TOA

# Public Address / Voice Evacuation System

## VX-3000 Series

Combined highly integrated voice evacuation
and public address system

# Combined highly integrated voice evacuation, public address and BGM system.

Safety is an important issue more than ever.

Our VX-3000 is a reliable and energy-saving voice evacuation system certified on the European Standard EN54-16. It combines a lot of functions for PA/VE/BGM applicatons in one single VX-3000 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, 1,920 audio inputs and 2560 speaker zones. The system can be installed centralised as well as de-centralised, latter can reduce the cabling cost drastically.

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 three remote microphone models are available with different functions to meet each project and remote system operation requirements.

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.

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 your nearest TOA sales office for further information.

EN 50121 4

TOA's VX-3000 Series, IP-3000 Series and NX-300 got certified with EN 50121-4 (IEC62236-4), the electromagnetic standards which applies to a signaling and telecommunication apparatus installed in railway environment. Those systems can be utilized in railway applications where EN 50121-4 is required.

EN 54 16

EN 54-16 specifies requirements, test procedures and performance characteristics for speech alarm control panels for use in fire detection systems installed in buildings where the alarm signal is transmitted in the form of tones and/or as a spoken message.

Certification No: 1134-CPR-195

# Features

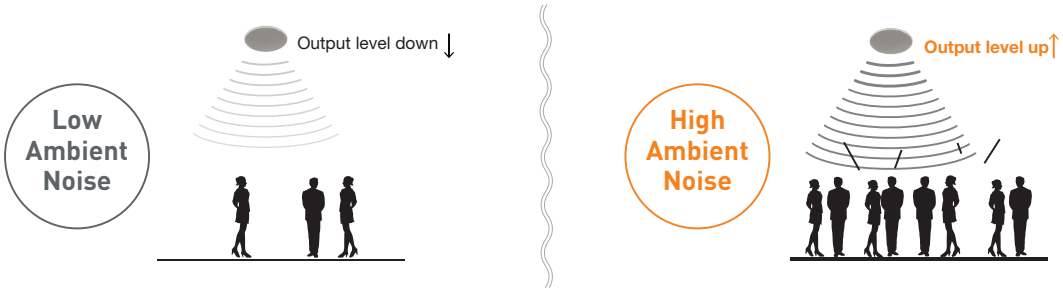
## Flexible Broadcasting

Broadcast of many different audio signals to multiple zones simultaneously, flexible speaker driving

- Broadcast initiation patterns: Remote microphone key operation, VX-3000CT key operation, internal timer, voice activation and more.
- Selectable audio sources: Live announcement, pre-recorded message, music, and more.
- Multi-phased priority setting

## High Sound Quality & Intelligibility

- Comprehensive DSP functions for inputs and outputs including automatic feedback suppressor
- Automatic output volume adjustment depending on the ambient noise level (Ambient Noise Control function)




## Ideal for Small to Large Scale Applications

- Minimized configuration - All functions, all inputs and outputs are incorporated in one VX-3000 Frame.
- A small number of system components helps easy system configuration.
- Scalability - One large-system with maximum 2560 speaker zones and 1280 remote microphones is possible.

Airport

Shopping Mall

Railway Station

Concert Hall

Stadium

Office

Factory

School

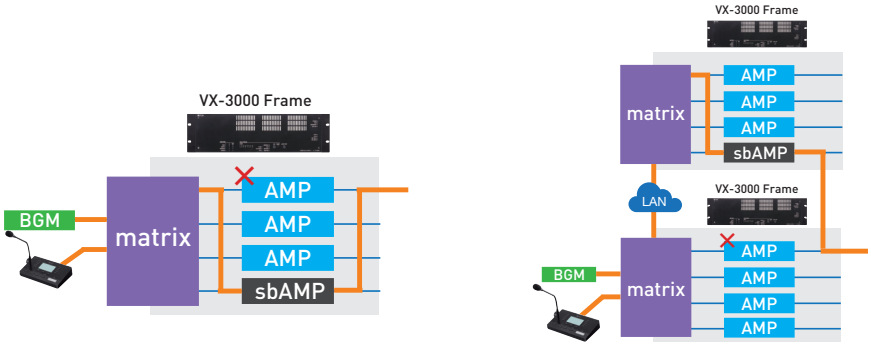
# Features

## Reliability

- Certified to EN 54-16
- Redundant system configuration - network connection, standby amplifier setting and backup power supply.
- Advanced failure detection
- Fault indications assignable to control outputs, remote microphone function keys, VX-3000 Frame's LEDs, buzzers, e-mail notifications, etc.

