



VOICE ALARM SYSTEM

VX-3000 



Safety and
superior
sound quality



We are experts in combining safety and sound. From professional sound reproduction to complex site supervision, TOA voice alarm systems offer built-in versatility and reliability. Our systems are extremely flexible, easy to expand and, in addition to their permanent monitoring function, also offer outstanding audio quality.

In order to achieve maximum safety, 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 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

Combined highly integrated voice alarm, public address and BGM system.

Our VX-3000 is a reliable and energy-saving voice alarm system certified on the European Standard EN54-16. It combines a lot of functions for PA/VA/BGM applications in one single unit frame. The reduction in the number of components required allows for a non-complex design and a much quicker and easier installation together with space saving and a reduction in cable runs and complexity. This enables rapid system configuration and makes the VX-3000 a cost-effective system.

It includes low loss modular class D amplifiers with 3 different output ratings. These can easily be removed or mounted simply by unplugging them so there is no need for special tools. By using low loss modular class D amplifiers and modern power supply switching technology, the system becomes much more energy efficient and enables low operating costs.

Due to its flexible and scalable system architecture, the VX-3000 system can be used for both small and large applications, with up to 1280 remote microphones, 640 audio sources and 2560 speaker lines. The system can be installed centralised as well as de-centralised, latter can reduce the cabling cost drastically. Different Ethernet switches provide a redundant network and a maximum distance between parts of the VA system of 30 km.

The automatic emergency announcements (pre-recorded messages) can be arranged in three phases, for example broadcasting a coded message first, then a warning and at the end an evacuation message. A simultaneous broadcast of warning and evacuation messages is also possible and can be

initiated by a single activation. Since version 5 the system allows the setting of a sequential evacuation which is required sometimes in a big building complex.

The two remote microphone models can be set for normal, emergency and both modes with a different setting for the talk button (implemented zone selection or not, PPT or lock mode). In emergency mode, emergency messages can manually be assigned to broadcast areas. Built-in chimes or individually recorded chimes or tones can be set before and after paging, and different tones for normal and emergency broadcasts.

The input and output channels provide comprehensive DSP settings, please refer to the frame descriptions. Different access levels (since version 5) restrict the access to the setting software according to the operator's education level. So the advanced user level allows the end user the setting of the built-in timer (since version 5) and changing audio files for general broadcasts, such as pause chimes in schools and factories, or general or advertisement announcements in shopping areas.

Also, the VX-3000 system passed the test on EN 50121-4 successfully. This standard covers the high EMC requirements for installations in railway stations. Please contact TOA Electronics Europe for further information.



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

AT A GLANCE

- ✔ Compact: All functions, all inputs and outputs in one unit
- ✔ Cost effective: Easy system configuration due to a small number of system components
- ✔ Flexible: Broadcast of many different audio signals to multiple zones simultaneously, flexible speaker driving from 1 zone per amplifier to up to 64 zones per amplifier
- ✔ Scalable: Up to 1280 remote microphones
- ✔ Light-weight and energy saving: Modern power supply switching technology and power efficient digital amplifiers
- ✔ Integration: Connectable with TOA's other systems; NX-300 Network Adapter
- ✔ Battery saving: Standby function for low power consumption during battery backup reduces the required battery capacity
- ✔ Centralised and de-centralised installation
- ✔ If used decentralized: IP Network based
- ✔ Advanced ambient noise control (ANC)
- ✔ Reliable: Advanced failure detection and indication
- ✔ Comprehensive DSP functions for inputs and outputs
- ✔ Remote control: Remote protocol enables VX-3000 to be controlled by external devices. Furthermore VX-3000 complies with Modbus protocol
- ✔ Timer setting by end-user due to limited user level
- ✔ Optional simple setting mode for quick setting
- ✔ Automatic Feedback Suppressor

APPLICATIONS

- Office buildings
- Airports
- Hotels
- Factories
- Universities and Schools
- Hospitals
- Shopping centres
- Conference centres
- Exhibition halls
- Railway Stations
- Correctional Facility
- Power Stations

Certification according to EN 54

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 instructions 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. TS 54-32 for example, stipulates that a voice alarm system must be planned and installed with certified products that comply with EN54 regulations. (EN54-4 power supplies, EN54-16 central technology, EN54-24 loudspeakers)

WHY EN 54 CERTIFICATION?

