



VOICE EVACUATION FRAME 16SS

VX-3016F

DESCRIPTION

The VX-3016F 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 adjustment for individual input sound sources and output amplifiers, 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.)

Indicators that show such statuses as fault status and power amplifier signal status are provided.

It has 16 speaker output channels.

The number of mountable amplifier modules is up to 2 when used as zone amplifiers or a total of 2 when one is used as standby amplifier and the as zone amplifier. When one module for zone amplifier use is mounted, the VX-3016F can be used as 1-bus/16-zone output speaker selector. When 2 modules for zone amplifier use are mounted, it can be used as 2-channel 1-bus/8-zone output speaker selector.

Zones can be expanded by connecting the unit having amplifier module(s) and the one having no amplifier module.

As the VX-3016F 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 | 29 W (frame only) at 33 V DC input, 95 W (RS LINK: 2 A output) at 33 V DC input |
| 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 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: VX-3004F, VX-3008F, VX-3016F, NX-300, Switching HUB Connector: RJ45 connector Connection Cable: Category 5 twisted pair cable (CAT5) or greater Number of Stages of Cascade connection: UP to 7 Maximum Cable Distance: 100 m (328.08 ft) |
| RS Link A, B | Number of Connectors: 2 (RS LINK A, RS LINK B) Audio input level: 0 dB (*2) Power feed: Max. 1 A per connector Connector: RJ45 connector Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater Maximum Cable Distance: 1200 m (3937.01 ft) |
| DS Link | Connection Device: DS LINK of Power supply units Connector: RJ45 connector Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater Maximum Cable Distance: 5 m (16.4 ft) |
| Analog Link | Number of Connectors: 1 input, 1 output Connection Device: VX-3004F, VX-3008F, VX-3016F Connector: RJ45 connector Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater Maximum Cable Distance: 800 m (2624.67 ft) |
| Control Input 1, 2 | 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: Shielded Category 5 twisted pair cable (CAT5-STP) or greater |
| Emergency Control IN | Input 2: Isolated voltage input, -24 to +24 V Connector: RJ45 connector Connection Cable: Category 5 twisted pair cable (CAT5) or greater |
| 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 No-voltage make contact, electrical contact output, control current: 10 mA, withstand voltage: 28 V DC Connector: RJ45 connector Connection Cable: Shielded Category 5 twisted pair cable (CAT5-STP) or greater |



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| ATT/Control Output | 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 DC Connector: Removable terminal block (12 pins) ×4 |
| Audio Input 1, 2, 3, 4 | 4 inputs Sensitivity: LINE: -20 dB (*2), MIC: -60 dB (*2) LINE/MIC/ANC Sensor (changeable with setting software) Gain Control: volume adjustable with volume control (internal front panel) -∞ to 0 dB Input Impedance: 47 kΩ, electronically-balanced Frequency Response: 40 Hz - 20 kHz ±1 dB (at DA CONTROL LINK, 0 dB output) Distortion: 1% or less (at DA CONTROL LINK, 0 dB output, 1 kHz) Signal to Noise Ratio: 60 dB or more (at DA CONTROL LINK, A-weighted) Phantom Power Supply: 24 V DC, can be set with setting software Connector: Removable terminal block (6 pins) ×2 |
| Digital Signal Processing | |
| Feedback Suppression Function (FBS) | 7 filters (auto), Settable for each audio input and RS LINK (A/B) |
| Equalizer/Filter | 3 bands for each audio input and RS LINK (A/B), 6 bands for each amplifier output Parametric equalizer: 20 Hz - 20 kHz, ±15 dB, Q: 0.267 - 69.249 Filtering: High-pass filter 20 Hz - 20 kHz, 6 dB/oct, 12 dB/oct Low-pass filter 20 Hz - 20 kHz, 6 dB/oct, 12 dB/oct High shelving filter 6 - 20 kHz, ±15 dB Low shelving filter 20 - 500 Hz, ±15 dB Notch filter (amplifier output only) 20 Hz - 20 kHz, Q: 8.651 - 69.249 All-pass filter (amplifier output only) 20 Hz - 20 kHz, Q: 0.267 - 69.249 Horn equalizer (amplifier output only) 20 kHz, 0 to +18 dB (0.5 dB steps) |
| Compressor | Threshold: -20 to 0 dB (1 dB steps) 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 Attack time: 0.2 ms - 5 s, Release time: 10 ms - 5 s 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, Sensor input reference level fine adjustment Maximum output signal level control: -15 to 0 dB Minimum output signal level control: -18 to -3 dB Sample time setting: 10 s, 20 s, 30 s, 1 min, 5 min Gain ratio setting: (Ambient noise: Output signal level) 6:3, 5:3, 4:3, 3:3, 3:4, 3:5, 3:6 Ambient noise measuring frequency setting: 20 Hz - 20 kHz, 3 points |
| Speaker Line | 16 channels, 2 Earth terminals Maximum Voltage/Current: 100 Vrms, 5 Arms Connector: Removable terminal block (17 pins) ×2 Fault Detection System: Short circuit, Open circuit, Ground fault, Method: Impedance or End of line |
| Standby Amplifier Input/Output | Input: 1, Output: 1 Maximum Voltage/Current: 100 Vrms, 5 Arms Connector: Removable terminal block (2 pins) ×2 |
| Extension Amplifier Input/Output | Input: 1, Output: 1 Maximum Voltage/Current: 100 Vrms, 5 Arms Connector: Removable terminal block (2 pins) ×2 |
| Power Amplifier | Number of Amplifiers: 2 Connector: DA CONTROL LINK ×2, DA OUTPUT LINK ×2 |
| Indicators | POWER (green) ×1, RUN (green) ×1, EMERGENCY (red) ×1, CPU OFF (red) ×1, LAN A (green) ×1, LAN B (green) ×1, RS LINK A (green) ×1, RS LINK B (green) ×1 FAULT STATUS (yellow) GENERAL ×1, UNIT ×1, NETWORK ×1, EMG MIC ×1, FUSE ×1, POWER ×1, CPU ×1, ZONE ×16 AMPLIFIER PEAK (red) ×2, SIGNAL (green) ×2, OPERATE (green) ×2, POWER (green) ×2 |
| Operation | Fault Control Switch ×2 (ACK/RESET) Test Switch ×1 (LAMP TEST) Setting Switch: ID NUMBER, RESET, IMPEDANCE, Setting (internal front panel) |
| 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 |

