

NFV-25/50

FireVoice-25/50

Voice Evacuation Control Panel



Voice Control Systems

General

The FireVoice-25/50 (NFV-25/50) is a state-of-the-art, single- or dual-circuit (25 watts each) Emergency Voice Evacuation Control Panel (EVAC). The NFV-25/50 records five field-programmable messages (up to 60 seconds total message duration) with an integral commercial-grade emergency communications microphone or from an external audio source. Significant technological enhancements set the NFV-25/50 apart from other EVAC panels — these include full supervision in both active (alarm or music) and standby conditions, supervision of amplifier outputs, field wiring, message generator, all tone generators, and the microphone. The integral power supply charges up to 18 AH batteries, which can be housed in the NFV-25/50 cabinet.

The NFV-25/50 is suitable for use as an adjunct (slave or stand-alone) to most UL-Listed Fire Alarm Control Panels (FACPs). An optional 25 watt, 25 VRMS audio amplifier is available for system expansion to 50 watts (providing dual 25-watt speaker circuits) or as a secondary amplifier in jurisdictions requiring backup. A 70.7 VRMS converter is also available for independently converting amplifiers to meet retrofit needs.

A host of field-programming options, including the capability of five custom messages (fire, tornado, evacuation, hazmat, non-fire, multi-language, etc.) make the NFV-25/50 the most versatile voice evacuation system available.

Suitable Applications include schools, auditoriums, dormitories, theatres, restaurants, places of worship, lodging, office buildings, and factories.

Standard Features

- Listed to UL Standard 864, 9th edition.
- Integral 25 watt, 25 VRMS audio amplifier with single Style Z (Class A) or Style Y (Class B) speaker circuit (expandable to 50 watts using the ACC-AAM25).
- Modular design for maximum system flexibility and ease of service.
- Five Command Input Circuits (CMD) are available for activation by an FACP.
- Two command input circuits can be independently field-programmed for activation by a Notification Appliance Circuit (NAC) or contact closure.
- Three command input circuits activate on contact closure.
- Manual deactivation of speaker zones.
- Command inputs allow: – One 60-second message. – Two 30-second messages. – Three 20-second messages. – Four 15-second messages. – Five 12-second messages.
- Microphone time-out feature.
- Nineteen different system and diagnostic LEDs.
- Two Form-C trouble relays (System & AC Power Loss).
- Optional equipment: second amplifier; local playback speaker; and remote microphone.
- Integral digital message generator with standard, factory prerecorded emergency evacuation message.
- Custom messages are field recordable, using the integral microphone or the audio input jack.



- Digital message may be field-selected for 3, 4, 6, 8, or infinite repeat.
- Built-in alert tone generators with steady, slow whoop, high/low, or chime tone capability.
- Field-selectable lead-in/trailing tone selection.
- Alert tone selection may be field-programmed to conform with ANSI S3.41 Audible Emergency Evacuation Signal (Temporal Pattern), per NFPA.
- Speaker zone control via CMD inputs or keypad.
- Dual-optically-isolated, trigger input circuits are independently field-programmable for activation by polarity reversal (host FACP NAC) or dry-contact closure.
- Zone 1 switch-programmable for All-Call operation.
- Integral diagnostic LEDs include: Power, System Trouble, Microphone Trouble, 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.
- Integral piezo provides local audible indication for troubles.
- Fully supervised in Standby and Active states, including integral microphone, amplifier output, message generator, speaker wiring, and tone generators.
- Independent amplifier supervision: current limit, audio level, short circuit protection.
- All outputs are power-limited.
- Auxiliary power output provides local power for addressable control modules when used to activate the NFV-25/50.
- Compatible with all NOTIFIER FACPs, as well as other manufacturers' panels.
- Background music capability (requires AHJ approval).
- When using the background music option, total output power per amplifier is reduced to 20 watts.

Optional Modules

ACC-AAM25: 25 watt, 25 VRMS audio amplifier module. Field-programmable for system expansion to 50 watts (providing dual 25-watt speaker circuits) or as a backup to the primary 25-watt amplifier where required. Single Class A or Class B speaker circuit. Plug-in-style terminal blocks for ease of service and maintenance. Fully supervised and power-limited. Diagnostic LEDs include: yellow “trouble” LED (cable fault, 70 VRMS fault, amp fault) and green “amp functional” LED.