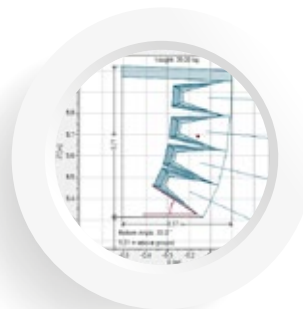
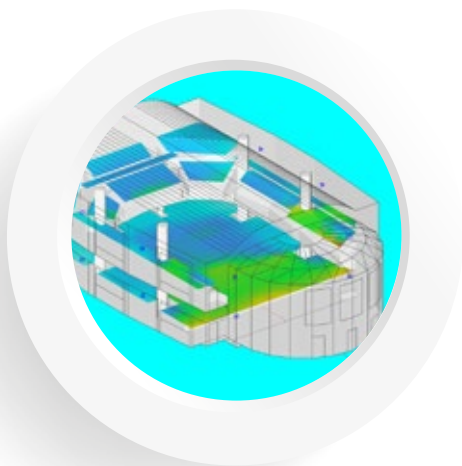
By choosing certified products, you are actively opting for safety - both in the planning and commissioning of your VAS and in the day-to-day operation and in the event of an emergency.

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.

**EN
54**

EN 54 is a European standard series defining requirements and performance criteria for fire detection and alarm systems, ensuring reliable operation in life safety applications.



EXTREME FLEXIBILITY

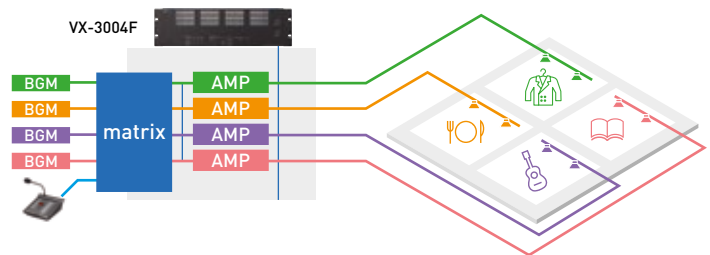
The underlying frames of the system are selectable according to the required broadcast pattern.

REQUIREMENTS

- The floor is divided into four zones.
- Individual background music for each zone
- Local broadcast (from local sources such as microphones in meeting rooms)
- Individual equalization per zone

VX-3004F Frame

- Up to 4 modular amplifiers mountable
- Multi-route architecture
- Each zone has an exclusive amplifier
- One of mounted amplifiers can serve as a standby amplifier

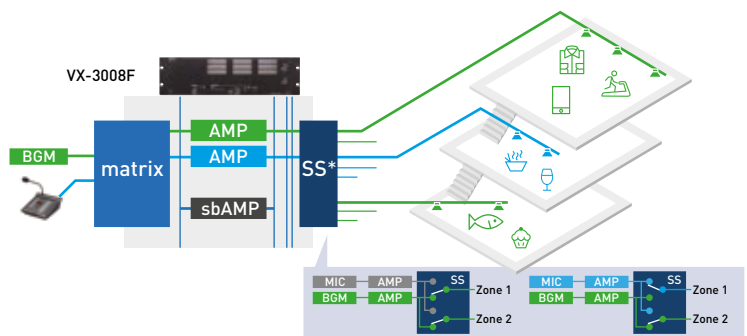


REQUIREMENTS

- The floor is composed of multiple zones.
- Common background music is delivered to all zones
- Announcement is sent to selected zone(s) without disrupting the background music in the other zones.

VX-3008F Frame

- Up to 3 modular amplifiers mountable, one as standby amplifier
- 2 bus lines and 8 switched zones
- 2 amplifiers cover multiple zones
- Zone expansion by up to 3 additional frames without amplifiers



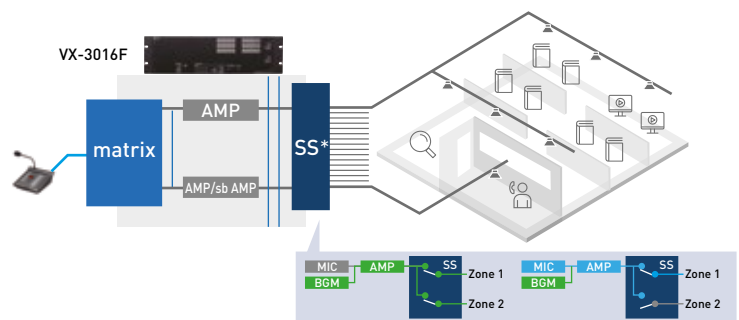
*SS stands for speaker selector

REQUIREMENTS

- The floor is divided into multiple small zones
- Background music disruption accepted
- Announcement is sent to selected zone(s)

