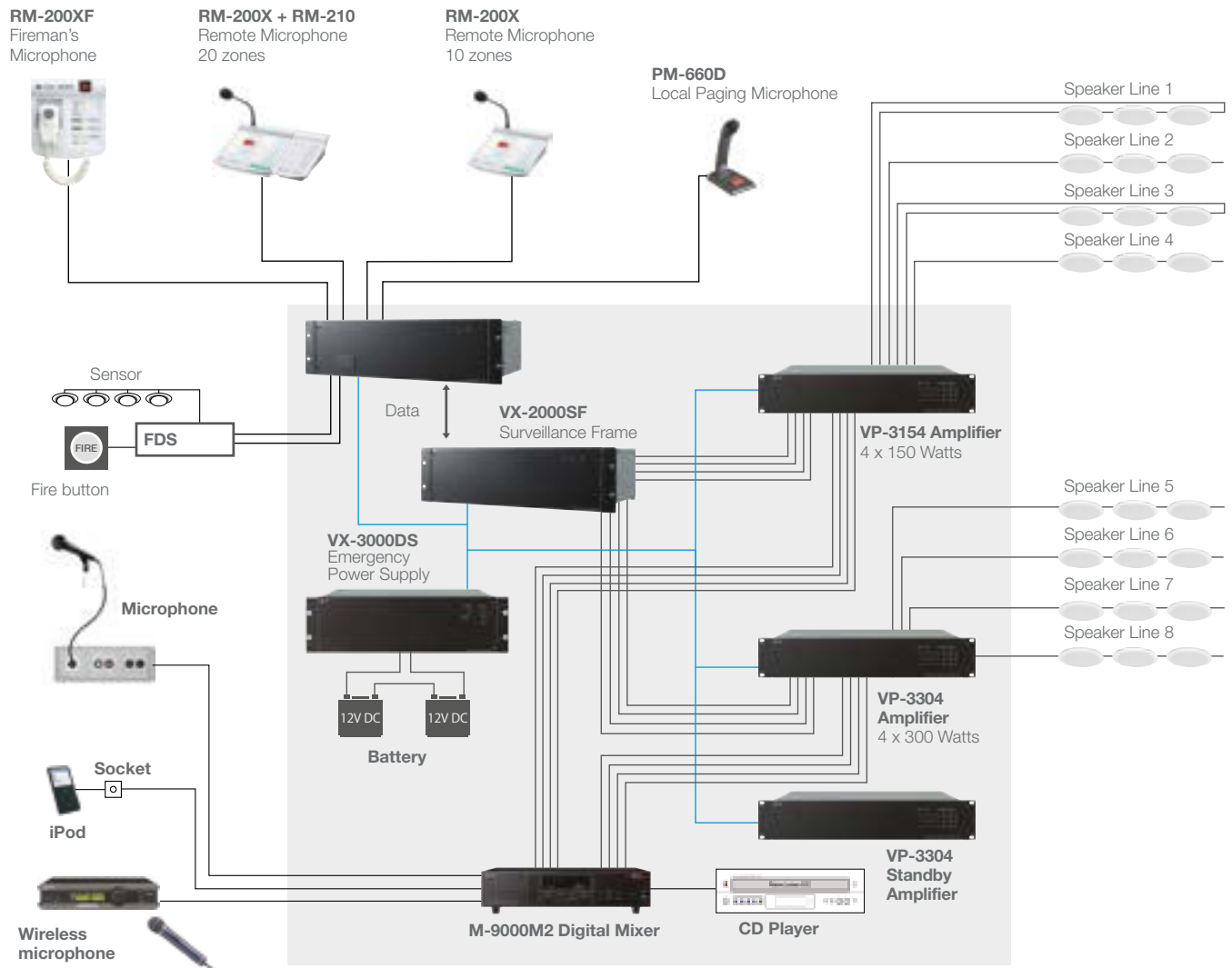
VX-SX Operation Software Kit



#### Features

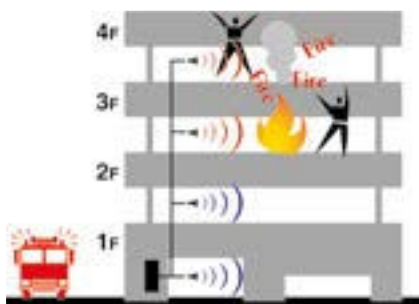
- Designed for operating the VX-2000 or SX-2000 system from PC via a graphical user interface (GUI)
  - Scheduling broadcasts for different events to a defined time
  - Visualizing the operational status of the connected system components, system mode and faults
  - Extracting and indicating the log entries online
  - Importing project designs from an image format and editing the layout according to the speaker and fire zones, remote microphones, contacts in/outputs
  - Broadcasting audio signal between the connected PCs running the software and sharing the same network (Internal Audio Streaming)
-

## VX-2000 Series / System Configuration



## 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 3<sup>rd</sup> and 4<sup>th</sup> floors.

### Blue

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

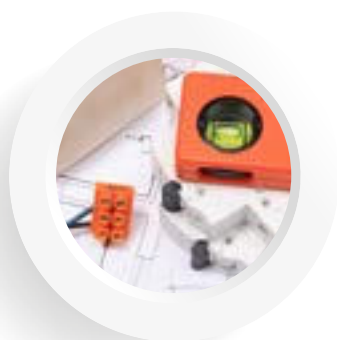
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## TOA SERVICES

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In order to achieve maximum security, it is not only necessary to configure systems optimally, but also to consider complementary topics such as acoustics or security concepts. Whether in our training center in Hamburg or in your own rooms we offer a successful combination of knowledge and practice in voice evacuation and acoustics. We regularly hold seminars and workshops for the entire spectrum of sound technology. But not enough – our services for you also include:

- Provision of technical documentation (drawings, manuals, specifications, etc.)
- Planning support
- Acoustic simulation and consulting
- Project-related product configuration
- Support during installation and commissioning
- Repairs and technical customer service



## SX-2000 Series

# Network enabled system ideal for installations in large building complexes.

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.



Certificate No: 1134-CPR-102

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

### 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
- Usable with Managed Ethernet Switches: IES-3000 Series (please see page 27)

### Applications

- Airports
- Railway stations
- Factories
- Shopping malls
- Large offices

## SX-2000 Series/System Manager/**SX-2000SM**



### Features

- 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
- VSX-2000OP-SW: VX-SX Operation Software Kit

### Specifications

	<b>SX-2000SM</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24VDC; 2 power inputs
Current Consumption	Under 0.8A
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	3.8kg

## SX-2000 Series / Audio Input Unit / **SX-2100AI**



### Features

- 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
- 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
- SX-200IP: IP Interface Module
- 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
- N-8610RM: IP Remote Microphone
- RM-200SF: Remote Microphone
- RM-200SA: Remote Microphone
- RM-210: Key Extension Unit
- RM-320F: Key Extension Unit

### Specifications

	<b>SX-2100AI</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24VDC (2 independent power inputs)
Current Consumption	Under 1.5A (when operated on 24VDC)
Audio Inputs	8 inputs, for up to 4 modules
Audio Input Characteristics	Sampling frequency: 48kHz
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 circuits CAT5-STP, maximum cable length 100m to hub
Finish	Panel: Aluminum, black, alumite / Case: Surface-treated steel plate
Dimensions (W x H x D)	482 x 88.4 x 349mm (19", 2U)
Weight	7kg

## SX-2000 Series / Input Modules for SX-2100AI

### SX-200RM

Remote Microphone Interface Module



#### Features

- Can be used to connect two remote microphones
- Input sensitivity can be adjusted
- 2 x RJ45 connector for remote microphones
- A/D Converter: 24 bits



### SX-200IP

IP Interface Module



#### Features

- RJ45 connectors
- Enable paging announcement from the N-8000 Series stations (N-8600MS and N-8610RM) to the SX-2000 System

### D-921E

Mic/Line Input Module (24 bits monaural type)