FC-XRM70: Converts 25 VRMS audio outputs to 70.7 VRMS for retrofit applications. Plugs directly on ACC-AAM25 module(s), allowing independent conversion to 70.7 VRMS.

FC-LPS: Local digital message playback for user review of field-recorded custom messages.

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

NFV-TR: Optional trim ring for semi-flush mounting.

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

Specifications

Command input circuits (CMD1 and CMD2): Trigger input voltage: 10.5 – 29 VDC.

NOTE: When programmed for reverse-polarity activation.

Trouble contact rating: 2.0 A at 30 VDC (resistive), 0.6 A @ 125 VAC (resistive).

Auxiliary power output: Specific application power: 24 V, 35 mA.

Primary (AC) power: 1.6 A maximum @ 120 VAC, 50/60 Hz.

Secondary power (battery) charging circuit: Supports lead-acid batteries only.

Float-charge voltage: 27.6 V.

Maximum charge current: 800 mA.

Maximum battery charging capacity: 18 AH.

Cabinet Specifications

Door: 26.174" (66.482 cm) high x 15.780" (40.081 cm) wide x 1.125" (2.858 cm) deep. **Backbox:** 26.0" (66.040 cm) high x 15.5" (39.370 cm) wide x 4.75" (12.065 cm) deep, depth includes door.

Controls and Indicators

LED INDICATORS

1. Power On (green).
2. System Trouble (yellow).
3. Message Generator Trouble (yellow).
4. Tone Generator Trouble (yellow).
5. Microphone Trouble (yellow).
6. Record/Playback (green).
7. Zone 1 (green = Active, yellow = Manual Deactivation).
8. Zone 2 (green = Active, yellow = Manual Deactivation).

Other system LEDs: Battery Trouble, Charger Trouble, Ground Fault, Speaker Circuit Trouble, and Amplifier Supervisory.

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-25/50 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.

Listings and Approvals

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

- **UL Listed:** S635 (Standard 864 9th Edition)
- **CSFM:** 6911-0028:229
- **MEA:** 341-03-E Vol 2 (NFV-25/50, ACC-AAM25)

Product Line Information

NFV-25/50: 25 watt, 25 VRMS, Emergency Voice Evacuation Control Panel with integral commercial microphone, digital message generator, and single-/dual channel Class A or Class B speaker circuits.

ACC-AAM25: Optional 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-LPS: optional Local Playback Speaker.

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

NFV-TR: Optional trim ring for semi-flush mounting.

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

Application Examples

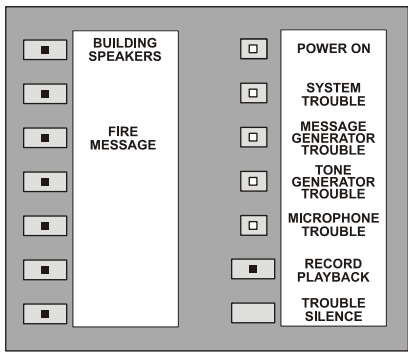
The FireVoice-25/50 is a voice evacuation control panel which can be used with a variety of FACP's for emergency audio messages. Two typical application examples follow.

One Speaker Circuit

Single output zone, single input circuit (SEE FIGURE 1). A very basic application is one NFV-25/50 with one amplifier and a single speaker circuit. This configuration is suitable for small facilities requiring no more than 25 watts of output power. A single fire evacuation message will be initiated during an alarm condition from the host FACP or can be manually started with a message push-button.

The NAC from the host FACP is connected to CMD1. The CMD1 “out” terminals are then terminated with an end-of-line resistor for the FACP's Style Y NAC, or the terminals are wired back to the host FACP for a Style Z NAC. S3 DIP switches “1”, “2”, and “3” are set to OFF; this selection sends a 60-second message to the speaker circuit when the CMD1 input is activated. The S5 DIP switch “5” is set to OFF; this selection activates the CMD1 input by a reverse-polarity condition. CMD3, CMD4, and CMD5 inputs require end-of-line resistors.