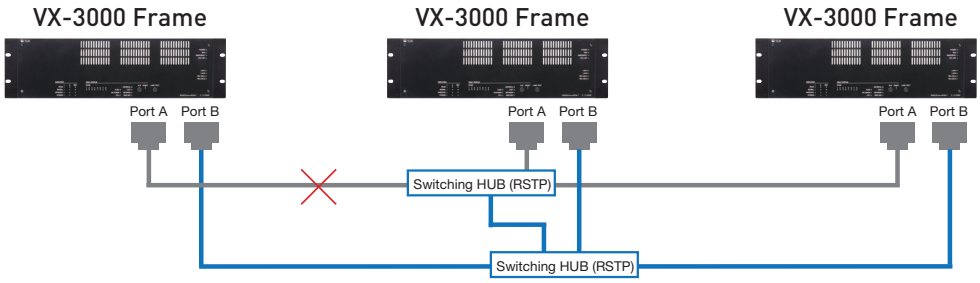
### Redundant amplifier

A standby amplifier can be shared among the multiple VX-3000 Frames.




### Redundant network

Redundant LAN connection can be configured for more reliable system.




## Integration

- Connectable with TOA's NX-300 Network Audio Adapter and IP-3000 Series IP Public Address System
- Remote Protocol enables VX-3000 to be controlled by external devices.
  Furthermore, VX-3000 complies with Modbus protocol.

## Eco-Friendly

- Light-weight and energy saving - Modern power supply switching technology and power efficient digital amplifiers
- Battery saving - Standby function for low power consumption during battery backup reduces the required battery capacity

## Intuitive, yet Sophisticated Setting Software

- Setting software provides different modes according to the user role or level.

# Features

## Extreme Flexibility

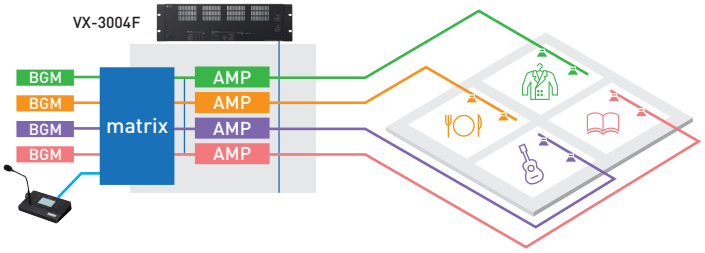
The underlying VX-3000 Frames of the system are selectable according to the required broadcast pattern.

### Requirements

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

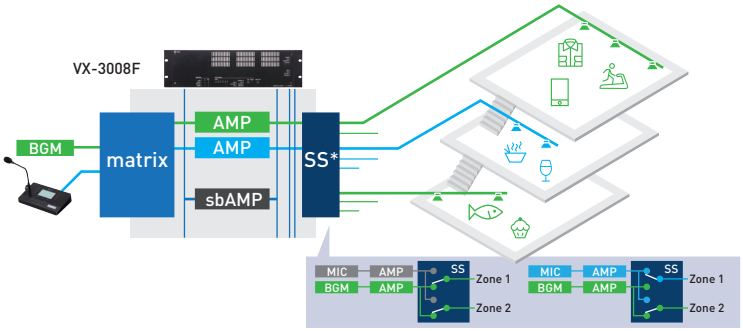



### Requirements

- 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 overrode 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

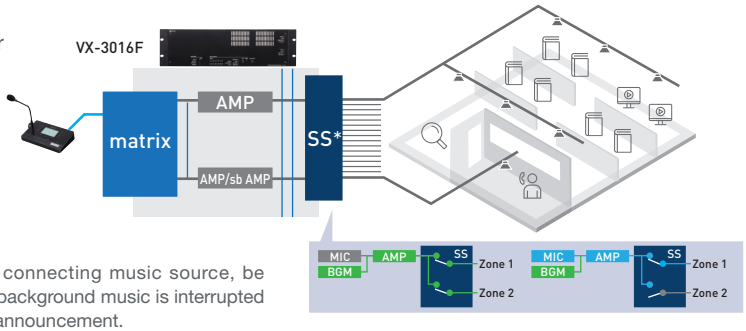



### Requirements

- 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

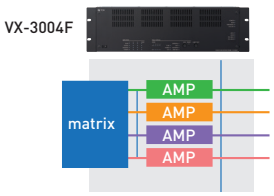



*SS stands for speaker selector

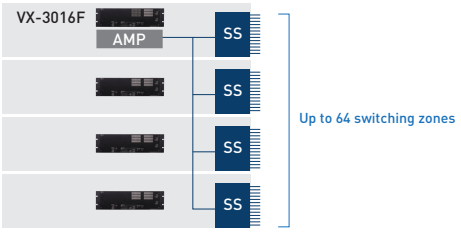
In case of connecting music source, be noted that background music is interrupted by paging announcement.

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

**1 zone per amplifier**




**Speaker selector expansion**



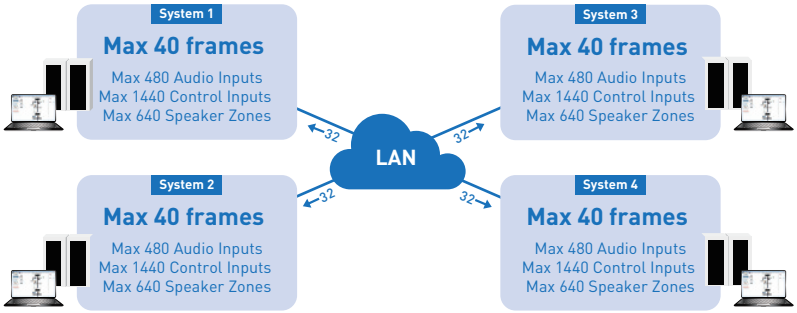
# Features

## 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 LAN, allowing to configure one large–scale system with maximum 1,920 Audio Inputs and maximum 2,560 speaker zones.