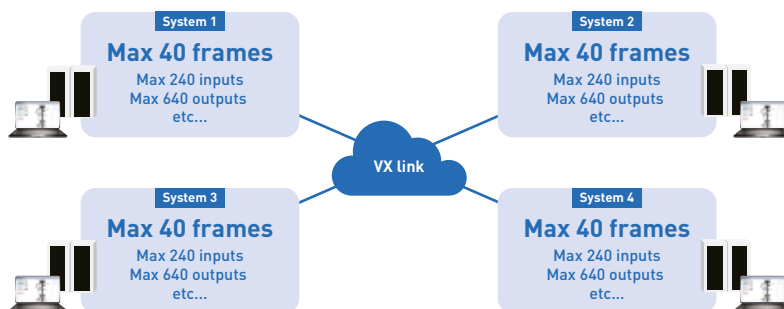
VX-3016F Frame

- Up to 2 modular amplifiers mountable for zones or one as standby amp, 16 switched zones
- Broadcasting to multiple zones with only one amplifier is possible
- Zone expansion by up to 3 additional frames without amplifiers



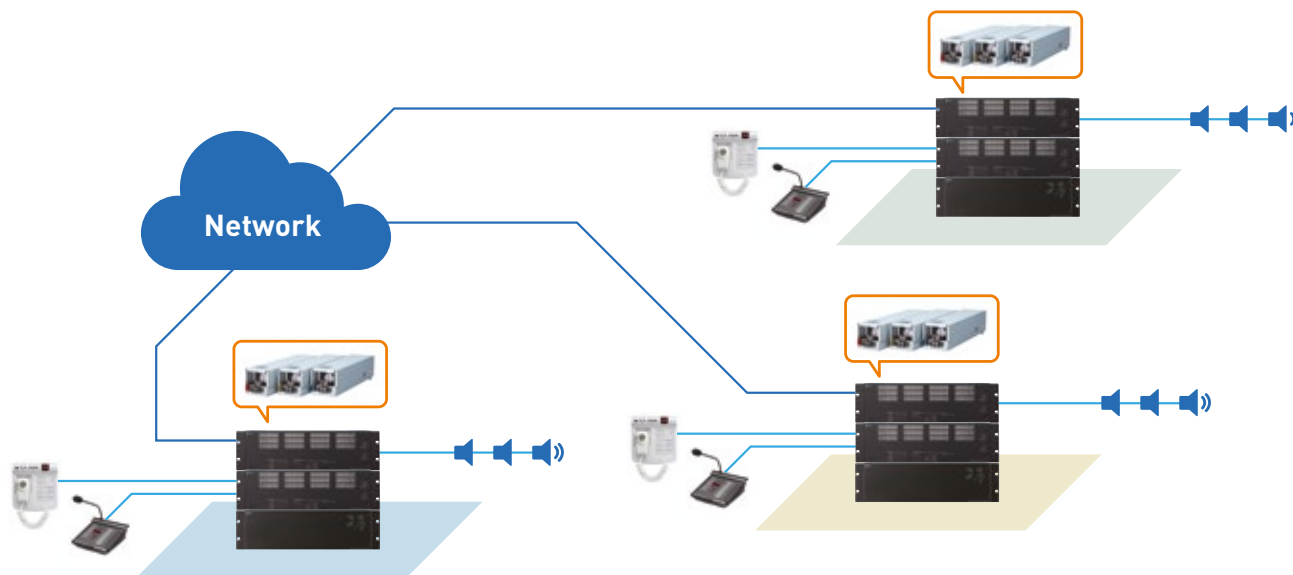
SCALABILITY

One system can be configured with max 40 frames, one of which serves as a master frame. Up to 4 systems can be integrated via VX link, allowing to configure one large-scale system with maximum 640 audio inputs, 1,280 remote microphones and maximum 2,560 zones.



DECENTRALIZED

Redundant IP network with any topology (e. g. ring).

