

**DESCRIPTION**

The VX-3004F is a device designed to control the Voice evacuation announcements of TOA's VX-3000 Series rack-mount type voice evacuation system which is compliant with the European Standard EN54 for fire alarm systems. It has audio input terminals and can output the amplified audio signals to the speaker lines when the optional power amplifier modules are mounted.

It is possible to make an Emergency Warning Broadcast assigned a higher priority than the Emergency broadcast. Two patterns of the Emergency broadcast can be activated simultaneously.

Compatible with network, the system can be configured in distributed arrangement.

Features include the following functions: Digital signal processing function that enables appropriate acoustic adjustment for individual input sound sources and output areas, Feedback suppressor function that automatically suppresses acoustic feedback when it occurs, VOX function that allows start/stop control of broadcast by way of an audio trigger, and ANC function that enables an ambient noise control. (The ANC function distinguishes between the unit's output sound and the ambient noise. The unit's output sound is not detected as noise.)

Using the weekly program timer function permits the control of general broadcast to be activated at the preset time. Indicators that show such statuses as fault status and power amplifier signal status are provided.

It has 4 speaker output channels, each of which is provided with A and B lines to enable duplication of the speaker lines. Up to 4 power amplifier modules can be mounted.

The 4-channel amplifier can be used either for zone output or standby use.

As the VX-3004F is equipped with Standby amplifier input/output terminal, the standby amplifier, when mounted, can be shared among VX-3000F units.

**SPECIFICATIONS**

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| Power Source         | 20 - 33 V DC, removable terminal block (4 pins)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Power Consumption    | 24 W (frame only) at 33 V DC input, 90 W (RS LINK: 2 A output) at 33 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, FTP, HTTP, NTP<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-3000PM, VX-3000CT, Switching HUB<br>Connector: RJ45 connector<br>Connection Cable: Category 5 twisted pair cable (CAT5) or greater<br>Number of Stages of Cascade connection: UP to 7<br>Maximum Cable Distance: 100 m (328.08 ft) |
| RS Link A, B         | Number of Connectors: 2 (RS LINK A, RS LINK B)<br>Audio input level: 0 dB (*2)<br>Power feed: Max. 1 A per connector<br>Connector: RJ45 connector<br>Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater<br>Maximum Cable Distance: 1200 m (3937.01 ft)                                                                                                                                                                                                                                                                                                                                                     |
| DS Link              | Connection Device: DS LINK of Power supply units<br>Connector: RJ45 connector<br>Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater<br>Maximum Cable Distance: 5 m (16.4 ft)                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Analog Link          | Number of Connectors: 1 input, 1 output<br>Connection Device: VX-3004F, VX-3008F, VX-3016F<br>Connector: RJ45 connector<br>Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater<br>Maximum Cable Distance: 800 m (2624.67 ft)                                                                                                                                                                                                                                                                                                                                                                                |
| Control Input 1, 2   | 16 inputs, no-voltage make contact input, open voltage: 24 V DC,<br>short-circuit current: 2 mA<br>Fault Detection System: Short circuit, Open circuit, Method: Voltage detect<br>Connector: RJ45 connector<br>Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater                                                                                                                                                                                                                                                                                                                                          |
| Emergency Control IN | Input 2: Isolated voltage input, -24 to +24 V<br>Connector: RJ45 connector<br>Connection Cable: Category 5 twisted pair cable (CAT5) or greater                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VOX Function         | Threshold: -60 to 0 dB (1 dB steps)<br>Hysteresis: 0 to +10 dB, Hold time: 10 ms - 10 s<br>Settable for each audio input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Control Output 1, 2  | General outputs : 8 with CONTROL OUTPUT 1<br>Exclusive outputs : 3 with CONTROL OUTPUT 2<br>GENERAL FAULT, CPU FAULT, CPU OFF<br>No-voltage make contact, electrical contact output,<br>control current: 10 mA, withstand voltage: 28 V DC<br>Connector: RJ45 connector<br>Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater                                                                                                                                                                                                                                                                              |