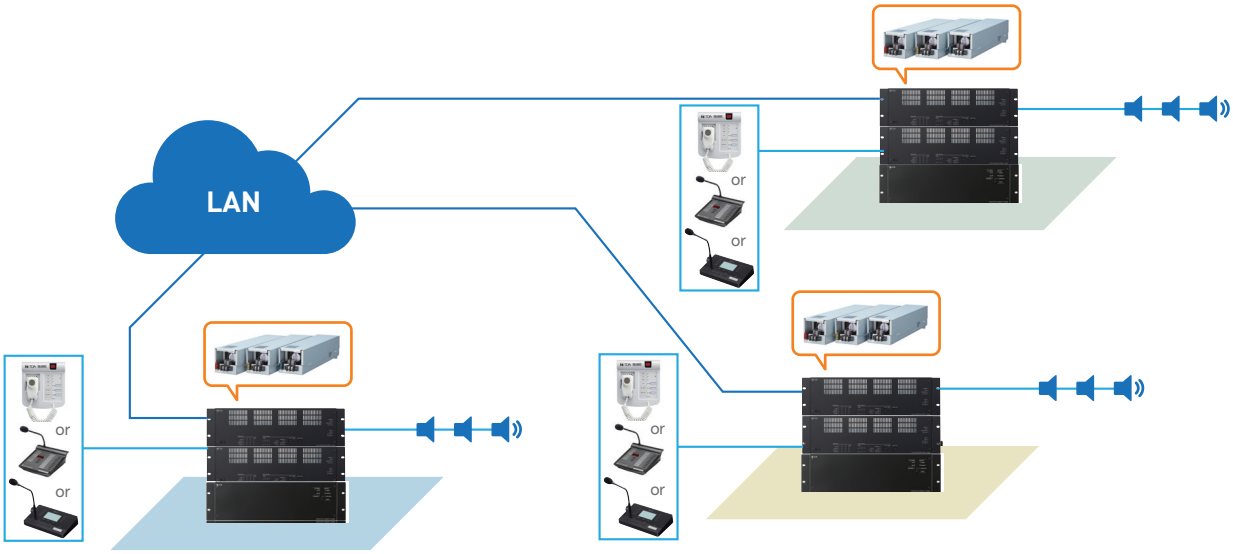
| Maximum System Capacity | |
|---|---|
| Output Power | 320,000 W |
| Speaker Zones | 2,560 *1 |
| Remote Mics | 1,280 |

*1 When VX-3016Fs are used.



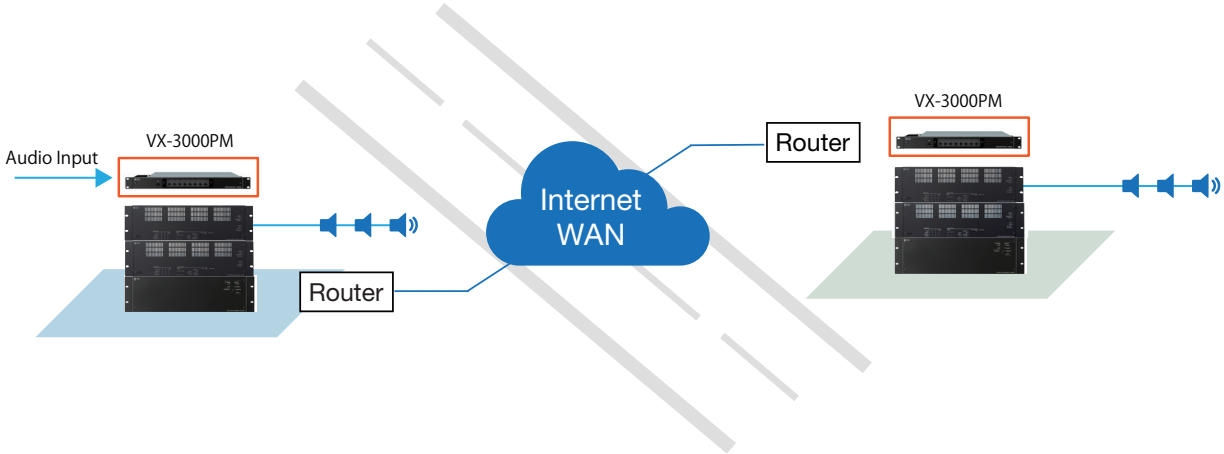

## Decentralized

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




### Audio Streaming over the WAN

VX-3000PM Preamp Matrix Panel enables unicast audio streaming via routers, which allows long distance broadcasts even between buildings across public roads.



