



# Voice Alarm System

## 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 320 remote microphones and 160 audio sources.

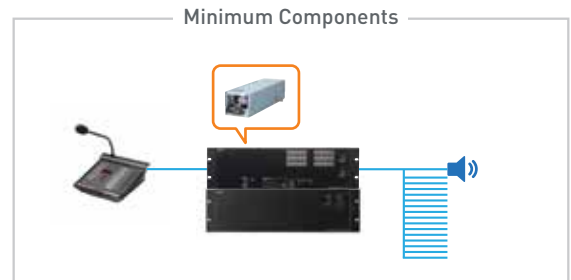
- Light-weight: Modern supply switching technology and digital amplifiers
- Energy saving: Standby mode for low power consumption during battery backup reduces the required battery capacity
- Reliable: Advanced failure detection & indication
- DSP functions: Comp., SPEQ, FBS and Ambient Noise Control (ANC)
- Integration: Connectable with TOA's other system; NX-300 and IP-3000 Series
- Remote control: Remote protocol enables VX-3000 to be controlled by external devices. Furthermore VX-3000 complies with Modbus protocol

### System Component

<p>Remote Microphone</p> <p>RM-200SF   RM-320F   RM-300X   RM-210F</p>	<p>Amplifier</p> <p>VX-015DA / VX-030DA / VX-050DA</p>
<p>Frames</p> <p>VX-3004F   VX-3008F   VX-3016F</p>	<p>Power Supply</p> <p>VX-3000DS / VX-3150DS</p>

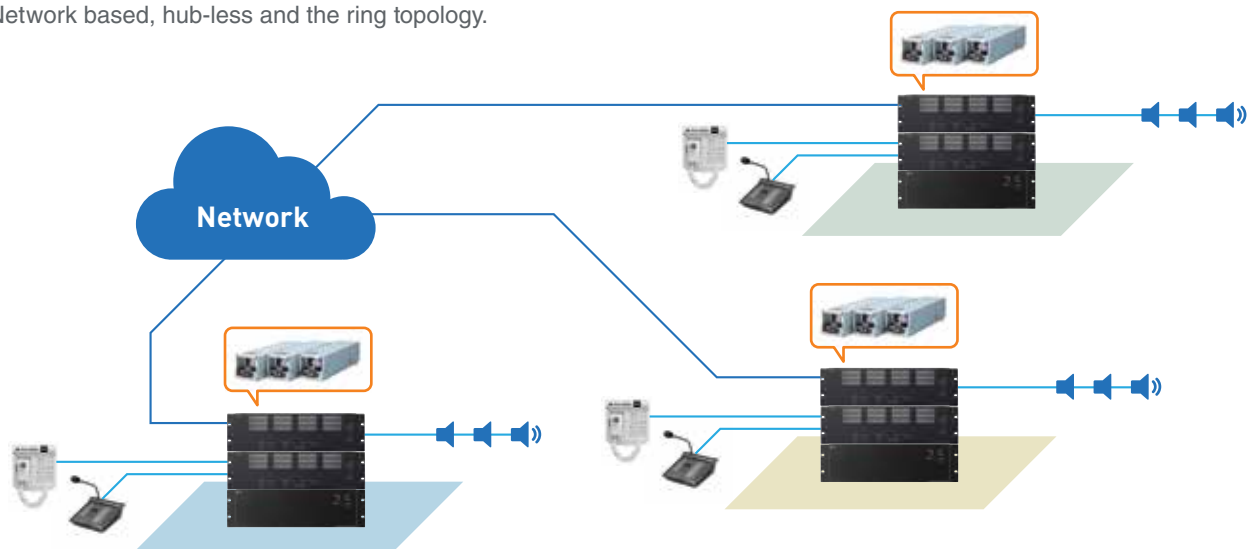
### Cost Effective / Space saving

All important functions for PA/VE are incorporated in one unit frame.



### Decentralized

IP Network based, hub-less and the ring topology.