#### Features

- 2-channel microphone/line input module
- Equipped with removable terminal block type connectors

### D-921F

Mic/Line Input Module (24 bits monaural type)



#### Features

- 2-channel microphone/line input module
- Equipped with XLR connectors

### D-922E

Mic/Line Input Module (20 bits monaural type)



#### Features

- 2-channel microphone/line input module
- Equipped with removable terminal block type connectors

### D-922F

Mic/Line Input Module (20 bits monaural type)



#### Features

- 2-channel microphone/line input module
- Equipped with XLR connectors

### D-936R

Stereo Select Input Module



#### Features

- 4 stereo input module
- Equipped with standard RCA pin jacks

## Specifications

	SX-200RM	SX-200IP
Power Source	Supplied from SX-2100AI-	
Frequency Response	20Hz – 20kHz, ± 1 dB	Corresponding to the settings of N-8000
Sampling Frequency	48kHz	
Dynamic Range	> 100dB (IHF-A weighted)	-
Distortion	< 0.05%	-
Finish	Panel: Pre-coated steel plate, black, 30% gloss	
Network Section	-	Network I/F: 10BASE-T/100BASE-TX (Automatic-Negotiation) Network Protocol: TCP/IP, UDP, HTTP, RTP, ARP, ICMP, IGMP Voice sampling frequency: 16kHz, 8kHz (controllable on the software) Voice packet loss recovery: Silence insertion Audio delay time: 80ms, 320ms (controllable on the software)
Indicator	-	Operation indicator (RUN)
Dimensions (W x H x D)	35 x 119.5 x 178.4mm	
Weight	190g	150g



## SX-2000 Series / Audio Output Unit / **SX-2000AO**



### Features

- 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 100V
- DA-250FH: Digital 4 Channel Amplifier 100V
- DA-500FH: Digital 4 Channel Amplifier 100V
- DA-250D: Digital 2 Channel Amplifier 4/8Ω
- DA-250F: Digital 4 Channel Amplifier 4/8Ω
- DA-550F: Digital 4 Channel Amplifier 4/8Ω

### Specifications

	<b>SX-2000AO</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24 VDC (operating range: 20 – 40 VDC from VX-200PS)
Current Consumption	Under 0.79 A
Audio Output	8 outputs, 0 dBV, load: 600Ω 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-2000 Series / Audio Output Unit / **SX-2100AO**



### Features

- 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

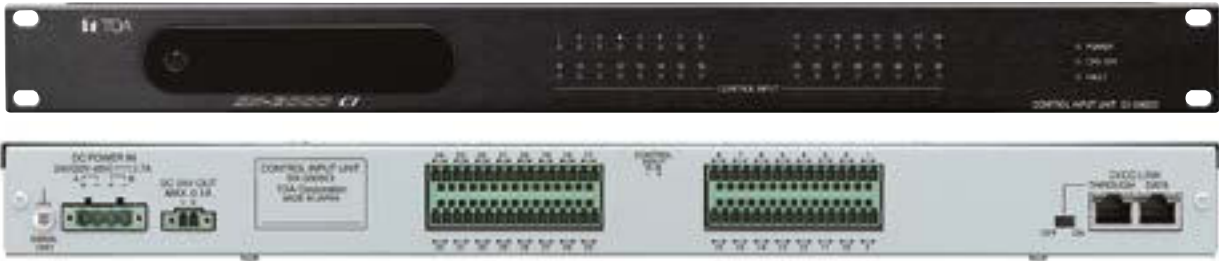
### Options

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

### Specifications

	<b>SX-2100AO</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24VDC (2 power inputs)
Current Consumption	Under 1.2A
Audio Output	8 outputs, 0dBV, load: 600Ω or more
Audio Output Characteristics	Frequency Response: 20Hz – 20kHz, sampling frequency 48kHz, 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, 0dBV, 10kΩ, electronically balanced, RJ45 connector Frequency Response: 20Hz – 20kHz, sampling frequency 48kHz, 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 349mm (19", 2U)
Weight	7.1 kg

SX-2000 Series/Control Input Unit/**SX-2000CI**



Features

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

Options

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

Specifications

	<b>SX-2000CI</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24VDC, 2 independent inputs
Current Consumption	Under 0.55A (when operated on 24VDC)
Control Inputs	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	24VDC $\pm$ 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	3.6kg

## SX-2000 Series/Control Output Unit/**SX-2000CO**



### Features

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

### Options

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

### Specifications

	<b>SX-2000CO</b>
Applicable Model	VX-2000DS, VX-3000DS, VX-3150DS
Power Source	24 VDC, 2 independent inputs
Current Consumption	Under 0.29 A (when operated on 24 VDC)
Control Outputs	32 outputs, max. 40 VDC, 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

SX-2000 Series/Emergency Remote Microphone & Terminal Unit/**RM-200SF / RM-200RJ**



RM-200SF



RM-200RJ



**RM-200SF**

- 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 Key Extension Units per Emergency Remote Microphone

**Options**

- RM-320F: Key Extension Unit
- RM-210: Key Extension Unit
- WB-RM200: Wall Mounting Bracket

**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**

	<b>RM-200SF</b>	<b>RM-200RJ</b>
Applicable Model	SX-200RM in SX-2100A, VX-3004F, VX-3008F, VX-3016F, RM-210, RM-320F	SX-2100AI, RM-200SA, RM-200SF
Power Source	24VDC (operating range: 15 – 40VDC)	-
Applied Voltage / Withstand Voltage	-	Under 40V / 1A
Distortion	Under 1%	-
Frequency Response	200Hz – 15kHz	-
Signal-to-Noise Ratio	Over 55dB	-
Audio Output	0dBV, 600Ω, balanced	-
Microphone	Unidirectional dynamic microphone AGC	-
Volume Control	Microphone, speaker	-
Key Extension	Max. 4 RM-320F	-
Voltage Indicator	-	Monitor terminals: terminal No 7 (+) and terminal No 8 (-), extinguish voltage: 14V or less, lighting voltage: 21V or more, indicator ON/OFF switchable
Connector / Terminal	-	RJ45 connector: 1 / M3 screw terminal (10 pins), distance between barriers: 6.62mm
Finish	ABS resin, bluish gray (PANTONE 538 or its equivalent)	Surface-treated steel plate, black, paint
Dimensions (W x H x D)	200 x 215 x 95mm	84 x 116 x 25.7mm
Weight	1.48kg	250g

## SX-2000 Series/Remote Microphone/**RM-200SA/RM-210**



RM-200SA/RM-210



### RM-200SA

- 13 function switches
- Zone, group, all-call paging, and activate prerecorded 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

### Options

- RM-210: Key Extension Unit
- WH-4000A: Headset
- WB-RM200: Wall Mounting Bracket

### Specifications

	<b>RM-200SA</b>	<b>RM-210</b>
Applicable Model	SX-200RM in SX-2100AI, RM-210	RM-200M, RM-200X, RM-200XF, RM-200SA, RM-200SF
Power Requirement	24VDC (operating range: 15 – 40VDC)	From remote microphone
Current Consumption	240mA max.	80mA max. (in terms of DC power inputs of RM-200SA)
Distortion	Under 1 %	-
Frequency Response	100Hz – 20kHz	-
Signal-to-Noise Ratio	Over 60dB	-
Audio Output	0dBV, 600Ω, balanced	-
Microphone	Unidirectional 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	-
Key Extension	Max. 4 RM-210	10 keys, freely assignable
Connection Cable and Connector	Category 5 STP cable, RJ45 connector; Cable length up to 800m	Connection by way of 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	880g	350g

## SX-2000 Series/IP Remote Microphone/**N-8610RM**



### Features

- 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 Key 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