# System Components

## Remote Microphones

RM-200SF

RM-320F

RM-300X

RM-210F

RM-500

## Frames

VX-3004F

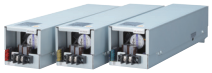
VX-3008F

VX-3016F

## Preamp Matrix Panel

VX-3000PM

## Amplifier Modules



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

## Line Output Module

VX-300LO

## Control Panel

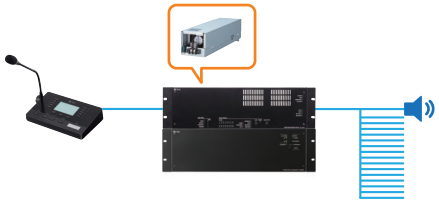
VX-3000CT

## Power Supply

VX-3000DS / VX-3150DS

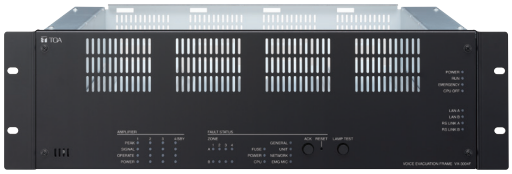
## Minimum System Components

All important functions for public address / voice evacuation system are incorporated in one VX-3000 Frame.

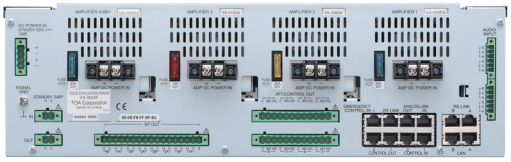


# VX-3004F / VX-3008F / VX-3016F Voice Evacuation Frame

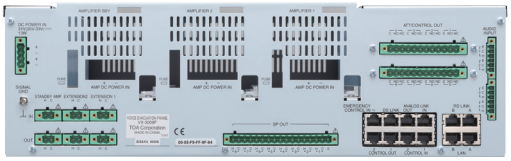
EN 54 16 | EN 50121 4



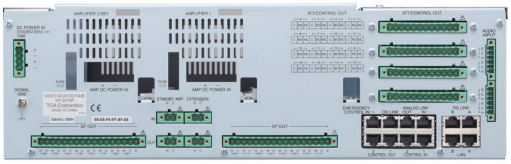
VX-3004F front



VX-3004F rear (with amplifier modules installed)



VX-3008F rear



VX-3016F rear

- Main control units incorporated with voice evacuation and public address system functionality
- 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 indications and controls according to EN54-16
- Operation and audio signal status indication per amplifier
- Fault status indication for each speaker line
- Input DSP: 3-point filters(PEQ/HPF/LPF/High shelving/Low shelving), feedback suppressor, voice-controlled broadcast (VOX) and compressor.
- Output DSP: 6-point filters(PEQ/HPF/LPF/High shelving/Low shelving/All pass/Notch/Horn EQ), compressor and delay
- Ambient Noise Control (ANC)

| Specifications | VX-3004F | VX-3008F | VX-3016F |
|---|---|---|---|
| Power Source | 20 - 33 V DC, removable terminal block (4 pins) | | |
| Speaker Line | 4 channels (with AB LINE speaker out)<br>1 Earth terminal | 8 channels<br>1 Earth terminal | 16 channels<br>2 Earth terminals |
| | Max. Voltage/Current: 100 Vrms, 5 Arms; Connector: Removable terminal block (17 pins) x 1;<br>Fault detection system: Short circit, Open circit, Ground fault, Method: Impedance or End of line | | |
| LAN A, B | Number of Connectors: 2 (LAN A, LAN B) ; Network I/F: 100BASE-TX ; Network Protocol: TCP, UDP, ARP, ICMP, RTP, IGMP, FTP, HTTP, NTP; Spanning tree Protocol: RSTP; Audio Transmission System: TOA Packet Audio(*1); Audio Encoding Method: PCM; Audio Sampling Frequency: 48 kHz, Audio Quantifying Bit number: 16 bits; Connection Device: other VX-3004F, VX-3008F, VX-3016F, NX-300 and Switching HUB, Connector: RJ45 connector ; Connection; Number of Stages of Cascade Connection: Up to 7 | | |
| RS Link A, B | Number of Connectors: 2 (RS LINK A, RS LINK B), Audio input level; 0 dB (*2); Connector: RJ45 connector | | |
| DS Link | Connection Device: DS LINK of Power supply units; Connector: RJ45 connector | | |
| Analog Link | Number of Connectors: 1 input, 1 output; Connection Device: VX-3004F, VX-3008F, VX-3016F; Connector: RJ45 connector | | |
| Control Input 1,2 | 16 inputs, no-voltage make contact input, open voltage: 24 V DC; short-circuit current: 2 mA<br>Fault Detection System: Short circuit, Open circuit; Method: Voltage detect; Connector: RJ45 connector | | |
| Emergency Control IN | Input 2: Isolated voltage input, -24 to +24 V; Connector: RJ45 connector | | |
| 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 1,2 | General outputs : 8 with CONTROL OUTPUT 1; Exclusive outputs : 3 with CONTROL OUTPUT 2; GENERAL FAULT, CPU FAULT, CPU OFF<br>No-voltage make contact, electrical contact output, control current: 10 mA ; withstand voltage: 28 V DC; Connector: RJ45 connector | | |
| 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 DC; 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 1,2,3,4 | 4 inputs (Line: -20 dB(*2)/ MIC: -60 dB(*2) / ANC sensor (changeble with setting software); Gain Control: volume adjustable with volume control (internal front panel) -∞ to 0 dB; Input Impedance: 47kΩ electronically-balanced; Phantom power supply: 24 V DC, can be set with setting software; Connector: Removable terminal block (6 pins x2) | | |
| Program Timer | Weekly program method; Daily program: 50 events, 10 types; Holiday program: 50 types | | |
| Standby Amplifier | Input: 1, Output: 1; Max. Voltage/Current: 100 Vrms, 5 Arms; Connector: Removable terminal block (2 pins) x 2 | | |
| Module(*3) | Number of modules: 4 | Number of modules: 3 | Number of modules: 2 |
| Extension Amplifier | - | Input: 2, Output: 2, Max. Voltage/Current: 100 Vrms, 5 Arms, Connector: R emovable 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 |
| Dimensions (W x H x D) | 483 x 132.6 x 345 mm | | |
| Weight | 7.6kg | 7.9 kg | 8.1 kg |