## Extreme Flexibility

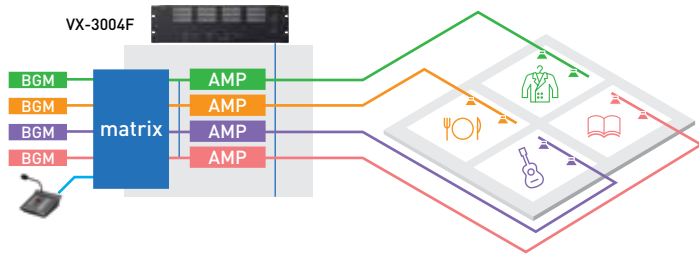
The underlying frames of the system are selectable according to the required broadcast pattern.

### Requirements

- The floor is divided into four zones.
- Each zone needs individual background music
- Announcement is sent to selected zone(s)
- Background music is override by announcement

### VX-3004F

- | 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

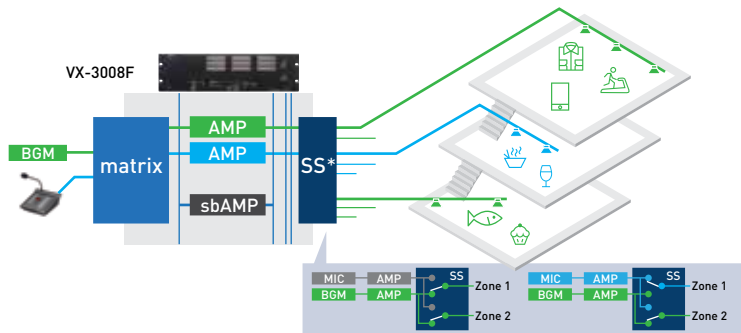


### Requirements

- 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.
- Background music is override by announcement

### VX-3008F

- | Up to 3 modular amplifiers mountable, one of which serves as a standby amplifier
- | 2 bus lines and 8 switching zones
- | One amplifier covers multiple zones

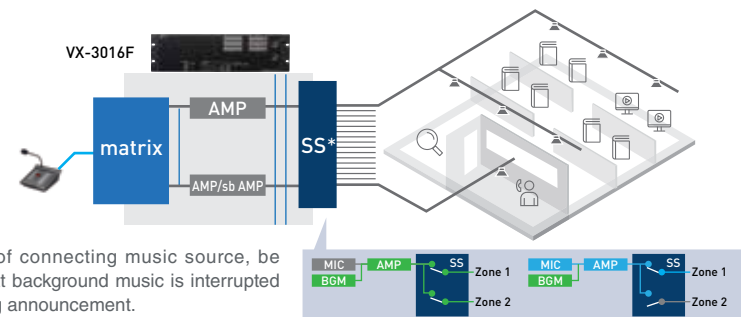


### Requirements

- The floor is divided into multiple zones with individual attenuator
- No background music required
- Announcement is sent to selected zone(s)

### VX-3016F

- | Up to 2 modular amplifiers mountable 16 switching zones
- | Broadcasting to multiple zones with only one amplifier is possible

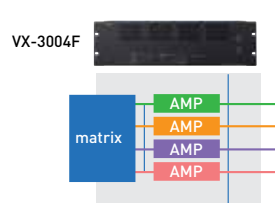


In case of connecting music source, be noted that background music is interrupted by paging announcement.