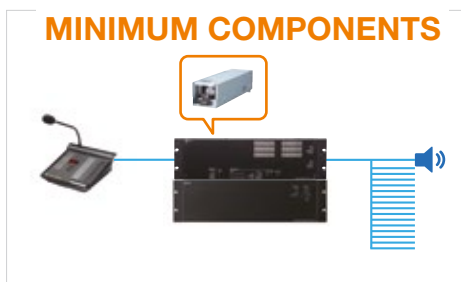


COST EFFECTIVE / SPACE SAVING

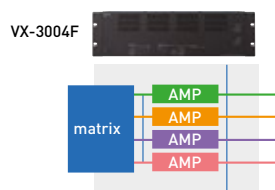
All important functions for PA/VA are incorporated in a single unit frame.

SYSTEM EXPANDABILITY

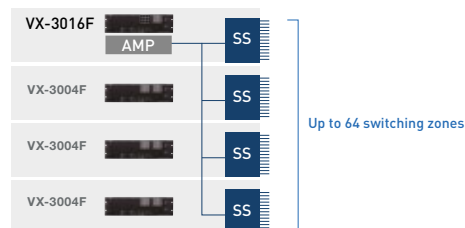
Flexible speaker driving from 1 zone per amplifier up to 64 zones per amplifier