(*1) TOA's unique technology which makes it possible to transmit high-quality audio signal in real time over an IP network.
(*2) 0 dB = 1 V
(*3) Module: Digital power amplifier module. Line output module

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

- Low loss modular class D amplifiers
- Modules to be mounted in the VX-3000 Frame
- Three different power levels: 150W, 300W or 500W
- Can easily be removed or replaced by unplugging them; no need for special tools
- Dust filter, easy to clean
- 100/70/50 V output without transformer resulting in light-weight units
- Fuse easily accessible from rear

| Specifications | VX-015DA | VX-030DA | VX-050DA |
|---|---|---|---|
| Applicable Model | VX-3004F, VX-3008F, VX-3016F | | |
| Power Source | 31 V DC (operating range: 20 - 33 V DC); DC power in: M4 screw terminal, distance between barriers: 11 mm | | |
| Amplification System | Class D | | |
| Power Consumption | 1.3 W (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: 100 V | 1.3 W (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: 100 V | 1.3 W (standby mode), 16 W (no audio input), 100 W (1/8 rated output), 590 W (rated output) at 31 V DC, output voltage selection switch: 100 V |
| Rated Output Power | 150W (at 100V line)<br>105 W (at 70 V line)<br>75 W (at 50 V line)<br>(at min. impedance & max. capacitive load)<br>(at AC mains: 187 - 253 V) | 300 W (at 100 V line)<br>210 W (at 70 V line)<br>150 W (at 50 V line)<br>(at min. impedance & max. capacitive load)<br>(at AC Mains: 187 - 253 V) | 500 W (at 100 V line)<br>350 W (at 70 V line)<br>250 W (at 50 V line)<br>(at min. impedance & max. capacitive load)<br>(at AC Mains: 187 - 253 V) |
| Output Voltage | 100 V (70 V, 50 V: selectable) | | |
| Min. Resistive Load | 67 Ω (100 V), 47 Ω (70 V), 33 Ω (50 V) | 33 Ω (100 V), 23 Ω (70 V ), 17 Ω (50 V) | 20 Ω (100 V), 14 Ω (70 V), 10 Ω (50 V) |
| Max. Capacitive Load | 0.5 μF | | |
| Input | DA CONTOL LINK: Nylon connector (15 pins) | | |
| Output | DA CONTOL LINK: Nylon connector (2 pins) | | |
| Frequency Response | 40 Hz - 20 kHz: - 5 to +1 dB(at 100 V line, 30 dB(*1) output ) | | |
| Distortion | 1 % or less (at 100V line, A-weighted) | | |
| Signal to Noise Ratio | 100 dB or more (at 100 V line, A-weighted) | | |
| Dimensions (W x H x D) | 82.8 x 91 x 358.2 mm | | |
| Weight | 1.3 kg | | 1.4kg |

(*1) 0 dB = 1 V

## VX-300LO Line Output Module

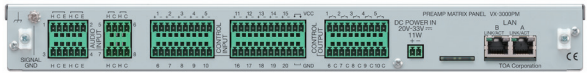
- Line output module to be mounted in the VX-3000 frame
- Outputs audio signals at the line level from the VX-3000 Frame to an external device

| Specifications | VX-300LO |
|---|---|
| Applicable Model | VX-3004F, VX-3008F, VX-3016F |
| Power Source | Supplied from the VX-3000 Frame (DA CONTROL LINK) |
| Current Consumption (*1) | Max. 2 mA (Current through DC POWER IN) |
| Input | DA CONTROL LINK: Connector (15 pins) |
| Audio Output (*1) | 1 Channel<br>Output signal level: 0 dB (*2)<br>Adjustable range of the volume control: -∞ to 0 dB<br>Output method: 10 kΩ, transformer-balanced<br>Applicable load impedence: 2 kΩ or more<br>Frequency Response: 40 Hz - 20 kHz ±1 dB<br>Distortion: 1 % or less (0 dB (*2) output, 1 kHz)<br>Signal to Noise Ratio: 60 dB or more<br>Removable terminal block (3 pins) |
| Finish | Surface-treated steel plate |
| Dimensions (W x H x D) | 76 x 39 x 33.2 mm |
| Weight | 56 g |