The system may also be **manually activated** from the keypad. Press the Building Speakers button, then press the Fire Message button. Or use the microphone to make an announcement.



Keypad Example

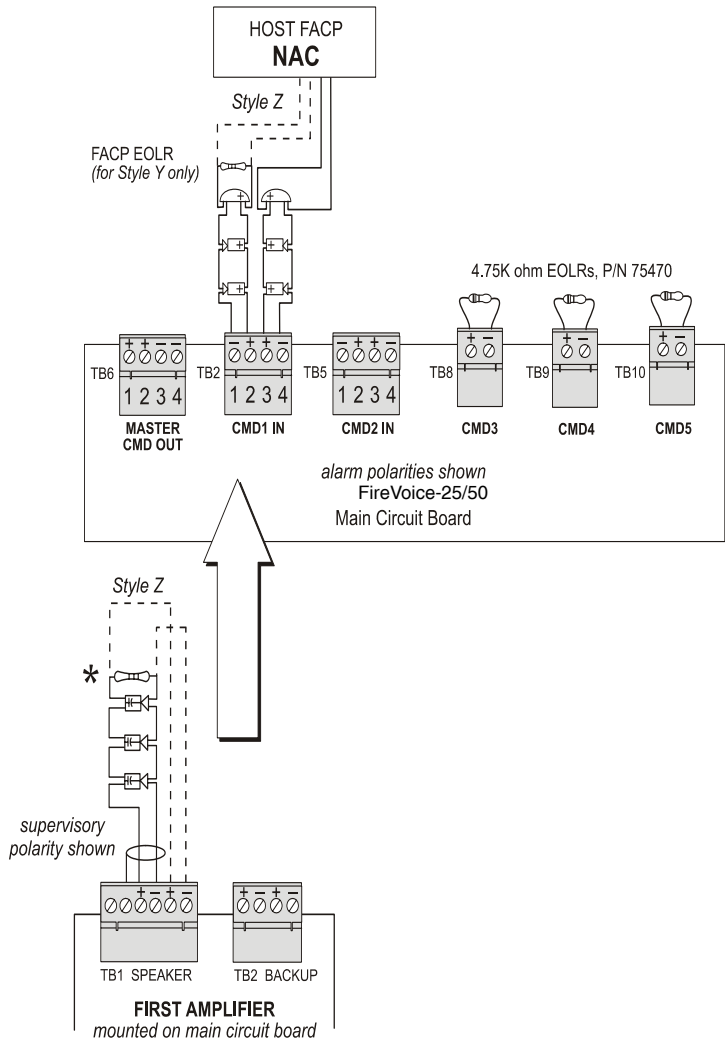


Figure 1: One 25 Watt Speaker Circuit

NOTE: *EOLR required only for Style Y (Class B). 4.75K ohm, 1 watt, P/N 75470.

NOTE: Typical illustration of an addressable NOTIFIER control panel and addressable control modules. Refer to manual for voltage ranges, message control switch settings, and command input specifications.

TWO SPEAKER CIRCUITS

Dual output zone, dual input circuit — tone/voice message (SEE FIGURE 2). This application example has of one NFV-25/50 with two speaker circuits and requires the installation of a second amplifier. This configuration is suitable for small facilities requiring no more than 50 watts of output power and a 60-second fire evacuation message.

The addressable FACP directs tone or voice messages to either of the speaker circuits via the control modules connected to the CMD1 and CMD2 inputs. S3 DIP switches “1”, “2”, and “3” are set to OFF; this selection configures CMD1/

CMD2 to direct the Fire Message to the Auditorium Speakers or Classroom Speakers. The S5 DIP switches “5” and “6” are set to ON; these contact closures activate CMD1 (switch “5”) and CMD2 (switch “6”) inputs.

The system may also be **manually activated** from the keypad. Press the Auditorium Speakers and/or Classroom Speakers button(s), then press the Fire Message button. Alternately, use the microphone to make an announcement. To **manually deactivate** a speaker circuit, press the activated (illuminated) output zone push-button.