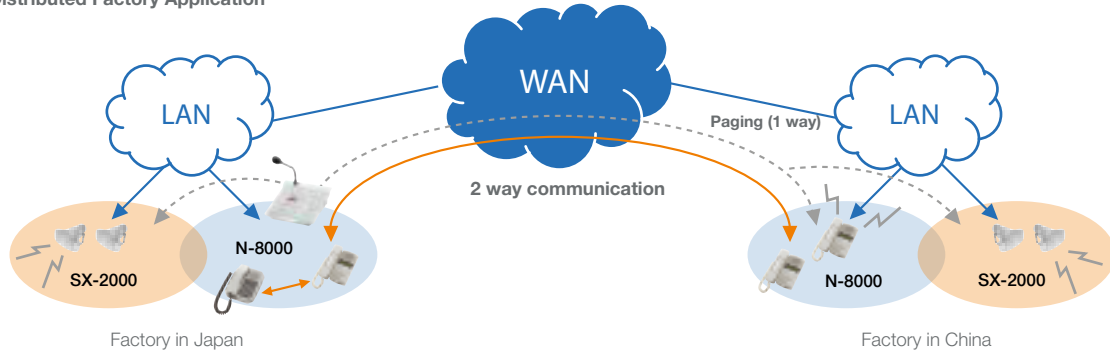
	<b>N-8610RM</b>
Applicable Model	SX-200IP in SX-2100AI
Power Source	Power supply device that complies with IEEE802.3af standard or 12VDC (supplied from the AC adapter (option))
Power Consumption	4 W (Use of the AC adapter, 12VDC), 8.5 W (when connecting 4 RM-210 Key Extension Units) 5.2 W (Use of the PoE, 48VDC), 7.5 W (when connecting 4 RM-210 Key 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	80ms, 320ms (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	0.7 kg

# SX-2000 Series / System Configuration

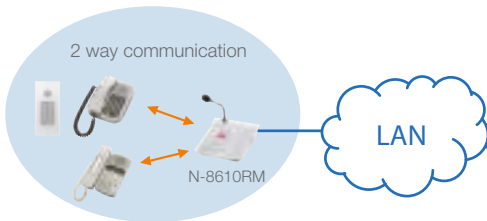
## Integration of SX-2000 with N-8000 IP Intercom strengthens system capabilities.

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

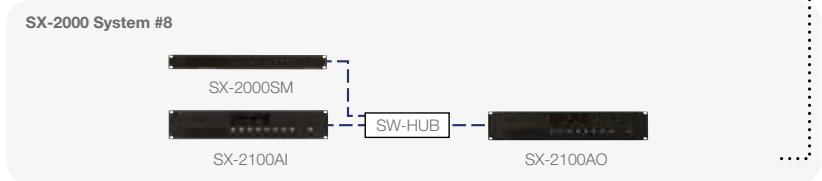
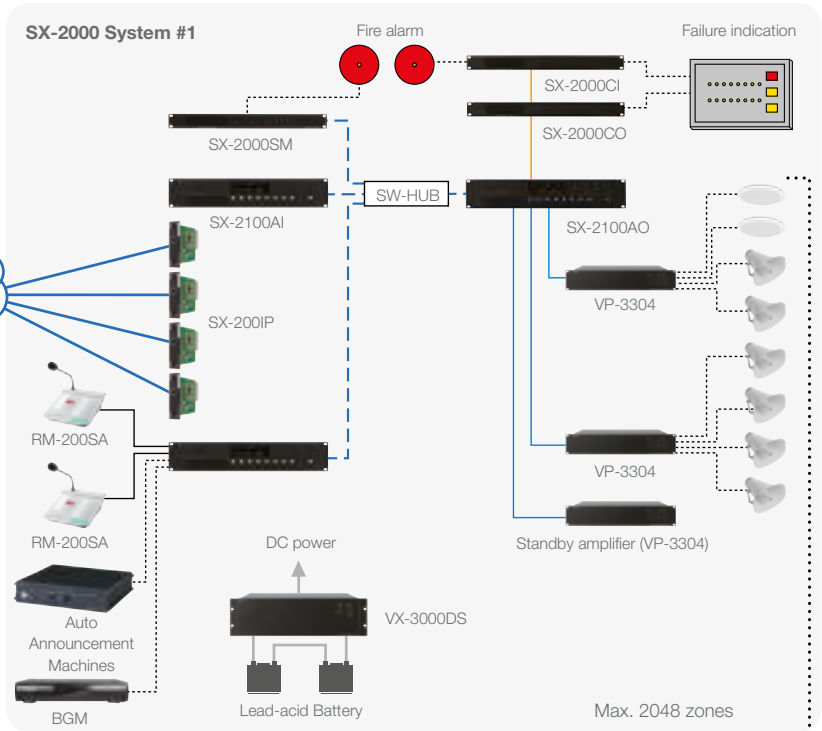
### Example: Distributed Factory Application



### N-8000 IP Intercom System



- LAN
  - - - SX LINK\* (100Base/T)
  - RM LINK (DC power, Audio, Data)
  - PA LINK (Audio, Data)
  - CI/CO Link
- \* Make the SX Link terminals completely independent from other LAN.





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## EN 54 Certified Speakers

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# Extensive range of certified speakers for a big variety of applications.

In many buildings a voice evacuation system according to EN54 is mandatory. For this purpose our certified speakers shall be used. All speakers marked with the below icons passed comprehensive tests resulting in a certificate of an independent notified testing institution.

Our extensive range of certified speakers include:

- Ceiling Speakers
- Box Speakers
- Horn Speakers
- Projection Speakers
- Design Speakers
- Compact Array Speakers



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



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



This icon indicates that the speaker complies by the Ingress Protection standard (IP). These icons will help show how the speaker can perform within different types of weather conditions.

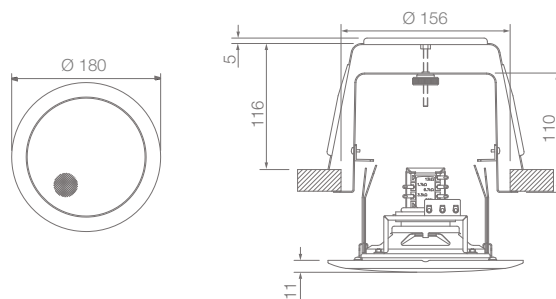


This icon indicates that ease data is available for this speaker.

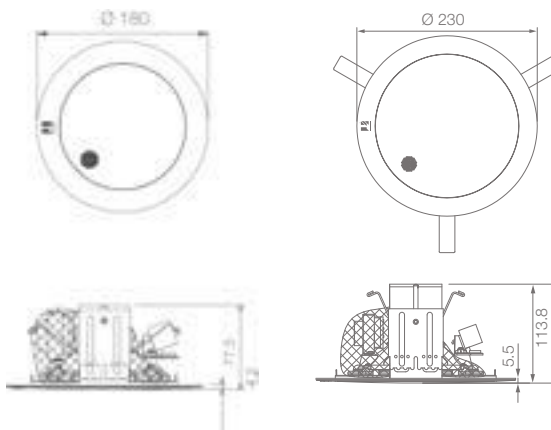
EN 54 Certified Speakers/Ceiling Speakers/**PC-1867FC/PC-1869EN /PC-2369EN**



PC-1867FC



PC-1869EN/PC-2369EN



PC-1869EN

PC-2369EN



**PC-1867FC**

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

**PC-1869EN/PC-2369EN**

- Flat front panel
- Quick and easy installation
- For mounting in 77,5mm depth (PC-1869EN) or 114mm depth (PC-2369EN)
- Ceramic screw terminal block and thermal fuse