(*1) When installed in VX-3000 Frame.
(*2) 0 dB = 1 V

# VX-3000PM Preamp Matrix Panel

VX-3000PM front



VX-3000PM rear

- Preamplifier matrix panel enabling the additional audio inputs, control inputs and control outputs to the VX-3000 system
- Equipped with 8 audio inputs with volume controls, 20 control inputs and 10 control outputs
- Provides unicast audio streaming functionality.
- Unicast audio streaming is possible among VX-3000PMs.
- 1 unit can be connected to a single VX-3000 Frame and a maximum of 40 units can be configured per system

## Specifications

| | VX-3000PM |
|---|---|
| Power Source | 20 – 33 V DC, removable terminal block (2 pins) |
| Current Consumption | 0.33 A at 33 V DC input, 0.35 A at 24 V DC input |
| LAN A, B | Number of Connectors: 2 (LAN A, LAN B)<br>Network I/F: 100BASE-TX<br>Network Protocol: TCP, UDP, ARP, ICMP, RTP, IGMP, HTTP<br>Spanning tree Protocol: RSTP<br>Audio Transmission System: TOA Packet Audio (*1)<br>Audio Encoding Method: PCM<br>Audio Sampling Frequency: 48 kHz<br>Audio Quantifying Bit Number: 16 bits<br>Connection Device: VX-3004F, VX-3008F, VX-3016F, NX-300, VX-3000CT, VX-3000PM, Switching HUB<br>Connector: RJ45 connector<br>Connection Cable: Category 5 twisted pair cable (CAT5) or greater<br>Maximum Cable distance: 100 m |
| Audio Input | 8 inputs<br>Input Level:<br>Input 1 - 4: -60 dB (*2)/ -40 dB (*2)/ -20 dB (*2)/0 dB (*2) selectable, input impedance 600 Ω, transfomer-balanced<br>Input 5, 6: -20 dB (*2) , input impedance 10 kΩ, unbalanced<br>Input 7, 8: 0 dB (*2) , input impedance 10 kΩ, unbalanced<br>Frequency Responce: -60 dB (*2): 200 Hz - 10 kHz, -2 dB ±3 dB<br>-40 dB (*2)/ -20 dB(*2)/ 0dB(*2): 100 Hz - 15 kHz, -2 dB ±3 dB<br>Distortion: 1% or less<br>Signal to Noise Ratio: 60 dB or more<br>Removable terminal block (6 pins x 2, 4 pins x 2)<br>Only Input 1 is used in common with the front-mounted ø6.3 mm phone jack |
| Control Input | 20 channels, no-voltage make contact input, open voltage: 30 V DC, short-circuit current: 2 -10 mA<br>Connector: Removable terminal block (10 pins x 2, 12 pins x 2) |
| Control Output | Channels 1 - 5, relay (a contact), withstand voltage: 30 V DC, control current: 1 A<br>Channels 6 - 10, open collector output (polarized), withstand voltage: 30 V DC control current 100 mA<br>Connector: Removable terminal block (10 pins) x 2 |
| Indicators | Signal Indicator (Green) x 8, Run (Green) x 1, LINK/ACT (Green) x 2 |
| Volume Control | 8 channels |
| Operation | Input level setting switch x 1, IP address setting switch x 1 |
| Dimensions (W x H x D) | 482 x 44 x 292.4mm |
| Weight | 3.2 kg |

(*1) TOA's unique technology which makes it possible to transmit high-quality audio signal in real time over an IP network.
(*2) 0 dB = 1 V

## VX-3000CT　Control Panel

VX-3000CT front

With volume control section cover

VX-3000CT rear

- Control panel with 9 function keys and 8 volume control knobs for easy operation
- Function keys are used for public address operation such as the activation of general broadcast.
- Volume controls allow volume level adjustment of the frame's audio input or audio output (assignable).
- Up to 2 units can be connected to a single frame unit.

| Specifications | VX-3000CT |
|---|---|
| Power Source | 20 – 33 V DC, removable terminal block (4 pins) |
| Current Consumption | 0.09 A at 33 V DC input, 0.11 A at 24 V DC input |
| LAN A, B | Number of Connectors: 2 (LAN A, LAN B)<br>Network I/F: 100BASE-TX<br>Network Protocol: TCP, ARP, ICMP, HTTP<br>Connection Device: VX-3004F, VX-3008F, VX-3016F, NX-300, VX-3000CT, VX-3000PM, Switching HUB<br>Connector: RJ45 connector<br>Connection Cable: Category 5 twisted pair cable (CAT5) or greater<br>Maximum cable distance: 100 m |
| Panel Indicator | Power (Green) x 1, Run (Green) x 1, Link/ACT (Green) x 2, Signal (Green) x 8, Fault (Yellow) x 1, Status (Green/Yellow) x 9, Select (Green) x 9 |
| Volume Control | 8 channels |
| Operation | Function key x 9, Reset Key x 1, IP address setting switch x 1 |
| Dimensions (W x H x D) | 482 x 44 x 315.2 mm |
| Weight | 3 kg |