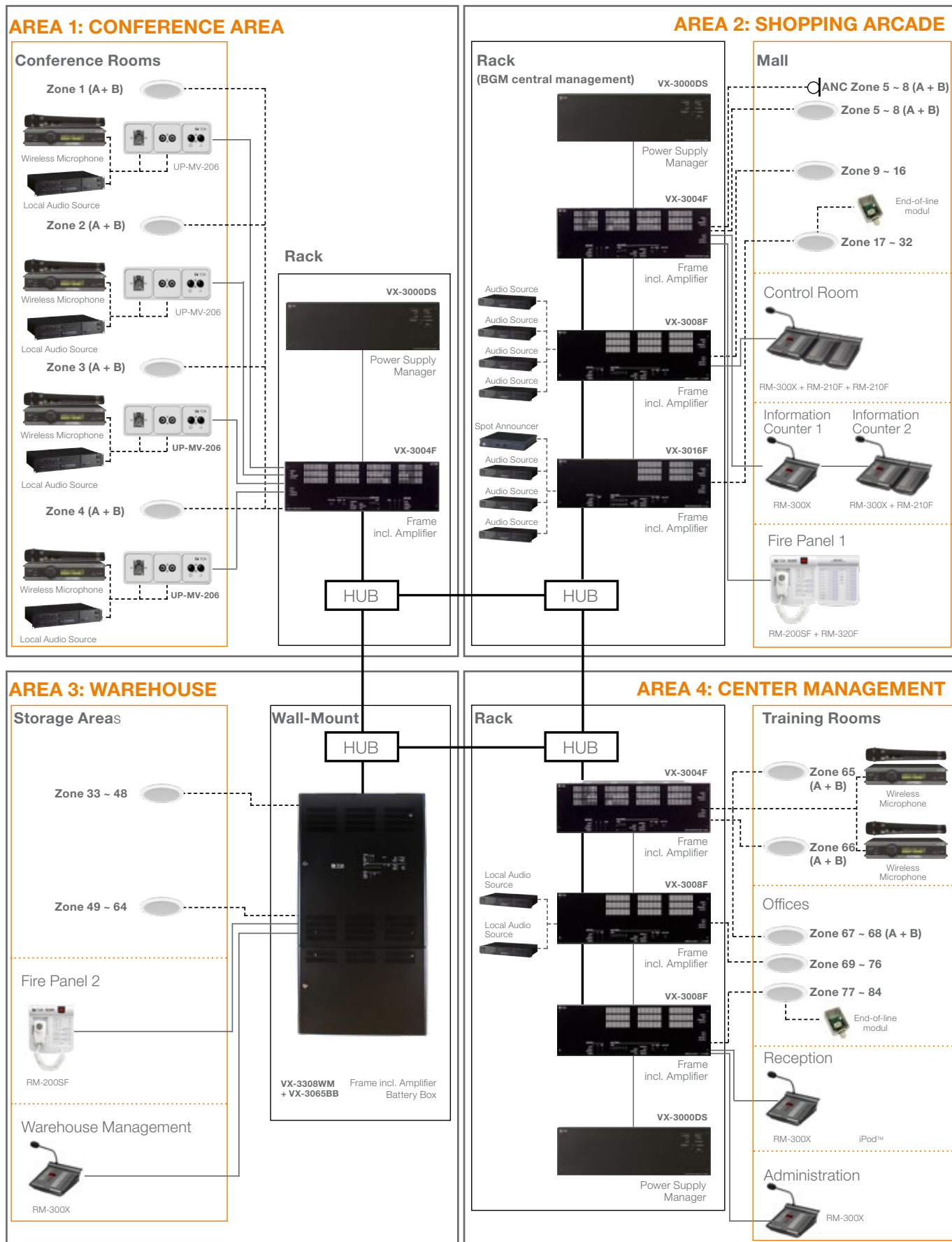
1 zone per amplifier



Speaker selector expansion



VX-3000 Series / System Configuration



VX-3000 Series / System Components

REMOTE MICROPHONE



RM-200SF



RM-320F



RM-300X



RM-210F



RM-500

FRAMES



VX-3004F



VX-3008F



VX-3016F

WALL-MOUNT DEVICE WITH FRAME + POWER SUPPLY



VX-3308WM + VX-3065BB

AMPLIFIER



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

POWER SUPPLY + BATTERY MANAGEMENT



VX-3000DS / VX-3150DS

POWER SUPPLY

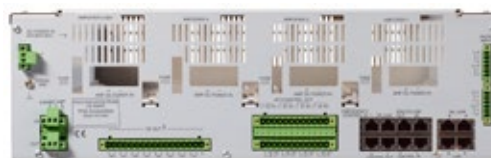


VX-3200PS / VX-3100PS

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



VX-3004F



VX-3004F



VX-3008F



VX-3016F



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 or 2 amps)
- VX-3016F: up to 2 amps (16 switched zones + standby amp or 2 x 8 switched zones)
- All mandatory indications and controls by EN54-16
- Status indication for each speaker line
- Input DSP: different filter types, compressor, feedback suppressor, voice controlled broadcast
- Output DSP: different filter types, compressor and delay up to 2.7 sec.
- Ambient noise control (ANC)

Options

- Q-SX-200EL: End-of-line module (VX-3004F)
- VM-300SV: End-of-line module (VX-3008F/VX-3016F)
- VX-300SM-EB: End-of-line controller (VX-3008F/VX-3016F)
- VX-300SV-EB: End-of-line 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)		
Remote Microphone Link	2 (max. 8 RM)		
LAN	2		
Control Input	16 + 2 (voltage-controlled)		
Control Output	8 + 3 (CPU OFF)		
Relay 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 345mm (19", 3U)		
Weight	7.6kg		7.9kg

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



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

- Low loss modular class D amplifiers
- Modules to be mounted into the frame units
- Three different power levels: 150W, 300W or 500W
- Can easily be mounted or removed
- Dust filter, easy to clean
- 100/70/50V Output without transformer resulting in light-weight units
- Fuse easily accessible from rear

IES-2000 Series / IES-3000 Series

- Managed Ethernet Switches
- Several redundancy modes: STP, RSTP, ring
- Mounting on DIN rail
- IES-2042FX-MM-SC
- IES-2042FX-SS-SC
- IES-3080
- IES-3062FX-MM-SC
- IES-3062FX-SS-SC

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 Output Voltages	50V / 70V / 100V		
Frequency Response	40Hz – 16kHz ± 3dB		
Distortion	1% or less (at 100V line, A-weighted)		
Finish	Surface-treated steel plate		
Dimensions (W x H x D)	79 x 91 x 358.2mm		
Weight	1.4kg		

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



VX-3000DS



Features VX-3000DS/VX-3150DS

- DC power supply to all system components
- VX-3000DS: Combination of two built-in power supply 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
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), 460 W max. each (EN 60065)
DC Power Output (AC mode)	Rated output: 2300W (31V, 72.5A, total DC power output), Peak output: 2780W (29V, 96A, total DC power output)	Rated output: 1140W (31V, 36.2A, 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 ² – 50mm ²) 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/Power Supply/**VX-3200PS-EB** / **VX-3100PS-EB**



VX-3200PS-EB



VX-3100PS-EB

Features

- No backup power support (non-EN 54 applications)
- Compact 1U rack-mount design
- Cost-efficient solution
- Fault control output for system monitoring