**Applications**

- Public buildings
- Supermarkets
- Office towers
- Hotels
- Health clubs

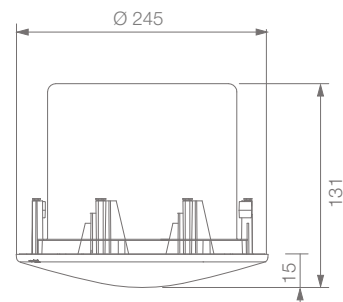
**Specifications**

	<b>PC-1867FC</b>	<b>PC-1869EN</b>	<b>PC-2369EN</b>
Rated Input		6W (100V), 3W (70V)	
Tappings		6 / 3 / 1.5 / 0.8W (100V), 3 / 1.5 / 0.8 / 0.4W (70V)	
Sensitivity (1W, 1m)	90dB		94dB
Frequency Response	160Hz – 13kHz	100Hz – 18kHz	70Hz – 18kHz
Mounting Hole Diameter	156 mm ±3mm	150 mm ±3mm	200 mm ±3mm
Speaker Component		5" cone-type	
Connection		Ceramic screw terminals, thermal fuse	
Colour		Traffic white (RAL 9016 or equivalent colour)	
Dimensions (ø x D)	180 x 121 mm	180 x 77.5mm	230 x 113.8mm
Weight	1.4 kg	0.82 kg	1.1 kg

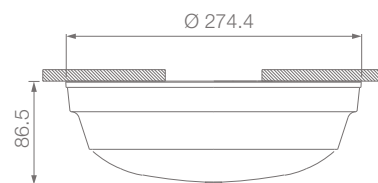
EN 54 Certified Speakers/Ceiling Speakers/**PC-245AB-EB**/**PC-275AB-EB**



PC-245AB-EB



PC-275AB-EB



**PC-245AB-EB**

- A/B wiring
- Firedome prevents passing the flames into the ceiling
- 2 separate 100V transformer and 2 x 6W speaker
- Easy installation

**PC-275AB-EB**

- A/B wiring
- Only 86mm depth
- 2 separate 100V transformer and 2 x 6W speaker
- Quick-mount

**Applications**

- Public buildings
- Traffic terminals
- Supermarkets
- Office towers
- Hotels
- Health clubs

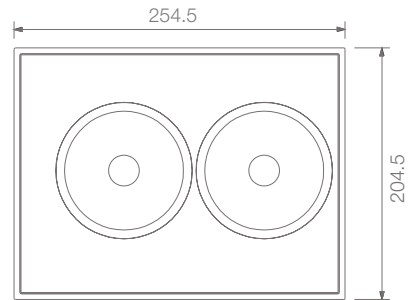
**Specifications**

	<b>PC-245AB-EB</b>	<b>PC-275AB-EB</b>
Rated Input		2 x 6W (100V)
Tappings		6 / 3 / 1.5W (100V)
Sensitivity (1W, 1m)	91 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 mm	Depending on back box
Speaker Component	2x5" full range dual cone (A/B 2-lines)	2 x 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 (ø x D)	245 x 131 mm	274.4 x 86.5 mm
Weight	2.05 kg	1.49 kg

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## EN 54 Certified Speakers/Box Speakers/ **BS-250AB-EB**

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### BS-250AB-EB

- A/B wiring
- For indoor applications
- 2 separate 100V transformer and 2 x 6W speaker
- Wide temperature range of -10°C to +55°C
- Fire resistant according to UL 94-V0

### Applications

- Public buildings
  - Traffic terminals
  - Supermarkets
  - Office towers
  - Hotels
  - Health clubs
- 

### Specifications

	<b>BS-250AB-EB</b>
Rated Input	2 x 6W (100V Line)
Tappings	2 x 6 / 3 / 1.5W (100V), 2 x 3 / 1.5 / 0.8W (70V)
Sensitivity (1 W, 1 m)	89dB
Frequency Response	150Hz – 20kHz
Mounting Hole Diameter	220 mm
Speaker Component	2 x 4" full range dual cone (A/B 2-lines)
Connection	Ceramic screw terminals, thermal fuse
Colour	Off-white (RAL 9010 or equivalent colour)
Dimensions (W x H x D)	254.5 x 204.5 x 87.5 mm
Weight	1.75 kg

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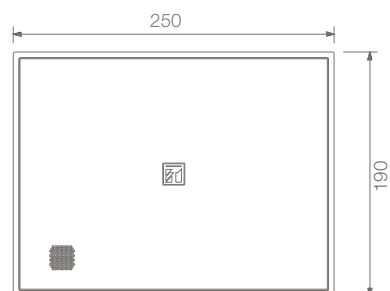
## EN 54 Certified Speakers/Box Speakers/ **BS-678BSB** / **BS-678BSW**



BS-678BSB



BS-678BSW



### Features

- Stylish, compact and unobtrusive design
- Quick and easy wall-mount installation
- Cost-effective
- Horizontal and vertical mounting
- Easy impedance selection
- Bridge wiring possible

### Applications

- Universal use – especially if a future expansion of the system is expected

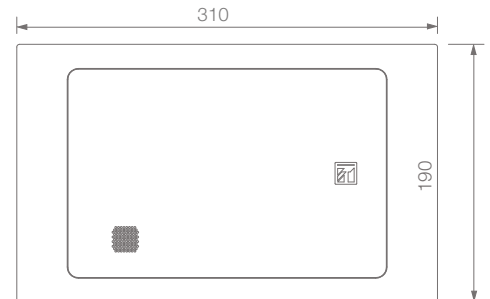
### Specifications

	<b>BS-678BSB</b>	<b>BS-678BSW</b>
Rated Input		6W (100V)
Tappings		6 / 3 / 1.5 / 0.8W (100V), 3 / 1.5 / 0.8 / 0.4W (70V)
Sensitivity (1W, 1 m)		94 dB
Frequency Response		150 Hz – 18 kHz
Speaker Component		6" cone-type
Connection		Ceramic screw terminals, thermal fuse
Colour	Black (RAL 9011 or equivalent colour)	White (RAL 9010 or equivalent colour)
Dimensions (W x H x D)		250 x 190 x 110 mm
Weight		1.7 kg

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## EN 54 Certified Speakers/Box Speakers/ **BS-680FC**

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### Features

- Surface or flush-mounting
- High sound quality & sound pressure
- Bridge wiring possible

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### Applications

- Universal use – especially if a future expansion of the system is expected

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### Specifications

	<b>BS-680FC</b>
Rated Input	6W (100V), 3W (70V)
Tappings	6 / 3 / 1.5 / 0.8W (100V), 3 / 1.5 / 0.8 / 0.4W (70V)
Sensitivity (1 W, 1 m)	94 dB
Frequency Response	150 Hz – 20 kHz
Speaker Component	6" double cone-type
Connection	Ceramic screw terminals, thermal fuse
Colour	Off-white (RAL 9010 or equivalent colour)
Dimensions (W x H x D)	310 x 190 x 90 mm
Weight	2.6 kg

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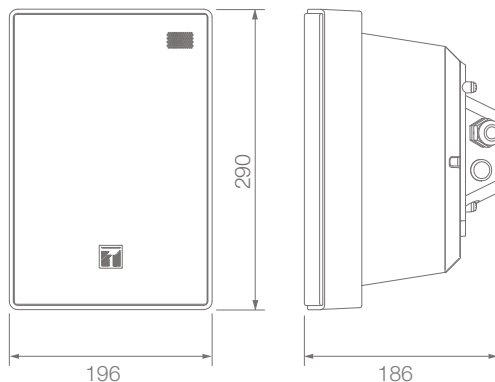
EN 54 Certified Speakers/Box Speakers/ **BS-1015BSB/BS-1015BSW/BS-1034EN**



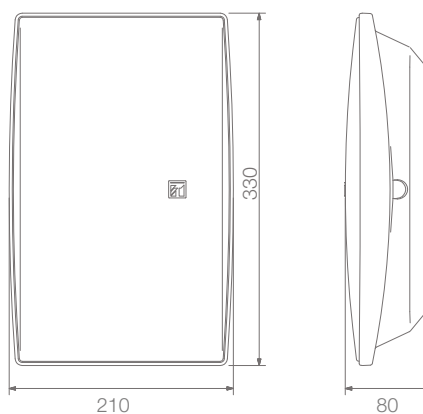
BS-1015BSB



BS-1015BSW



BS-1034EN



**BS-1015BSB/BS-1015BSW**

- 2-way hi-fi speaker
- Easy and quick installation
- Fits architecturally sophisticated environments
- Options:  
SP-410: Wall/Ceiling Mounting Bracket, SP-420: Flush Mounting Frame, ST-16A: Speaker Stand