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

EN 54 4　EN 54 16　EN 50121 4

VX-3000DS front

VX-3000DS rear

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

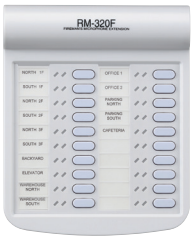
| Specifications | VX-3000DS | VX-3150DS |
|---|---|---|
| Power Source | 220 – 230 V AC, 50/60 Hz | |
| Power Consumption | 2800W max in total (at rated output with charging), 650 W max in total,<br>350 W max each (EN 60065) | 1460 W max in total (at rated output with charging),<br>460 W max in total |
| DC Power Output (AC mode) | Rated output: 2300 W (total DC power output),<br>Peak output: 2780 W (total DC power output) | Rated output: 1140 W (total DC power output),<br>Peak output: 1280 W (total DC power output) |
| DC Power Output | 8 x 31 V (19 – 33 V) 25 A max. each, M4 screw terminal, distance between barriers: 11 mm<br>3 x 31 V (19 – 33 V) 5 A max. each, removable terminal block (3 x 2 pins)<br>1 x 24 V (16 – 25 V) 0.3 A max., removable terminal block (1 x 2 pins) | |
| Charging Method | Temperature compensated trickle charging | |
| Charging Output Voltage | 27.3 V ± 0.3 V (at 25 ˚C), Temperature correction coefficient: -40 mV/˚C | |
| Battery Connection | 1 pair of positive and negative terminals; Applicable cable diameter: AWG 6 – AWG 0 (AWG 1/0) (16 mm² – 50 mm²)<br>Line resistance within 4 mΩ/ total | |
| Control Connector<br>DS LINK IN/OUT | RJ45 female connector for connecting the system and cascade connection,<br>Shielded Twisted-pair straight cable (TIA/EIA-568A standard)<br>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) | AC power IN (Green) |
| | 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 | |
| Weight | 11.8kg | |

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

RM-200SF

Alarm Switch

Microphone




RM-320F

- Wall mount remote microphone for both general and emergency broadcast
- Possible to simultaneously broadcast to all zones or limited to selected zones only.
- VX-3000 setting software permits desired functions to be assigned to individual function keys (equipped with 2 LED indicators).
- CPU-switch for emergency broadcast to all zones even in case of a CPU error
- RM-320F: Key extension unit with 20 additional keys
- Up to 4 RM-320F Extension units can be used with each RM-200SF Remote Microphone.

| Specifications | RM-200SF | RM-320F |
|---|---|---|
| Power Source | 24 V DC (operating range: 15 – 40 V DC),supplied from the audio input unit | - |
| Current Consumption | 240 mA or less | 180 mA max. (in terms of RM-300MF) |
| Distortion | 1% or less | - |
| Frequency Response | 200 Hz – 15 kHz | - |
| Signal-to-Noise Ratio | 55 dB or more | - |
| Audio Output | 0dB V, transformer-balanced | - |
| Microphone | Unidirectional dynamic microphone with talk key, AGC (ON/OFF switchable), microphone element failure detectable by using a built-in small oscilliator | - |
| Volume Control | Microphone volume, Monitor speaker volume | - |
| Connection Cable | Shielded CPEV cable(each one pair of audio wire, data wire, monitor/ control wire, and power supply wire) or Shielded Category 5 twisted pair cable (CAT5-STP) or greater, 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 |
| Applicable Box | Wall mouting box: YS-11A | - |

# RM-300X Remote Microphone
# RM-210F Extension

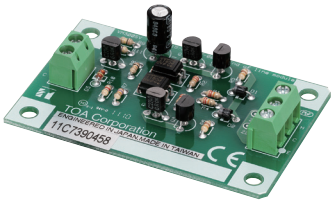
RM-300X

RM-210F

- Desktop Microphone for both general and emergency broadcast
- Possible to simultaneously broadcast to all zones or limited to selected zones only.
- VX-3000 setting 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.
- Can be mounted on the wall by using optional wall mounting bracket WB-RM200.