## SPECIFICATIONS

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| 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<br>Connector: Removable terminal block (12 pins) ...2                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Audio Input 1, 2, 3, 4                                                                   | 4 inputs<br>Sensitivity:<br>LINE: -20 dB (*2), MIC: -60 dB (*2)<br>LINE/MIC/ANC Sensor (changeable with setting software)<br>Gain Control: volume adjustable with volume control (internal front panel)<br>-∞ to 0 dB<br>Input Impedance: 47 kΩ, electronically-balanced<br>Frequency Response: 40 Hz - 20 kHz ±1 dB (at DA CONTROL LINK, 0 dB output)<br>Distortion: 1% or less (at DA CONTROL LINK, 0 dB output, 1 kHz)<br>Signal to Noise Ratio: 60 dB or more (at DA CONTROL LINK, A-weighted)<br>Phantom Power Supply: 24 V DC, can be set with setting software<br>Connector: Removable terminal block (6 pins) ...2 |
| Digital Signal Processing                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Feedback Suppression Function (FBS)                                                      | 7 filters (auto),<br>Settable for each audio input and RS LINK (A/B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Equalizer/Filter                                                                         | 3 bands for each audio input and RS LINK (A/B),<br>6 bands for each amplifier output<br>Parametric equalizer: 20 Hz - 20 kHz, ±15 dB, Q: 0.267 - 69.249<br>Filtering: High-pass filter 20 Hz - 20 kHz, 6 dB/oct, 12 dB/oct<br>Low-pass filter 20 Hz - 20 kHz, 6 dB/oct, 12 dB/oct<br>High shelving filter 6 - 20 kHz, ±15 dB<br>Low shelving filter 20 - 500 Hz, ±15 dB<br>Notch filter (amplifier output only) 20 Hz - 20 kHz, Q: 8.651 - 69.249<br>All-pass filter (amplifier output only) 20 Hz - 20 kHz, Q: 0.267 - 69.249<br>Horn equalizer (amplifier output only) 20 kHz, 0 to +18 dB (0.5 dB steps)                |
| Compressor                                                                               | Threshold: -20 to 0 dB (1 dB steps)<br>Ratio: 1:1, 1.1:1, 1.2:1, 1.3:1, 1.5:1, 1.7:1, 2:1, 2.3:1, 2.6:1, 3:1, 4:1, 5:1, 7:1, 8:1, 10:1, 12:1, 20:1, ∞:1<br>Attack time: 0.2 ms - 5 s, Release time: 10 ms - 5 s<br>Gain: -∞ to +10 dB, Knee type: hard knee, middle knee, soft knee                                                                                                                                                                                                                                                                                                                                        |
| Delay                                                                                    | For each amplifier output, 0 - 2730 ms (0.021 ms steps)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ANC (Ambient Noise Control)                                                              | Amplifier output level control, Automatic sensor input reference level measuring,<br>Sensor input reference level fine adjustment<br>Maximum output signal level control: -15 to 0 dB<br>Minimum output signal level control: -18 to -3 dB<br>Sample time setting: 10 s, 20 s, 30 s, 1 min, 5 min<br>Gain ratio setting: (Ambient noise: Output signal level) 6:3, 5:3, 4:3, 3:3, 3:4, 3:5, 3:6<br>Ambient noise measuring frequency setting: 20 Hz - 20 kHz, 3 points                                                                                                                                                     |
| Program Timer                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Weekly program method<br>Daily program: 50 events, 10 types<br>Holiday program: 50 types |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Time Adjustment                                                                          | Control input, NTP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Speaker Line                                                                             | 4 channels (with A/B LINE speaker output), 1 Earth terminal<br>Maximum Voltage/Current: 100 Vrms, 5 Arms<br>Connector: Removable terminal block (17 pins) ...1<br>Fault Detection System: Short circuit, Open circuit, Ground fault,<br>Method: Impedance or End of line                                                                                                                                                                                                                                                                                                                                                   |
| Standby Amplifier Input/Output                                                           | Input: 1, Output: 1<br>Maximum Voltage/Current: 100 Vrms, 5 Arms<br>Connector: Removable terminal block (2 pins) ...2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Module (*3)                                                                              | Number of Modules: 4<br>DA CONTROL LINK ...4,<br>DA OUTPUT LINK ...4 (Used only when a power amplifier module is installed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Indicators                                                                               | POWER (green) ...1, RUN (green) ...1, EMERGENCY (red) ...1, CPU OFF (red) ...1,<br>LAN A (green) ...1, LAN B (green) ...1, RS LINK A (green) ...1, RS LINK B (green) ...1<br>FAULT STATUS (yellow)<br>GENERAL ...1, UNIT ...1, NETWORK ...1, EMG MIC ...1, FUSE ...1, POWER ...1, CPU ...1,<br>ZONE ...8<br>AMPLIFIER<br>PEAK (red) ...4, SIGNAL (green) ...4, OPERATE (green) ...4, POWER (green) ...4                                                                                                                                                                                                                    |
| Operation                                                                                | Fault Control Switch ...2 (ACK/RESET)<br>Test Switch ...1 (LAMP TEST)<br>Setting Switch: ID NUMBER, RESET, IMPEDANCE, Setting (internal front panel)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## SPECIFICATIONS

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| Operating Temperature | -5 °C to +45 °C (23 °F to 113 °F)                                                                                                                                                                                                                                                         |
| Operating Humidity    | 90 %RH or less (no condensation)                                                                                                                                                                                                                                                          |
| Finish                | Panel: Surface-treated steel plate, black, 30 % gloss, paint                                                                                                                                                                                                                              |
| Dimensions            | 483 (W) × 132.6 (H) × 345 (D) mm (19.02" × 5.22" × 13.58")                                                                                                                                                                                                                                |
| Weight                | 7.6 kg (16.75 lb)                                                                                                                                                                                                                                                                         |
| Accessory             | Rack mounting screw ---4, Removable terminal plug (2 pins) ---2,<br>Removable terminal plug (4 pins) ---1, Removable terminal plug (6 pins) ---2,<br>Removable terminal plug (12 pins) ---2, Removable terminal plug (17 pins) ---1,<br>CD (PC setting software) ---1, Ferrite clamp ---2 |