VX-3200PS-EB

- Up to 2000 W loudspeaker power
- Alternative to VX-3000DS

VX-3100PS-EB

- Up to 1000 W loudspeaker power
- Alternative to VX-3150DS

Specifications

	VX-3200PS-EB	VX-3100PS-EB
Power source	220-240 V AC, 50/60 Hz	
Power consumption	2500 W	1260 W
DC Power Output	2400 W	1200 W
Control output	1x fault, no-voltage make contact (removable terminal block)	
Operating temperature	0 °C to +40 °C	
Finish	Steelplate, black, paint	
Dimensions (W x H x D)	482 x 44 x 345 mm	
Weight	7.51 kg	5.61 kg

VX-3000 Series/Wall-Mountable VA device/**VX-3308WM**



EN
54-16

EN
54-4

Features

- Compact: All functions, all inputs and outputs in one unit
- Cost effective: All components supplied connected, only external components need to be connected
- Flexible: Broadcast of many different audio signals simultaneously, flexible zone assignment to amplifiers and overlap assignment
- Light-weight: Modern supply switching technology and digital amplifiers
- Scalable: up to 1280 remote microphones
- 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)
- In emergency mode, emergency message broadcast is not affected on the other components when a component fails

Applications

- Sports and fitness centres
- Auditoriums
- Houses of Worship
- Community centers
- Retail centres
- Zoos
- Exhibition halls
- Train stations

Options

- VX-3065BB: Battery box
- VX-300SM-EB: End-of-line controller
- VX-300SV-EB: End-of-line module
- VM-300SV: End-of-line module
- IES 2000/3000 series

Specifications

	VX-3308WM
Power source	220 - 230 V AC, 50 / 60 Hz (AC mains)
Frequency response	40 Hz - 20 kHz (±1 dB)
Power consumption	1100 watts (at rated output incl. charging), 460 watts (EN 60065)
S/N ratio	60 dB (A) (or more, at DA control link)
Control input	16 (contact), 2 (voltage controlled), all with surveillance
Control output	8 (open collector, no-voltage make contact, control current max. 10 mA, withstand voltage 28 V DC, on RJ45 jack). 8 (no-voltage make contact, relay contact (NC, NO, C), control current: 2 mA to 5 A, withstand voltage: 125 V AC, 40 V DC, Connector: removable terminal block (12 pins)
Dimensions (W x H x D)	550 x 700 x 200 mm
Weight	33.1kg

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



RM-200SF



RM-320F



Features

- For general and emergency 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)
- CPU-switch for emergency broadcast to all zones in case of a CPU error

- Up to 4 Key Extension Units per Emergency Remote Microphone
- For mounting on wall

Options

- RM-320F: Key Extension Unit

Specifications

	RM-200SF	RM-320F
Power Source	24VDC (operating range: 15 – 40VDC), supplied from the audio input unit or DC input power supply connector	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
Maximum Cable Length	1200 m	-
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	1.48kg	700g

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



RM-300X



RM-210F

EN
54-16

Features

- For both emergency and general 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)
- Input for BGM source or external microphone
- For desktop or wall-mount use

- 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

	RM-300X	RM-210F
Power Source	24VDC (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
Audio Output	0dBV, 600Ω, balanced	-
External Microphone Input	-40dB, 2.2kΩ, unbalanced, mini jack, phantom powering	-
Frequency Response	100Hz – 20kHz	-
Distortion	Under 1%	-
Signal-to-Noise Ratio	Over 60dB	-
Volume Control	Microphone volume control, Monitor speaker volume control	-
Key Extension	Max. 7 RM-210F	10 keys, freely assignable
Maximum Cable Length	800m	-
Finish	ABS resin, black	
Dimensions (W x H x D)	190 x 76.5 x 215mm (gooseneck microphone excluded)	110 x 76.5 x 215mm
Weight	850g	350g

VX-3000 Series/Remote Microphone/**RM-500**



RM-500

Features

- Desktop Remote Microphone with LCD for general broadcasts
- Up to 80 zones or functions can be selected
- An external audio source can be broadcast from the RM-500
- Speech intelligibility function makes it easier handling of the microphone
- Control output and control input terminal
- Wall mounting by optional wall mounting bracket