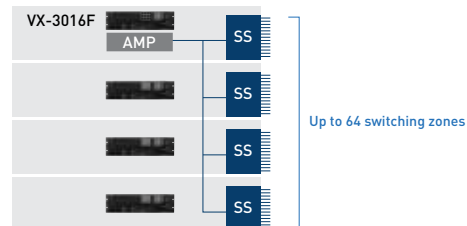
\*SS stands for speaker selector

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

### 1 zone per amplifier

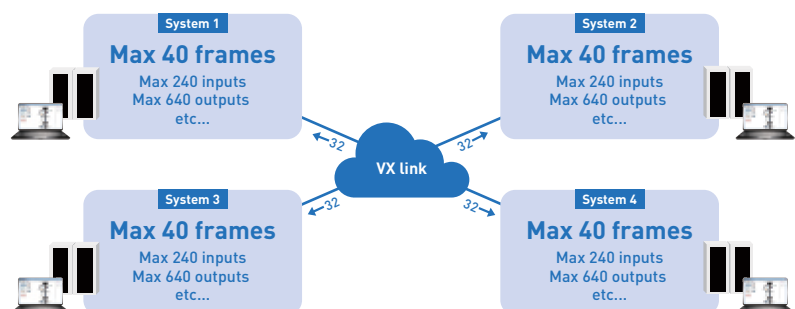


### Speaker selector expansion



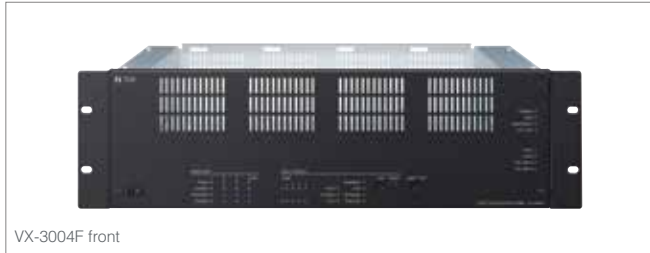
## Scalability

One system can be configured with max 40 frames, one of which is set to ID:0 and serves as a master frame. Up to 4 systems can be integrated via VX link, allowing to configure one large-scale system with maximum 960 audio inputs and maximum 2,560 zones.



# VX-3000 series Frames

## VX-3004F / VX-3008F / VX-3016F Voice Evacuation Frame



VX-3004F front



VX-3004F rear



VX-3008F rear



VX-3016F rear

- 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: 3-point filters (PEQ/HPF/LPF/High shelving/Low shelving), VOX and Comp.
- Output DSP: 6-point filters (PEQ/HPF/LPF/High shelving/Low shelving/All pass/Notch/Horn EQ) and Delay

### Specifications

	VX-3004F	VX-3008F	VX-3016F
Power Source	20 to 33 V DC, removable terminal block (4 pins)		
Speaker Line	4 channels (with AB LINE speaker out)	8 channels	16 channels
LAN A, B	No. of Connectors: 2 (LAN A, LAN B) ; Network I/F: 100BASE-TX ; Network Protocol: TCP, UDP, ARP, ICMP, RTP, IGMP, FTP, HTTP ; Spanning tree Protocol: RSTP ; Audio Transmission System: TOA Packet Audio ; Audio Encoding Method: PCM ; Audio Sampling Frequency: 48 kHz, 16 bits Connection Device: other VX-3004F, VX-3008F, VX-3016F, NX-300 and Switching HUB, Connector: RJ45 connector ; Connection Cable: CAT5 ; Max. Cable Distance: 100 m		
RS Link A, B	2 (RS LINK A, RS LINK B) , Up to 8 RM units can be connected to a single VX-3XXXF, up to 4 RM units connectable per RS LINK		
DS Link	Connector: RJ45 connector, Connection Cable: CAT5-STP, Max. Cable Distance: 5 m		
Analog Link	Number of Connectors: 1 input, 1 output, Connection Device: other VX-3004F, VX-3008F, VX-3016F, Connector: R J45 connector, Connection Cable: CAT5-STP, Max. Cable Distance: 800 m		
Control Input	16 inputs, no-voltage make contact input, open voltage: 24 V DC, short-circuit current: 2 mA Fault Detection System: Short circuit, Open circuit, Method: Voltage detect ; Connector: RJ45 connector ; Connection Cable: CAT5-STP		
Emergency Control IN	Input 2: Isolated voltage input, -24 to +24 V ; Connector: RJ45 connector ; Connection Cable: CAT5		
VOX Function	Threshold: -60 to 0 dB (1 dB steps), Hysteresis: 0 to +10 dB, Hold time: 10 ms - 10 s, Settable for each audio input		
Control Output	General outputs : 8 with CONTROL OUTPUT 1 ; Exclusive outputs : 3 with CONTROL OUTPUT 2 ; GENERAL FAULT, CPU FAULT, CPU OFF No-voltage make contact, electrical contact output, control current: 10 mA, withstand voltage: 28 V DC ; Connector: RJ45 connector ; Connection Cable: CAT5-STP		
ATT/Control Output	8 outputs, no-voltage make contact, relay contact (NC, NO, C), control current: 2 mA to 5 A ; withstand voltage: 125 V AC, 40 V DV ; Connector: Removable terminal block (12 pins) x 2		16 outputs, no-voltage make contact, relay contact (NC, NO, C), control current: 2 mA to 5 A ; withstand voltage: 125 V AC, 40 V DV ; Connector: Removable terminal block (12 pins) x 4
DSP	Feedback suppression, Equalizer/Filter, Compressor, Delay and Ambient Noise Control (ANC)		
Audio Input	4 inputs (Line: -20 dBV / Mic: -60 dBV / ANC sensor, phantom power selectable)		
Standby Amplifier	Input: 1, Output: 1 ; Max. Voltage/Current: 100 Vrms, 5 Arms ; Connector: Removable terminal block (2 pins) x 2		
Extension Amplifier	-	Input: 2, Output: 2, Max. Voltage/Current: 100 Vrms, 5 Arms, Connector: Removable terminal block (2 pins) x 4	Input: 1, Output: 1 ; Max. Voltage/Current: 100 Vrms, 5 Arms ; Connector: Removable terminal block (2 pins) x 2
Power Amplifier	4	3	2
Dimensions (W x H x D)	483 x 132.6 x 345 mm (19", 3U)		
Weight	7.6kg	7.9 kg	8.1 kg

