

NFV-25/50DA

(FireVoice-25/50DA)

Distributed Audio Panel



Voice Control Systems

General

The Notifier FireVoice-25/50DA (NFV-25/50DA) is a compact Distributed Audio (DA) panel which is designed to interface with the **FireVoice-25/50** (NFV-25/50) Series audio panels to distribute audio in systems that require more than 25 watts.

The NFV-25/50DA is offered in a self-contained modular design that includes a single channel, 25 Watt, 25 VRMS audio amplifier. An optional 25 Watt, 25 VRMS audio amplifier is available to expand the NFV-25/50DA to 50 Watts (providing dual 25 Watt speaker circuits) or as a secondary, backup amplifier.

The NFV-25/50DA can be used to distribute voice evacuation audio throughout a facility. The audio riser input provides automatic gain control (AGC) which compensates for any audio signal loss due to circuit loading or cable length, to ensure delivery of a full output signal to the speakers. For systems requiring 24-hour backup, the built-in power supply and battery charger are able to charge up to 18 AH batteries. Up to 25 NFV-25/50DA units can be connected to an (NFV-25/50) master unit. If all units are equipped with the optional second amplifier, the total wattage can be 1300 watts.

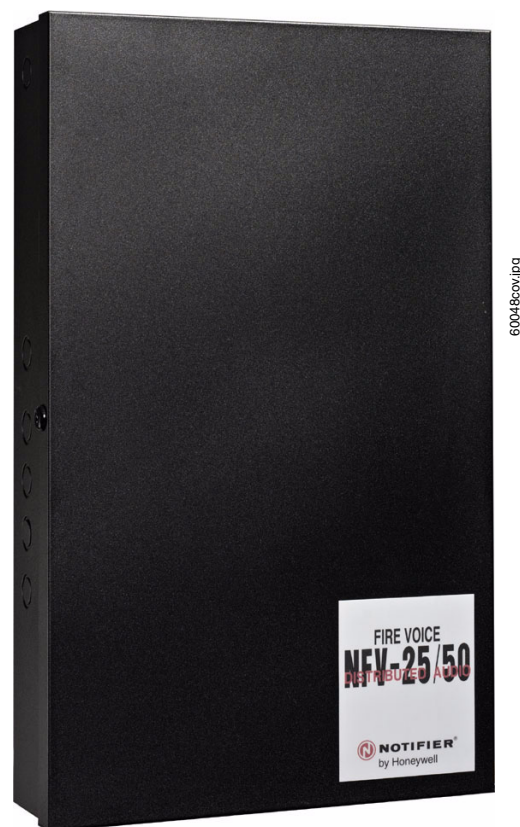
Other options include a digital message generator module providing a factory-recorded voice with field-record and playback capability (up to five distinct messages). Optional 70.7 VRMS conversion modules are available for applications requiring 70.7 VRMS speakers.

Significant technological enhancements, set the NFV-25/50DA Series apart from other voice panels. The NFV-25/50DA has full supervision in both active alarm and standby conditions. Independent power feeds to each amplifier ensures that a short circuit in one amplifier will not shut down the other. Full output power (25 watts per amplifier) is generated with the optional 70.7 VRMS transformer module during low battery conditions. Additionally, modern integrated circuits, as opposed to transformer technology, amplifies audio for very low signal distortion.

Suitable applications include, but are not limited to: schools, auditoriums, dormitories, theaters, restaurants, places of worship, motels/hotels, office buildings, and factories.

Features

- 25 watts of 25 VRMS audio power (expandable to 50 watts) per panel.
- Automatic gain control (AGC).
- Optional 70.7 VRMS conversion module available for each amplifier.
- Integral primary AC power supply and secondary battery charging circuit.
- Designed for maximum system flexibility and expansion.
- Unobstructed module access and removable terminal blocks for ease of service and maintenance.
- Optional digital message generator module (FC-MGM) with factory-prerecorded emergency evacuation message or custom 60-second recorded message capacity.
- Five Command Input Circuits.