| Specifications | RM-300X | RM-210F |
|---|---|---|
| Power Source | 24 V DC (operating range: 15 - 40 V DC, supplied from the voice evacuation frame) or DC input power supply connector (when the optional AD-246 power supply unit used.) | Supplied from the optional RM-300X |
| Current Consumption | 240 mA or less | 80 mA or less |
| Audio Output | 0 dB(*1), 600 Ω, balanced | - |
| External Microphone Input | -40 dB(*1), 2.2 kΩ, unbalanced, ø3.5 mm phone jack (2P) for electret condenser microphone, (phantom power supply:3 V DC)<br>-20 dB(*1), 4,7 kΩ, unbalanced, ø3.5 mm phone jack (2P) (AUX Input) | - |
| Frequency Response | 100 Hz – 20 kHz | - |
| Distortion | 1 % or less | - |
| Signal-to-noise Ratio | 60 dB or more | - |
| Microphone | Unidirectional electret condenser microphone with AGC (ON/OFF selectable) | |
| Chime | Built inside (PCM sound source), Monitoring possible using built-in speaker | |
| Level Control | Microphone sensitivity control, Monitor speaker volume control, Chime(adjustable using the software) | - |
| Connection Cables | Main line: Shielded CPEV cable(1 pair of audio wire + 1 pair of data wire + 1 pair of monitor/control wire + 1pair of power supply wire) or Shielded Category 5 twisted pair cable(-CAT5-STP) or greater, Branch line: Shielded Category 5 twisted pair cable (CAT5-STP) or greater, RJ45 connector | |
| No. of Connectable RM-210F | Max. 7 units | - |
| Operation | Function switch, Covered switch, Broadcast switch | Function key x 10 |
| 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 | 880 g | 350 g |
| Option | Remote microphone extention: RM-210F, Wall mouting bracket: WB-RM200<br>Electret condenser microphone: WH-4000A, YP-M101, YP-M301 etc. | Wall mouting bracket: WB-RM200 |

## 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 the VX-3016F.

## 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.

## RM-500 Remote Microphone

## WB-RM500 Wall Mounting Bracket

- Desktop Microphone for general broadcast
- Possible to simultaneously broadcast to all zones or limited to selected zones only.
- Group names can be displayed on the LCD screen as the broadcast destinations. In additon, visible and comprehensive icons are adopted for the broadcast status.
- Up to 80 pre-registered zones can be selected by key operation.
- Regardless of microphone announcements or not, the AUX key can control the external audio signals.
- The speech intelligibility function makes it easier to hear the microphone announcements even in noisy environments, and also allows the microphone to pick up the audio signals at an appropriate level even if speaking too close to or too far away.
- Equipped with a control output terminal, external sound equipment can be activated from this microphone.
- Equipped with a control input terminal, arbitrary broadcast can be activated.
- Can be mounted on the wall by using an optional wall mounting bracket (sold separately), with the orientation of the microphone is changed.

| Specifications | RM-500 |
|---|---|
| Power Source | 24 V DC (operating range: 15 to 33 V DC, supplied from the voice evacuation frame)<br>or DC input power supply connector (when the optional AD-246 power supply unit used).<br>Usable DC power supply plug: 5.5 mm (0.22") outer diameter,<br>2.1 mm (0.08") inner diameter,<br>9.5 mm (0.37") long, polarized, center positive |
| Current Consumption | 130 mA or less |
| Audio Output | 0 dB*, balanced, RJ45 connector |
| AUX Input | 1 channel, unbalanced, LINE/MIC (selectable with the DIP switch)<br>LINE: –20 dB*, 10 kΩ, push-in terminal block<br>MIC: –60 dB*, 2.2 kΩ, push-in terminal block |
| Control Input | 1 channel, no-voltage make contact inputs, open voltage: 33 V DC,<br>short-circuit current: 10 mA , push-in terminal block |
| Control Output | 1 channel, open collector output, withstand voltage: 30 V DC,<br>control current: 35 mA, push-in terminal block |
| Distortion | 1% or less |
| Frequency Response | 100 Hz to 20 kHz |
| Signal-to-noise Ratio | 60 dB or more |
| Microphone | Unidirectional electret condenser microphone |
| Chime | Uses the built-in sound sources of the main system unit<br>(one of them selectable by the main system settings) |
| Volume Control | Microphone volume control, AUX volume control |
| Connection Cable | Shielded Category 5 twisted pair LAN cable (CAT5-STP), RJ45 connector<br>Maximum cable distance: 1200 m (3937.01 ft) (when powered by the optional AD-246 AC adaptor) |
| External Equipment Connection Cable | Solid copper wire: ø0.4 – ø1.1 mm (AWG 28 – 17) |
| Operation | Numeric key x 10, Left/right selection key x 2, F1/F2 key x 2, ALL key x 1, Clear key x 1, Talk key x 1, AUX key x 1 |
| Indicator | LCD display: 3" (255 x 160 dots), with backlight Indicator: Talk indicator (green), Microphone indicator (green) |
| Operating Temperature | 0 to 40 °C (32 to 104 °F) |
| Operating Humidity | 90% RH or less (no condensation) |
| Finish | ABS resin, black, paint |
| Dimensions (W x H x D) | 224 (w) x 47.2 (h) x 136 (d) mm (8.82" x 1.86" x 5.35") (excluding microphone) |
| Weight | 620 g (1.37 lb) |
| Accessories | Zip tie .... 2 |
| Option | Wall mounting bracket: WB-RM500, AC adapter: AD-246 |

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Specifications are subject to change without notice for improvement. (202603) 8336110042-06