# VX-3000 series Amplifiers / EOL Unit

## VX-015DA / VX-030DA / VX-050DA Digital Power Amplifier Module



- 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

Specifications	VX-015DA	VX-030DA	VX-050DA
Applicable Model	VX-3004F, VX-3008F, VX-3016F		
Power Source	31 V DC (operating range: 20 to 33 V DC) DC power in: M4 screw terminal, distance between barriers: 11mm		
Amplification System	Class D		
Power Consumption	1.3W (standby mode), 14 W (no audio input), 40 W (1/8 rated output), 190 W (rated output) at 31 V DC, output voltage selection switch: 100V	1.3W (standby mode), 14 W (no audio input), 65 W (1/8 rated output), 375 W (rated output) at 31 V DC, output voltage selection switch: 100V	1.3W (standby mode), 14 W (no audio input), 100 W (1/8 rated output), 590 W (rated output) at 31 V DC, output voltage selection switch: 100V
Rated Output Power	150 W (at 100 V line) 105 W (at 70 V line) 75 W (at 50 V line) (at min. impedance & max. capacitive load) (at AC mains VX-3000DS or VX-3150DS: 187 - 253 V)	300 W (at 100 V line) 210 W (at 70 V line) 150 W (at 50 V line) (at min. impedance & max. capacitive load) (at AC Mains VX-3000DS or VX-3150DS: 187 - 253 V)	500 W (at 100 V line) 350 W (at 70 V line) 250 W (at 50 V line) (at min. impedance & max. capacitive load) (at AC Mains VX-3000DS or VX-3150DS: 187 - 253 V)
Output Voltage	100 V (70 V, 50 V: selectable)		
Min. Resistive Load	67 $\Omega$ (100 V), 47 $\Omega$ (70 V), 33 $\Omega$ (50 V)	33 $\Omega$ (100 V), 23 $\Omega$ (70 V), 17 $\Omega$ (50 V)	20 $\Omega$ (100 V), 14 $\Omega$ (70 V), 10 $\Omega$ (50 V)
Max. Capacitive Load	0.5 $\mu$ F		
Frequency Response	40 Hz to 20 kHz: - 5 to +1 dB		
Distortion	1% or less (at 100V line, A-weighted)		
Dimensions (W x H x D)	82.8 x 91 x 358.2 mm		
Weight	1.3 kg		1.4 kg

## VM-300SV End of Line Unit



- Speaker line failure can be detected with high accuracy
- Module for installation between the speaker line end and the emergency input terminal of the VX-3008F and VX-3016F.