**BS-1034EN**

- Easy and quick installation
- Attractive design based on the Golden Ratio
- Input impedance selector with rotary switch
- Fire resistant according to UL 94-V0
- Fits architecturally sophisticated environments

**Applications**

- Public buildings
- Traffic terminals
- Supermarkets
- Office towers
- Hotels
- Health clubs

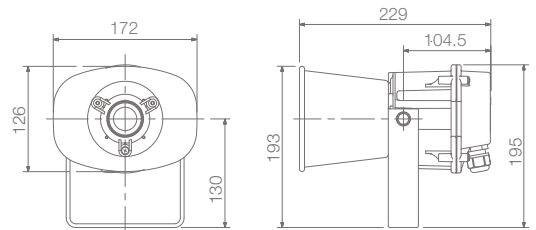
**Specifications**

	<b>BS-1015BSB</b>	<b>BS-1015BSW</b>	<b>BS-1034EN</b>
Rated Input	15W (100V), 7.5W (70V)		10W (100V), 10W (70V)
Tappings	15 / 10 / 5W (100V), 7.5 / 5 / 2.5W (70V)		10 / 5 / 3 / 1W (100V), 10 / 5 / 2.5 / 1.5 / 0.5W (70V)
Sensitivity (1W, 1m)	90dB		89dB
Frequency Response	80Hz – 20kHz		120Hz – 20kHz
Speaker Component	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	Black (RAL 9011 or equivalent colour)		White (RAL 9010 or equivalent colour)
Dimensions (W x H x D)	196 x 290 x 186mm		210 x 330 x 80mm
Weight	2.4kg		1.4kg

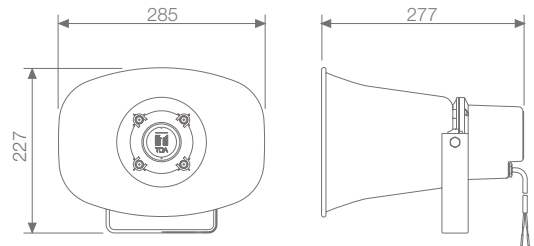
EN 54 Certified Speakers/Horn Speakers/**SC-615BS/SC-630M EB-Q**



SC-615BS



SC-630M EB-Q



SC-615BS

- All weather durability
- Very rugged and durable construction ensures long term reliable operation
- Excellent speech clarity
- High SPL
- Wide frequency response
- Easy impedance selection

SC-630M EB-Q

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

Applications

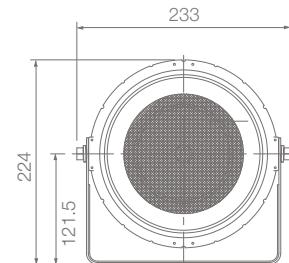
- Factory premises
- Ships
- Park houses
- Stations
- Stadiums
- Open air pools

Specifications

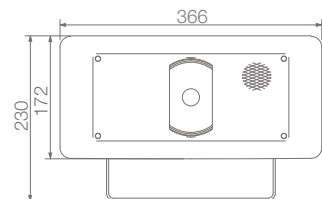
	SC-615BS	SC-630M EB-Q
Rated Input	15W (100V)	30W (100V)
Tappings	15 / 10 / 5 / 3W (100V), 15 / 7.5 / 5 / 2.5 / 1.5W (70V)	30 / 15 / 10 / 5W (100V), 30 / 15 / 7.5 / 5 / 2.5W (70V)
Sensitivity (1 W, 1 m)	109dB	113dB
Frequency Response	315Hz – 12.5kHz	250Hz – 10kHz
Connection	Ceramic screw terminals, thermal 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 x 195 x 229mm	285 x 227 x 277mm
Weight	1.5kg	2kg



EN 54 Certified Speakers/Horn Speakers/**CS-64BS/CS-154BS**



CS-64BS



CS-154BS



CS-64BS

- Round projection speaker for outdoor use
- Lightweight and rugged construction
- Exponential horn for improved directivity
- High SPL
- Complete with stainless steel bracket

CS-154BS

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

Applications

- Plants
- Park houses
- Stations
- Stadiums
- Swimming pools
- Outdoor areas

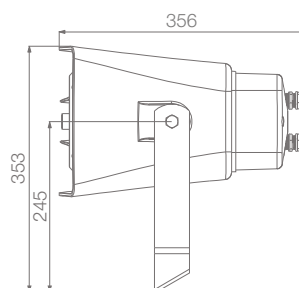
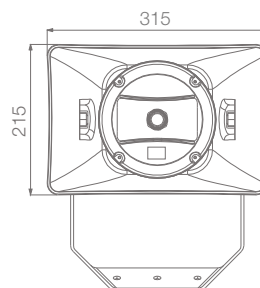
Specifications

	CS-64BS	CS-154BS
Rated Input	6W (100V)	15W (100V)
Tappings	6 / 3 / 1W (100V), 6 / 3 / 1.5 / 0.5W (70V)	15 / 10 / 5W (100V), 15 / 7.5 / 5 / 2.5W (70V)
Sensitivity (1W, 1m)	96dB	97dB
Frequency Response	130Hz – 13kHz	150Hz – 15kHz
Connection	Ceramic screw terminals, thermal fuse	
Colour	Horn, cover: off-white / Punched net: dark-grey	
Dimensions (W x H x D)	233 x 224 x 249mm	366 x 230 x 310mm
Weight	1.7kg	3kg

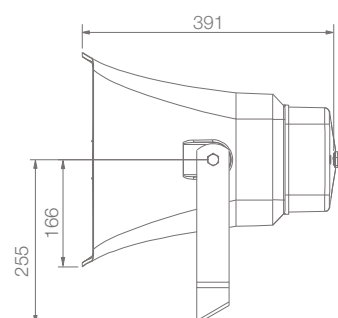
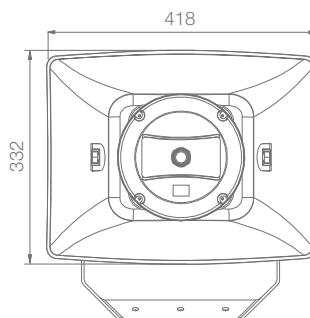
EN 54 Certified Speakers/Music Horn Speakers/**CS-530BS-EB**/**CS-660BS-EB**



CS-530BS-EB



CS-660BS-EB



CS-530BS-EB / CS-660BS-EB

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

Applications

- Parking spaces
- Railway stations
- Outdoor playgrounds
- Sports fields

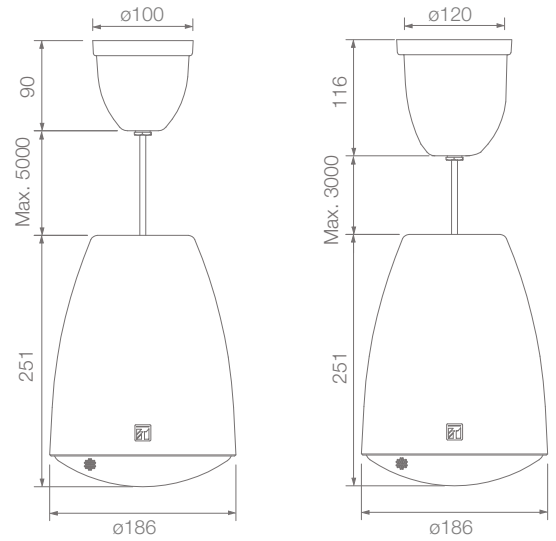
Specifications

	CS-530BS-EB	CS-660BS-EB
Rated Input	30W (100V)	60W (100V)
Tappings	30 / 15 / 7.5 / 3.75W (100V)	60 / 30 / 15 / 7.5W (100V)
Sensitivity (1W, 1m)	96dB	97dB
Frequency Response	120Hz – 20kHz	100Hz – 20kHz
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 x 215 x 356mm	418 x 332 x 391mm
Weight	4.7kg	7.1kg