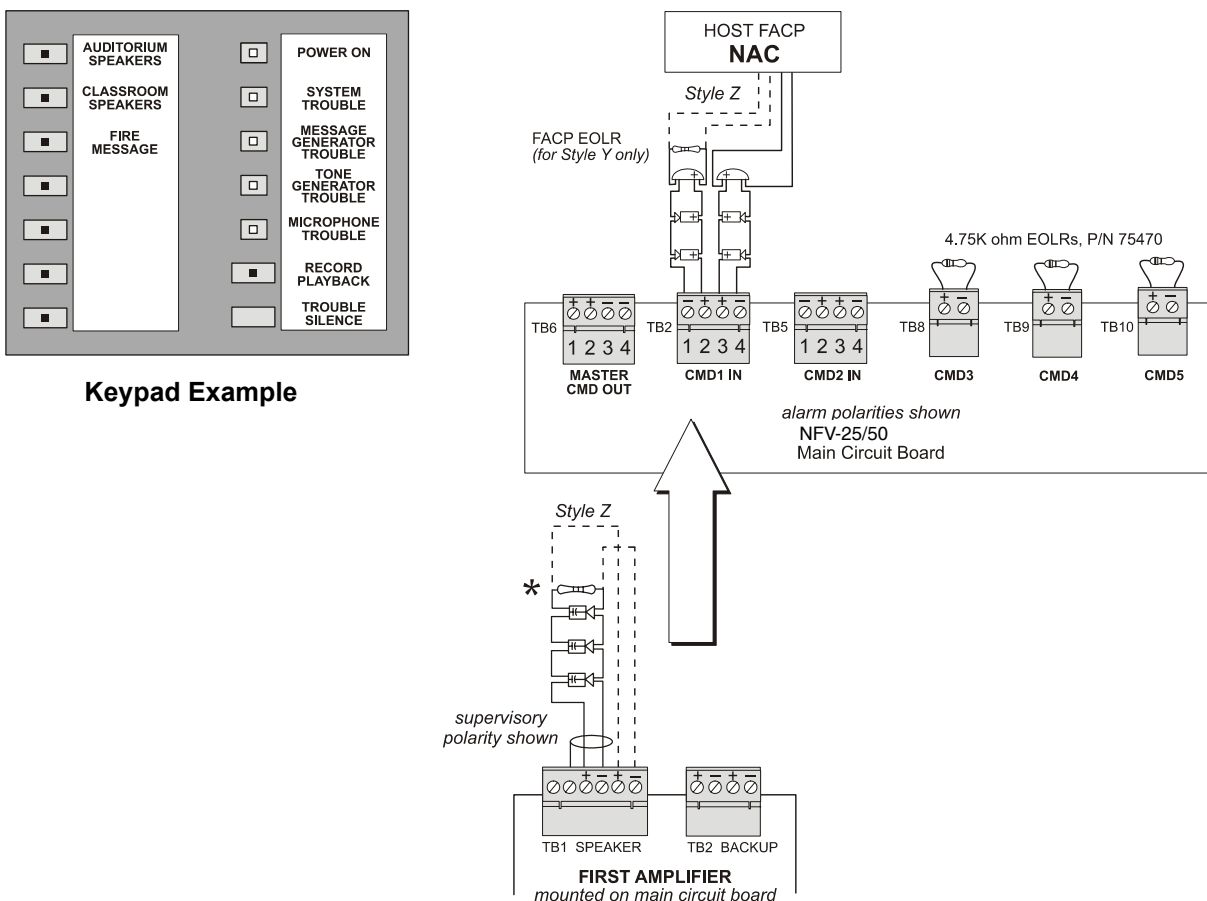


Figure 2: Two Speaker Circuits, Dual Output Zone, Dual Input Circuit

NOTE: *EOLR required only for Style Y (Class B). 4.75K ohm, 1 watt, P/N 75470.

NOTE: Typical illustration of an addressable NOTIFIER control panel and addressable control modules. Refer to manual for voltage ranges, message control switch settings, and command input specifications.

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