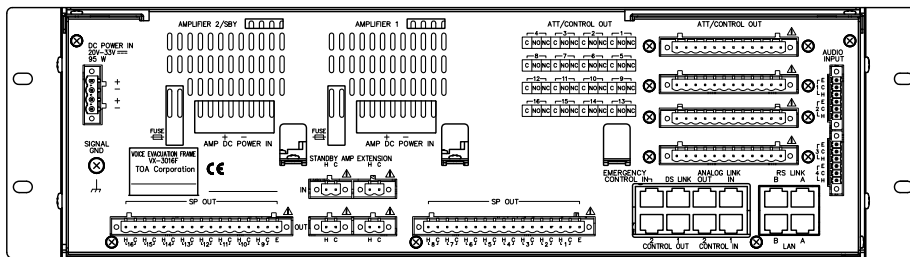
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| Dimensions | 483 (W) × 132.6 (H) × 345 (D) mm (19.02" × 5.22" × 13.58") |
| Weight | 8.1 kg (17.86 lb) |
| Accessory | Rack mounting bracket (preinstalled on the unit) ×2, Rack mounting screw ×4, Removable terminal plug (2 pins) ×4, Removable terminal plug (4 pins) ×1, Removable terminal plug (6 pins) ×2, Removable terminal plug (12 pins) ×4, Removable terminal plug (17 pins) ×2, CD (PC setting software) ×1, Ferrite clamp ×2 |

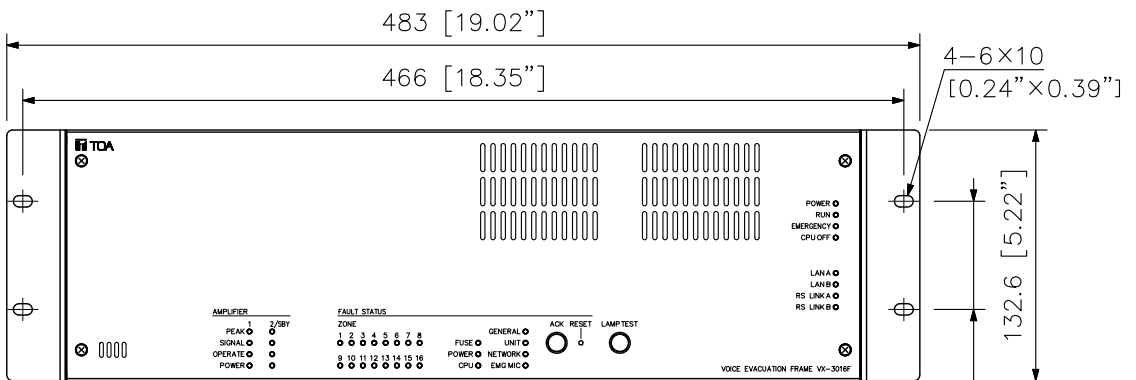
(*1) TOA's unique technology which makes it possible to transmit high-quality audio signals in real time over an IP network.
 (*2) 0 dB = 1 V

■ APPEARANCE

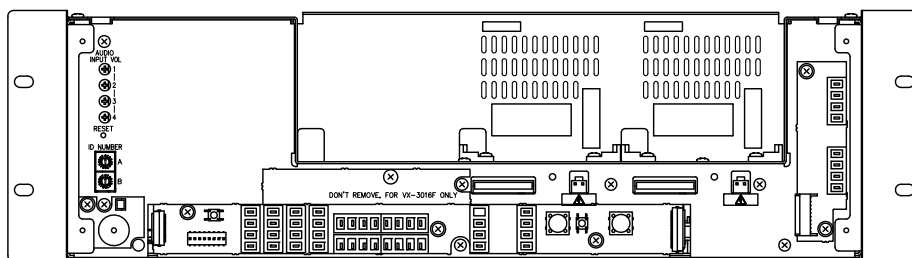
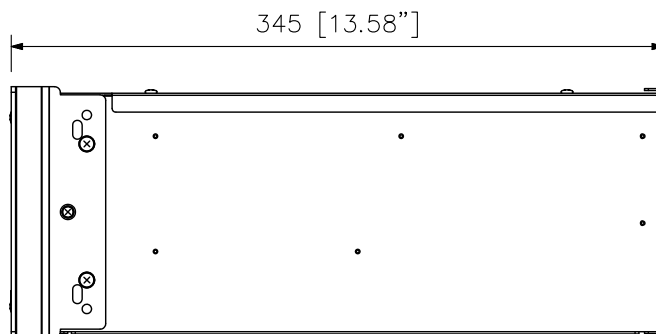
Rear View



Front View



Side View



Front view without front panel

UNIT:mm SCALE:1/4