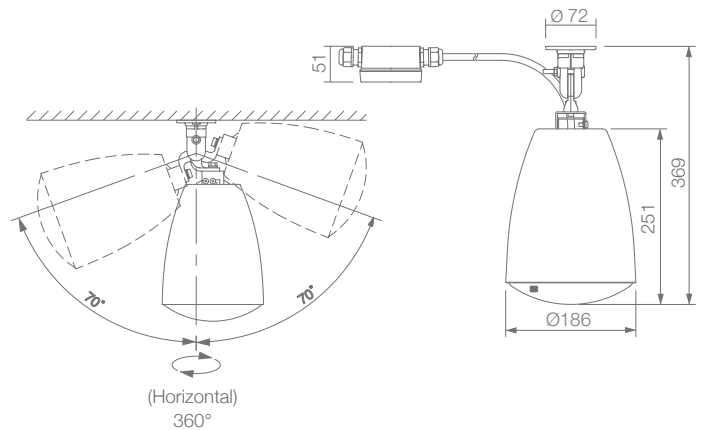
## EN 54 Certified Projection Speakers / PE-154EN/PE-154EN-BK Q/PE-154BS/PJ-154BS



PE-154EN-BK Q/PE-154EN/PE-154BS



PJ-154BS



### PE-154EN/ PE-154EN-BK Q/PE-154BS

- Special design to blend with lighting equipment
- Rugged HIPS resin enclosure
- Excellent sound quality
- 5 m cable (PE-154EN) or 3 m fire resistant cable (PE-154BS)
- PE-154BS according british standard

### PJ-154BS

- Wide range frequency response
- Complete with mounting bracket for easy installation
- Supplied swivel bracket allows flexible speaker angle adjustment

### Applications

- Supermarkets
- Shopping malls
- Restaurants & bars
- Public buildings & schools

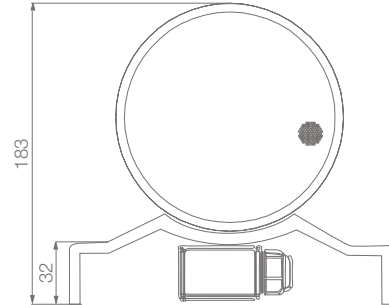
### Specifications

	PE-154EN-BK Q	PE-154EN	PE-154BS	PJ-154BS
Rated Input			15W (100V)	
Tappings		15 / 10 / 5W (100V), 7.5 / 5 / 2.5W (70V)		
Sensitivity (1W, 1 m)			91 dB	
Frequency Response			70Hz – 20kHz	
Speaker Component			Low: 5" cone-type, High: 1" balanced dome tweeter	
Connection		Ceramic screw terminals, thermal fuse		Ceramic screw terminals, thermal fuse, external connection box, 5-wire BS-compliant
Colour	RAL 9011		Off-white (RAL 9010 or equivalent colour)	
Dimensions (W x H)			186 x 251 mm	
Weight		2.1 kg	2.33 kg	2.1 kg

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## EN 54 Certified Speakers/Projection Speakers/**PJ-202DL-EB**

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### PJ-202DL-EB

- Bi-directional
  - 2 x 5" cone speaker + HC
  - Ceramic screw terminal
  - Rugged bracket included
  - Extreme wide temperature range: -25°C to +70°C
- 

### Applications

- Parking spaces
  - Railway stations
  - Outdoor playgrounds
  - Sports fields
- 

### Specifications

	<b>PJ-202DL-EB</b>
Rated Input	20W (100V)
Tappings	20 / 10 / 5W (100V), 10 / 5 / 2.5W (70V)
Sensitivity	76dB (1W, 4m, 100Hz – 10kHz pink noise, 2 speaker), 88dB (1W, 1m, 100Hz – 10kHz pink noise, 2 speaker)
Frequency Response	120Hz – 20kHz
Speaker Component	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 (ø x D)	146 x 186mm
Weight	3.2kg

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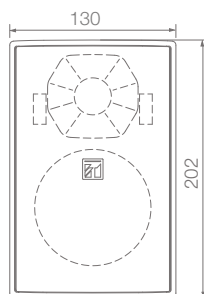
## EN 54 Certified Speakers/Design Speakers/**F-1000/F-1300/F-2000**



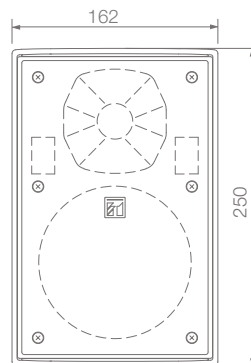
F-1000BTWP EB-Q



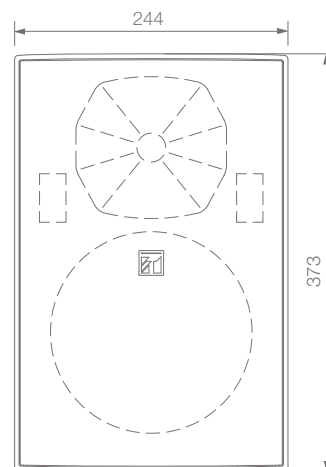
F-1000WTWP EB-Q



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



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



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



### Features

- 15W, 30W or 60W / 4", 5" or 6"
- 3 different versions available: Low impedance, high impedance and weatherproof version
- 2-way speaker with high quality 10 cm woofer and balanced dome tweeter
- Octagonal horn for clear, wide-area sound coverage
- Great variety of brackets available
- Easy impedance selection by rotary switch
- Built-in speaker protection for low impedance models

### Options

- Matching Subwoofers: HB1/FB-120B/FB-120W
- HY-CL10B: Cluster Bracket, black
- HY-CL10W: Cluster Bracket, white
- HY-CM10B: Wall / Ceiling Bracket, black
- HY-CM10W: Wall / Ceiling Bracket, white
- HY-CL20B: Cluster Bracket, black
- HY-CL20W: Cluster Bracket, white
- HY-CM20B: Wall / Ceiling Bracket, black
- HY-CM20W: Wall / Ceiling Bracket, white
- ST-16A: Speaker Stand

### Applications

- Supermarkets
- Shopping malls
- Restaurants & bars
- Public buildings & schools

### Specifications

	<b>F-1000BTWP EB-Q/ F-1000WTWP EB-Q</b>	<b>F-1300BTWP EB-Q/ F-1300WTWP EB-Q</b>	<b>F-2000BTWP EB-Q / F-2000WTWP EB-Q</b>
Rated Input	15W (100V)	30W (100V)	60W (100V)
Tappings	15 / 5 / 3 / 1W (100V), 15 / 7.5 / 2.5 / 1.5 / 0.5W (70V)	30 / 10 / 3 / 1W (100V), 30 / 15 / 5 / 1.5 / 0.5W (70V)	60 / 30 / 15 / 5 / 3W (100V), 15 / 7.5 / 2.5 / 1.5 W (70V)
Sensitivity (1 W, 1 m)	87dB	90dB	92dB
Frequency Response	85Hz – 20kHz	80Hz – 20kHz	65 Hz – 20kHz
Speaker Component	Low: 10 cm cone-type High: 2.5 cm balanced dome-type	Low: 13 cm cone-type High: 2.5 cm balanced dome-type	Low: 20 cm cone-type High: 2.5 cm balanced dome-type
Connection	Screw terminals		
Finish	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	2kg	3.6kg	7.4kg