Specifications

	RM-500
Power source	24 V DC (operating range: 15–33 V DC)
Controls	10 numeric buttons (0-9): 10, 1 Aux button, 1 arrow left button, 1 arrow right button, 1 All-call button, 2 function buttons, 1 Clear buttons, 1 talk button
Indication	LCD 3" (255 x 160 dots) with backlight, talk (green), microphone (green)
Control input	1, no-voltage make contact inputs, open voltage: 33 V DC, short-circuit current: 10 mA , push-in terminal block
Control output	1 , open collector output, withstand voltage: 30 V DC, control current: 35 mA, push-in terminal block
Audio inputs	1, sensitivity selectable (-20/-60 dBV), push-in terminal block
S / N ratio	60 dB (or more)
Distortion	< 1 %
Microphone type	Electret condenser microphone
Directivity	Unidirectional
Operation temperature	0°C to +40°C
Dimensions	224 (W) x 47,2(H) x 136 (D) mm
Weight	620 g

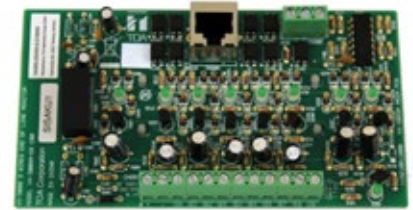
VX-3000 Series /3-Wire EOL-Surveillance/ **Q-SX-200EL / VX-300SV-EB/VX-300SM-EB**



Q-SX-200EL



VX-300SV-EB



VX-300SM-EB



Features

Q-SX-200EL

- Applicable with any speaker type
- no additional rack equipment required

VX-300SV-EB / VX-300SM-EB

- Applicable with any speaker type
- Easy installation of monitor VX-300SM-EB in cabinet rack on DIN rails
- EOL module in IP65 box (VX-300SV-EB)
- Ceramic clamps
- Thermal fuse

Suitable for:

- Q-SX-200EL: End-of-line module (VX-3004F)
- VX-300SM-EB: End-of-line controller (VX-3008F / VX-3016F)
- VX-300SV-EB: End-of-line module (VX-3008F / VX-3016F)

Specifications

	VX-300SM-EB
Power source	19 - 33 V DC
Current consumption	max. 100 mA
Operating Temperature	-5°C to + 45°C (23°F to 113°F)
Dimensions	133(W) x 72(H) x 20(D)mm (5.24" x 2.83" x 0.79")
Application	With VX-3000 system
	VX-300SV-EB
Speaker line input	Max. voltage 100 V RMS (applicable only for 100 V speaker lines)
Speaker line	Max. cable length: 500 m (546.81 yd.), max. load: 100W
Dimensions	137(W) x 79(H) x 57(D)mm (5.39" x 3.11" x 2.24")
Protection	IP65
Application	With VX-3000 system
	Q-SX-200EL
Power Source	Supplied from VX-3004F
Power consumption	0.2 W
Speaker line input	Screw connector, applicable cable diameter: AWG24 - AWG19, H: hot, C: common, E: earth
Dimensions	70 (W) x 23 (H) x 45 (D) mm
Weight	23 g

VX-3000 Series / Loop Isolator System / **VX-3000IM-EB** / **VM-300IS-EB**



VX-3000IM-EB



VX-300IS-EB



Features

- Full recovery of loudspeaker broadcast in case of a single fault of the loudspeaker line (short, break)
- For 8 channels / loudspeaker line loops
- Up to 60 isolators per loop
- Status indicator for each channel
- 19-inch unit with 2 U

Specifications

VX-3000IM-EB	
Power source	31 V DC (operating range: 19 V – 33 V DC), from VX-3000 power supply, removable terminal block 2 pins
Indicator (front panel)	Power: green LED Zones: 2-colour LED; zone OK: green, zone fault: yellow
Controls	Lamp test button
Control output	Failure outputs: 8 (for zones 1 – 8), no-voltage make contact, max. control current: 10 mA, withstand voltage: 28 VDC Connector: shielded RJ45, recommended cable: Cat5-STP/FTP
Amplifier inputs	8 (loop out and return) 8 removable screw terminal blocks, 4 pins
Loop ratings	Max. cable length: 1 km (requires 1 mm ² cross section area); max. min./max. speaker wattage per loop: 20 W/150 W max. no. of connectable isolators: 60
Usable isolator	VM-300IS-EB
Operation temperature	-5°C to +45°C
Dimensions	483 (W) x 88.4 (H) x 345 (D) mm
Weight	15,4 kg
VM-300IS-EB	
Isolator type	Bi-directional
Protection	Reverse polarity protection
Dust / Water Protection	IP55
Max. speaker load	6 W
Operating temperature	-10 to + 55 °C
Dimensions	88 (W) x 60 (H) x 34 (D) mm
Weight	100 g



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

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TOA Electronics Europe GmbH
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