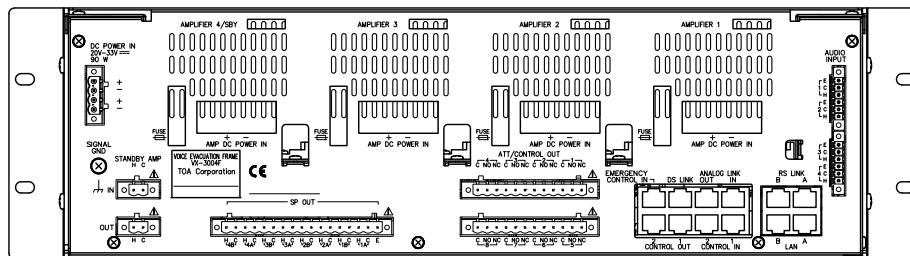
(\*1) TOA's unique technology which makes it possible to transmit high-quality audio signals in real time over an IP network.

(\*2) 0 dB = 1 V

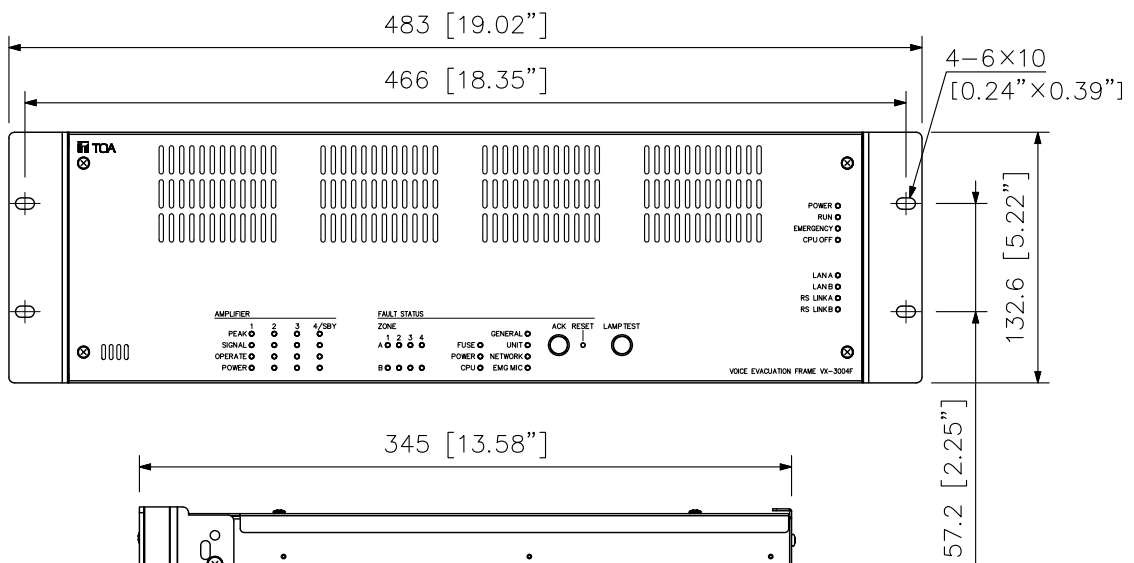
(\*3) Module: Digital power amplifier module, Line output module

## APPEARANCE

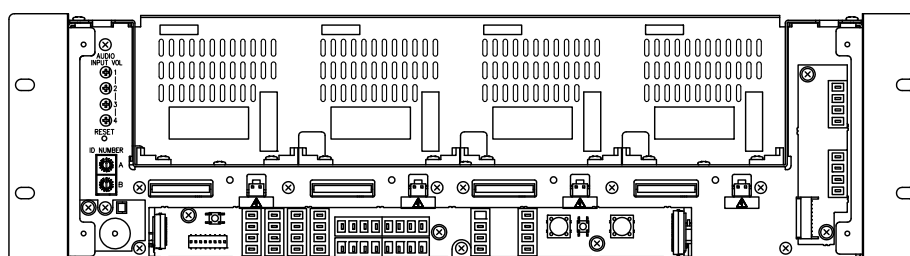
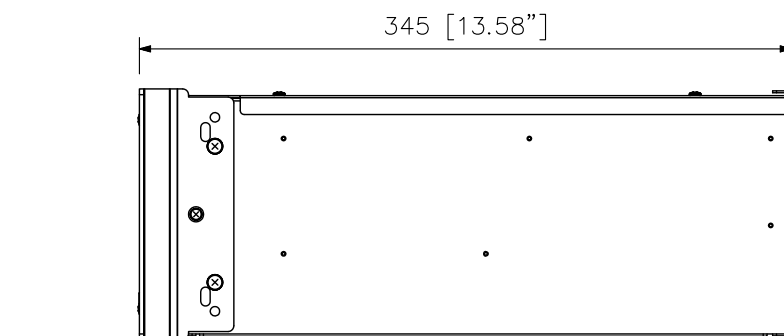
Rear View



Front View



Side View



Front view without front panel

UNIT:mm SCALE:1/4