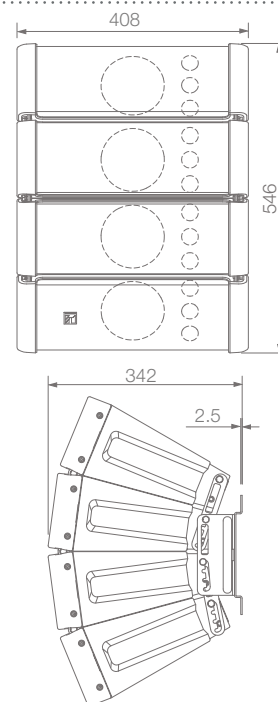
## EN 54 Certified Speakers/Variable Array Speakers/**HX-5B-WP EB-Q/HX-5W-WP EB-Q**



HX-5B-WP EB-Q



HX-5W-WP EB-Q



### Features

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

### Options

- MT-200: Matching Transformer (Tappings: 60 / 120 / 200W)
- Hy-PF1B/HY-PF1W: Rigging Frame
- HY-PF1WP: Rigging Frame, outdoor use
- HY-CW1B/HY-CW1W: Ceiling Mounting Bracket
- HY-CW1WP: Ceiling Mounting Bracket, outdoor use
- HY-WM1B/HY-WM1W: Wall Mounting Bracket
- HY-WM1WP: Wall Mounting Bracket, outdoor use
- HY-WM2B/HY-WM2W: Wall Mounting Bracket
- HY-WM2WP: Wall Mounting Bracket, outdoor use
- HY-CN1B/HY-CN1W: Extension Bracket
- HY-CN1BWP/HY-CN1WWP: Extension Bracket, outdoor use
- HY-ST1: Speaker Stand Adapter

### Applications

- Auditoriums
- Houses of worship
- Banquet halls
- Community centres
- Sport bars
- Shopping malls
- Boardrooms
- Gyms & health clubs
- Exhibition halls
- Train stations

### Specifications

	<b>HX-5B-WP EB-Q / HX-5W-WP EB-Q</b>
Power Handling Capacity	Continuous pink noise: 200W, Program: 600W
Rated Impedance	8 Ω
Sensitivity (1 W, 1 m)	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 or white
Dimensions (W x H x D)	408 x 546 x 342 mm
Weight	16 kg

## Variable Arrays/HX-7 Series/**HX-7B-WPEN/HX-7W-WPEN**



HX-7B-WPEN



HX-7W-WPEN



### Features

- High power handling
- Speaker design consists of four integrated modules that can be adjusted individually to optimize the vertical dispersion angle
- Built-in isophasic wavefront control horn with compression driver ensures precise HF control and superior reproduction of HF sounds
- 0° mode facilitates the most effective line array set-up
- Easily adjustable vertical dispersion angle

### Options

- FB-150B/FB-150W: Subwoofer
- Mounting options and accessories from page 64

### Applications

- Stadiums/arenas
- Houses of worship
- Theatres
- Indoor sports facilities
- Auditoriums

### Specifications

	<b>HX-7B-WPEN / HX-7W-WPEN</b>
Enclosure	Sealed type
Power Handling Capacity	Continuous pink noise: 250W (IEC60268-5: 350W) / Continuous program: 750W
Rated Impedance	8Ω
Sensitivity (1W, 1m)	100dB
Frequency Response	105Hz – 20kHz
Crossover Frequency	1.7kHz
Directivity Angle	Horizontal: 100°, Vertical: Depending on directivity angle mode
Speaker Component	Low frequency: 13cm cone-type x 8 High frequency: Wave front control horn with compression driver x 4
Input Terminal	M4 screw terminal, distance between barriers: 9mm (0.35")
Water Protection	IPX4 (Install with every speaker module tilted downward from the horizontal.)
Finish	Enclosure: Polypropylene, black or white (HX-7B/W-WPEN), Punched net: Surface-treated steel plate, black & white (HX-7B/W-WP), rust proof coating
Dimensions (W x H x D)	497 x 664 x 274 mm
Weight	30kg

## Variable Arrays/HX-7 Series/**Mounting Options**

### HY-CN7W / HY-CN7W-WP / HY-CN7B / HY-CN7B-WP

Two speakers connected



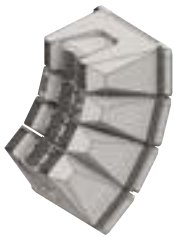
### HY-WM7W / HY-WM7B

On the wall



### HY-60DW / HY-60DW-WP / HY-60DB / HY-60DB-WP

Dispersion angle 60 degrees



### HY-TM7W-WP / HY-TM7B-WP

On building structures



### HY-PF7W / HY-PF7B

Hanging vertically with subwoofer



### HY-MS7W-WP / HY-MS7B-WP

Wall mounting outdoors



### HY-VM7W / HY-VM7B

On the ceiling



### HY-ST7

On the stand



b = black speaker  
w = white speaker



## Line Arrays/Type S/**SR-S4L EB-Q**/**SR-S4S EB-Q**



SR-S4L EB-Q



SR-S4S EB-Q



### Features

- 2-way line array speaker with 8 x 10 cm (4") woofers and 24 high-frequency drivers, installed vertically
- Sync-Drive technology creates ideal linear sound source
- Clear sound with reduced attenuation over distance
- Speakers are reflection-free and feedback resistant
- Bi-amp or single amp drive possible
- Wide variety of mounting brackets available

### Options

- MT-S0601: Matching Transformer for high-impedance operation
- SR-FB4: Flying Bracket
- SR-EP4 / SR-EP4WP: Extension Plate
- SR-WB4 / SR-WB4WP: Wall Mounting Bracket
- SR-TB4WP / SR-TB4: Wall Tilt Bracket
- SR-SA4: Stand Adapter
- SR-PP4: Protection Pad

### Applications

- Houses of worship
- Exhibition halls
- Multipurpose halls
- Gymnasiums & other sport facilities

### Specifications

	SR-S4L EB-Q	SR-S4S EB-Q
Power Handling Capacity	Continuous program: 600W	
Rated Impedance	8 Ω	
Sensitivity (1 W, 1 m)	94 dB	93 dB
Frequency Response	70 Hz – 20kHz	
Crossover Frequency	3.5kHz	
Directivity Angle	Horizontal: 90°, Vertical: 0° (within the range of speaker height)	Horizontal: 90°, Vertical: 10°
Speaker Component	Low frequency: 10cm cone-type x 8, High frequency: 2.5cm balanced dome-type x 24	
Input Connector	-	
Connected Cable	Direct cable withdrawal from internal speaker: ø8.6mm, conductor cross section: 1.25 mm <sup>2</sup> , 4-core cable, 3m	
Water Protection	IPX4	
Finish	Enclosure: Plywood, white, urethane coating Front grill: Punched stainless steel (SUS304), white, paint	
Dimensions (W x H x D)	160 x 895 x 255 mm	160 x 892 x 303 mm
Weight	16kg	

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## Certification according to EN 54

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Fire Evacuation strategies can be improved with the integration of fire alarm system (FAS) and voice alarm system (VAS). The combination of FAS and VAS for alerting and evacuation enables targeted communication in the event of Fire - the resulting reduction in response time can be decisive in an emergency.