- Field-selectable message and field recording capability using optional FC-MGM's RCA jack or mini audio input jack for connection to external audio devices.
- Built-in alert tone generators with steady, slow whoop, high/low or chime tones.
- Alert tone selection may be field-programmed to conform with ANSI S3.41 Audible Emergency Evacuation Signal (Temporal Pattern), per NFPA.
- Integral diagnostic LEDs include: Power, System Trouble, Active, Message Generator Trouble, Tone Generator Trouble, Amplifier Fault and others.
- Independent Form-C trouble relay allows FACP to monitor voice system while in active (alarm) state.
- 35 mA Special Application auxiliary power output for addressable modules and End-of-Line power supervision.
- Optional local playback speaker for use with optional message generator module.

Standard Modules

ACC-AAM25 - AUDIO AMPLIFIER MODULE

- Installed in the Distributed Audio Panel.
- Provides 25 watts of power at 25 VRMS and one fully supervised and power-limited speaker circuit that can be wired for Style Y (Class B) or Style Z (Class A) operation.

- Two LEDs to indicate amplifier supervision.

Optional Modules

ACC-AAM25 - AUDIO AMPLIFIER MODULE

- Optional second audio amplifier can expand system power to 50 watts (providing dual 25 watt speaker circuits).
- Can also be used as a backup amplifier.

FC-XRM70 - TRANSFORMER MODULE 70.7 VRMS

- Converts 25 VRMS to 70.7 VRMS at full rated 25 watt output power.

FC-MGM - MESSAGE GENERATOR MODULE

- Provides custom message recording capabilities and system audio backup.
- Custom messages may be recorded from audio sources connected to audio jack on FC-MGM.
- Built-in tone generators provide tones before and after messages as well as backup on message failure.

FC-LPS - LOCAL PLAYBACK SPEAKER

- Allows local review of digital messages (no need to broadcast over system speakers).

NOTE: The FC-LPS is not intended for permanent installation.

VEC-RM - REMOTE MICROPHONE MODULE

- Microphone module provides general paging capabilities over speaker circuits.
- When used with the NFV-25/50DA, a FCMIM (Microphone Interface Module) must be installed. The VEC-RM includes a FCMIM.

Specifications

Primary (AC) Power: Supervised, nonpower-limited circuit. 2.0 Amp maximum @ 120 VAC, 50/60 Hz. Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation.

Secondary Power (Battery) Charging Circuit: Maximum Charging Circuit: Normal Flat Charge - 27.6 VDC @ 800 mA. Maximum Battery Charger Capacity: 18 Amp Hour (cabinet holds maximum of two 18 Amp Hour batteries). Nonpower-limited, supervised. Supports lead acid batteries only.

AC Loss Relay: Relay contact rating: 2.0 amps @ 30 VDC (resistive), 0.6 amps @ 30 VAC (resistive). Non-supervised circuit.

Command Input Circuits: CMD1 & CMD2 circuits are independently field programmable to activate amplifiers on NAC polarity reversal or contact-closure. CMD3, CMD4 and CMD5 are fixed to activate on contact closure only. Power-limited and supervised circuitry. Normal Operating Voltage: 10.5 VDC - 29 VDC Maximum Voltage: 29 VDC.

Backup Audio In (on ACC-AAM25): A second optional ACC-AAM25 can be installed as a backup to the primary or to expand speaker power to 50 watts.

Speaker Circuit (on ACC-AAM25): Power-limited, supervised circuitry. Operation: Circuit can be wired Style Y (Class B) or Style Z (Class A). Normal Operating Voltage: 25 VRMS @ 1 amp max. and maximum load impedance of 25 Ohms (70.7 VRMS @ 350 mA max. with maximum load impedance of 200 Ohms operation possible by plugging optional FC-XRM70 conversion module into P1 of audio amplifier). Maximum total capacitance for each AAM-25/50: 250 uF.