# VX-3000 series Power Supply

## VX-3000DS / VX-3150DS Power Supply Manager



- 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
- EN 54-4 certified, Certificate No: 1134-CPR-137



### Specifications

	VX-3000DS	VX-3150DS
Applicable Model	System VX-3000 / VX-2000 / SX-2000; all amplifiers	
Power Source	220 – 230 V AC, 50/60 Hz	
Power Consumption	2800W max in total (at rated output with charging), 650 w max in total, 350W max each (EN 60065)	1460W max in total (at rated output with charging)
DC Power Output (AC mode)	Rated output: 2300W (total DC power output), Peak output: 2780W (total DC power output)	Rated output: 1140W (total DC power output), Peak output: 1280W (total DC power output)
DC Power Output	8 x 31 V (19 – 33V) 25A max. each, M4 screw terminal, distance between barriers: 11 mm 3 x 31 V (19 – 33V) 5A max. each, removable terminal block (3 x 2 pins) 1 x 24 V (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)
Dimensions (W x H x D)	482 x 132.6 x 400.5 mm (19", 3U)	
Weight	11.8kg	9kg

# VX-3000 series Emergency Remote Microphone

## RM-200SF / RM-320F Wall Mount Remote Microphone / Extension



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



### Options

- > RM-320F: Key extension unit

Specifications	RM-200SF	RM-320F
Power Source	24 V DC (operating range: 15 – 40 V DC)	From remote microphone
Current Consumption	240 mA or less	180 mA max.
Distortion	1% or less	-
Frequency Response	200Hz – 15kHz	-
Signal-to-Noise Ratio	55 dB or more	-
Audio Output	0dBV, transformer-balanced	-
Microphone	Unidirectional dynamic microphone with talk key, AGC (ON/OFF switchable)	-
Chime	Built inside (PCM sound source), Monitoring available with a built-in speaker	-
Volume Control	Microphone volume, Monitor speaker volume, Chime volume (using the software)	-
Connection Cable	Main line: Shielded CPEV cable or Shielded Category 5 twisted pair cable for LAN (CAT5-STP), M3 screw terminal	Connection to RM-200SF by dedicated cable
No. of Connectable RM -320F	Max. 4 units	-
Key Operation	Emergency key, Talk key, 3 Function keys	20 Function keys
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 Remote Microphone / Extension



RM-300X

RM-210F

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

### Options

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

### Specifications

	RM-300X	RM-210F
Power Source	24 VDC (operating range: 15 - 40 VDC), supplied from the audio input unit or DC input power supply connector	Supplied from the optional RM -300X
Current Consumption	240mA or less	80mA or less
Audio Output	0 dBV, 600Ω, balanced	-
External Microphone Input	-40 dBV, 2.2kΩ, unbalanced, ø3.5 mm phone jack, phantom powering [When used as AUX input] -20 dBV, 4.7 kΩ, unbalanced	-
Frequency Response	100Hz - 20kHz	-
Distortion	1% or less	-
Signal-to-noise Ratio	60dB or more	-
Microphone	Unidirectional electret condenser microphone with AGC (ON/OFF selectable)	
Chime	Built inside (PCM sound source), Monitoring available with a built-in speaker	
Volume Control	Microphone volume, Monitor speaker volume, Chime volume (using the software)	-
Connectable Cable	Main line: Shielded CPEV cable or Shielded Category 5 twisted pair cable for LAN (CAT5-STP), Branch line: Shielded Category 5 twisted pair cable (CAT5-STP), RJ45 connector	
No. of Connectable RM-210F	Max. 7 units	-
Operation	Emergency/all-zone emergency broadcast key, Talk key, 13 Function keys	10 Function keys
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	880g	350g

## RM-200RJ Terminal Unit



- > 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 VX-3000 series system is connected