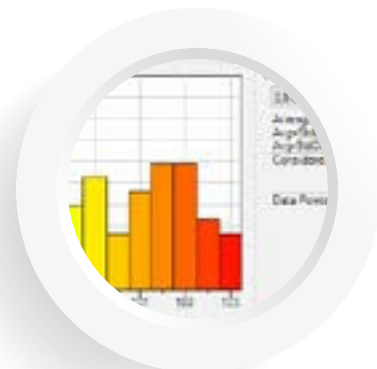
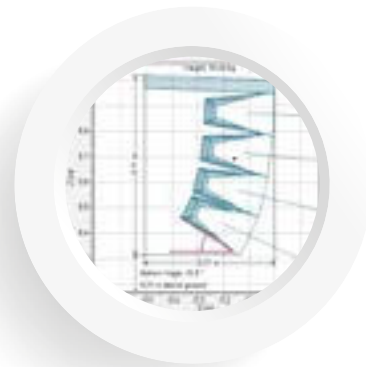
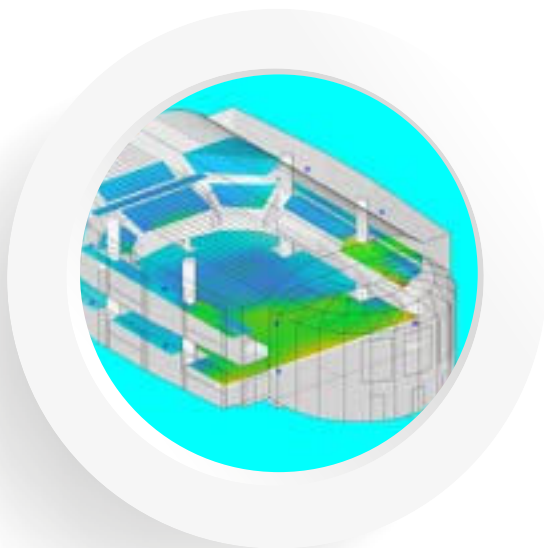
In this sensitive area, the legislator sets requirements by which the greatest possible safety is to be achieved. It thus starts at the planning stage and has also comprehensively regulated project planning, installation, maintenance and operation. An essential part of these requirements concerns the technical components of the FAS and VAS. VDE 0833-4, for example, stipulates that a voice alarm system must be planned and installed with certified products that comply with DIN EN54 regulations. (DIN EN54-4 power supplies, EN54-16 central technology, EN54-24 loudspeakers)

### Why EN 54 certification?

By choosing certified products, you are actively opting for safety - both in the planning and commissioning of your VAS and in the day-to-day operation and in the event of an emergency.

### What does TOA offer?

With TOA you have the choice between different fully EN54-certified voice alarm systems, which are optimized according to your project and your application. TOA's VAS combine maximum safety with uncomplicated handling through fully automatic operation in emergencies. In cooperation with your specialist planner, we support you in the planning phase with room acoustic simulations - full modelling of difficult environments - and the specification of the end users requirements, Take us at our word.



## Racks & Accessories/CR-SR Series





- Available in 3 versions
- Delivery completely mounted (optional)
- 2 mm steel plate
- Cable inserts at top and bottom
- Holes for floor fixation
- Suitable cage nut:  
Typ W (1.8 – 2.6 mm)
- Colour: black (RAL 7021)



	Article number	Dimensions W x H x D in mm	Weight in kg	
 <p>CR-SR840 + CR-ISA</p>  <p>CR-SR821 + CRPT821</p>	<b>Rack with rotatable frame, 40 units</b>	CR-SR840	800 x 1968 x 600	approx. 120
	<b>Rack with rotatable frame, 30 units</b>	CR-SR830	800 x 1523 x 600	95
	<b>Rack with rotatable frame, 21 units</b>	CR-SR821	800 x 1123 x 600	approx. 80
	<b>Plexiglasdoor for CR-SR840, 40 units</b>	CR-PT840	800 x 1968 x 85	14
	<b>Plexiglasdoor for CR-SR 830, 30 units</b>	CR-PT830	800 x 1523 x 85	11
	<b>Plexiglasdoor for CR-SR821, 21 units</b>	CR-PT821	88 x 1123 x 85	8
	<b>Roof fan set completely assembled with thermostat</b>	CR-DL2SET	310 x 116* x 280	approx. 3
	<b>Internal cabinet equipment with cable channel</b>	CR-ISA	–	2–4
	<b>Equipotential bonding rail</b>	CR-PA	–	1,2
	<b>Cable flat plate for cables</b>	CR-KFP	335 x 20 x 92	approx. 0,4
<b>Heavy rail, 1 pair (right and left)</b>	CR-SL2	265 x 85 x 85	approx. 0,7	

\* the rack cabinet is increased by this amount





## Racks & Accessories/CR and CR-SR Series

		Article number
	Tray shelf, 2 units, 19 Inch	SUS-2
	Tray shelf, 3 units, 19 Inch	SUS-3
	Tray shelf, 2 units, perforated, 19 Inch	PUS-2
	Tray shelf, 3 units, perforated, 19 Inch	PUS-3
	Drawer 2 units, closed, 19 Inch	UD-2
	Drawer 3 units, closed, 19 Inch	UD-3
	Front panel 1 unit, 19 Inch	SFP-1
	Front panel 2 units, 19 Inch	SFP-2
	Front panel 3 units, 19 Inch	SFP-3
	Front panel, perforated, 1 unit, 19 Inch	PFP-1
	Front panel, perforated, 2 units, 19 Inch	PFP-2
	Front panel, perforated, 3 units, 19 Inch	PFP-3










## Racks & Accessories/CR Series

- Available in 6 versions
- Delivery in individual parts
- 1.5mm steel plate
- Cable inserts at top and bottom
- Colour: light grey, RAL 9035, structured paint



	Article number	Dimensions W x H x D in mm	Weight in kg	
	Rack 15 units, incl. side panels	CR-15	650 x 781 x 600	28.00
	Rack 22 units, incl. side panels	CR-22	650 x 1,092 x 600	35.00
	Rack 27 units, incl. side panels	CR-27	650 x 1314 x 600	40.00
	Rack 35 units, incl. side panels	CR-35	650 x 1670 x 600	51.00
	Rack 40 units, incl. side panels	CR-40	650 x 1892 x 600	62.00
	Rack 44 units, incl. side panels	CR-44	650 x 2070 x 600	66.00
	Rear door for CR-Series 15 units	RC-15	485 x 666 x 20	3.90
	Rear door for CR-Series 22 units	RC-22	485 x 977 x 20	5.60
	Rear door for CR-Series 27 units	RC-27	485 x 1199 x 20	6.80
	Rear door for CR-Series 35 units	RC-35	485 x 1555 x 20	8.60
	Rear door for CR-Series 40 units	RC-40	485 x 1777 x 20	10.00
	Rear door for CR-Series 44 units	RC-44	485 x 1955 x 20	11.00
	Plexiglass door for CR-Series 15 units	PGD-15	566 x 781 x 25	6.20
	Plexiglass door for CR-Series 22 units	PGD-22	566 x 1092 x 25	8.00
	Plexiglass door for CR-Series 27 units	PGD-27	566 x 1314 x 25	9.00
	Plexiglass door for CR-Series 35 units	PGD-35	566 x 1670 x 25	11.10
	Plexiglass door for CR-Series 40 units	PGD-40	566 x 1892 x 25	12.30
	Plexiglass door for CR-Series 44 units	PGD-44	566 x 2070 x 25	13.30
	Perforated grid door for CR-Series 15 units	FDV-15	566 x 781 x 25	3.90
	Perforated grid door for CR-Series 22 units	FDV-22	566 x 1092 x 25	5.60
	Perforated grid door for CR-Series 27 units	FDV-27	566 x 1314 x 25	6.80
	Perforated grid door for CR-Series 35 units	FDV-35	566 x 1670 x 25	8.60
	Perforated grid door for CR-Series 40 units	FDV-40	566 x 1892 x 25	10.00
	Perforated grid door for CR-Series 44 units	FDV-44	566 x 2070 x 25	11.00

## Racks & Accessories/ **CR Series**

		Article number
	Caster base for CR-Series	SB-4
	Rolling caster base, closed for CR-Series	CB-4
	3-fold bottom plate for CR-Series	BC-3
	Leveller feet, adjustable	LF-4
	Brush strip for CR-Series	BCK-1
	Top cover with 2 fans	FAN-KIT
	Sliding rail for heavy units	SA-1
	Lock for racks	FDL-1
	Accessory Set: captive nut, washers (100 pcs each)	CR-SS

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## Further Product Segments

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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



### Distribution

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



**We supply sound, not equipment.**  
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