Master CMD Bus: Supervised and power-limited circuitry. Normal Operating Voltage: 24 VDC regulated, filtered. Maximum Voltage: 25.4 VDC. Reverse Polarity Current: 125 mA maximum. Maximum Load Resistance: 200 ohms.

Special Application Power (Aux. Power): Non-Supervised and Power-limited circuitry. Up to 35 mA @ 24 VDC special application power is available for powering addressable modules and associated End-of-Line power supervision relays.

Form-C Trouble Relay: Form-C relay contact rating: 2.0 amps @ 30 VDC (resistive), 0.6 amps @ 30 VAC (resistive).

External Audio Inputs (on optional FC-MGM): **RCA Audio Jack Input (female connector):** Input Impedance: 30 Kohms maximum. Input Voltage: 700 mVRMS maximum. Input Current: 1 mA maximum @ 700 mV. Requires preamplifier output. Mates to an RCA phono 'plug' - 3mm diameter, 10mm length, 9mm shell diameter. **3.5 mm PC Audio Jack Input (female connector):** Input Impedance: 150 Kohms maximum. Input Voltage: 700 mVRMS maximum. Input Current: 1 mA maximum @ 700 mV. Requires preamplifier output.

FCMIM (optional): Connects to VEC-RM Remote Microphone Module to provide remote microphone paging capabilities.

Audio Riser: Magnetically isolated input utilizes signals up to 70.7 VRMS with a frequency range of 400 Hz to 4 KHz.

NOTE: Maximum input signal to the riser cannot exceed 25 VRMS with a 20 watt speaker load per amplifier or 20 VRMS with a 25 watt speaker load per amplifier when background music is enabled.

Trouble Contact Input: Non-supervised, non-isolated trouble input that can be used by chargers, power supplies, etc. Contact Closure Operation Current: 1.2 mA maximum.

CABINET SPECIFICATIONS

Door: 0.174" (0.44 cm) high x 0.28" (0.71 cm) wide x 0.05" (0.08 cm) deep.

Backbox: 26.0" (66.04 cm) high x 15.50" (39.37 cm) wide x 4.218" (10.71 cm) deep.

Trim ring: Outer measurement 21.62" (54.92 cm) high x 18.62" (47.30 cm) wide; inner opening 18.63" (47.31 cm) high x 15.63" (39.69 cm) wide; with six holes for #8-32 screws and cutouts for hinges.

Controls and Indicators

LED INDICATORS

- **Main Circuit Board**
 - Power On (green)
 - AC Power (green)
 - Active (green)
 - System Trouble (yellow)
 - Tone Generator Trouble (yellow)
 - Battery Trouble (yellow)
 - Charger Trouble (yellow)
 - Ground Fault (yellow)
- **ACC-AMM25**
 - Amplifier Supervision (green)
 - Circuit Trouble (yellow)

Product Line Information

NFV-25/50DA: Single channel, 25 Watt, 25 VRMS, emergency voice evacuation panel.

ACC-AAM25: 25 Watt, 25 VRMS Audio Amplifier Module with single Class A or Class B speaker circuit.

FC-XRM70: Optional 70.7 VRMS Converter Module (one required per amplifier).

FC-MGM: Optional Message Generator Module.

FC-LPS: Optional Local Playback Speaker, used with FC-MGM.

BAT Series: Two batteries required. See FACP manual for specific current requirements. See data sheet for overview of batteries.

: Optional trim ring for semi-flush mounting.

: Optional remote microphone, includes backbox. Only one per system.

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Standards and Codes

The NFV-25/50DA complies with the following standards: NFPA 72 National Fire Alarm Code; NFPA 101 Life Safety Code; UL 864 Standard for Control Units for Fire Alarm Systems.

Agency Listings and Approvals

These listings and approvals apply to the NFV-25/50DA. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635 Listed to UL 864 9th Edition
- **CSFM:** 6911-0028:241
- **MEA:** 341-03-E Vol. 4

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