

Features

Add voice and tone functions to non-voice fire alarm control panels:

- Alarms received from a host panel notification appliance circuit (NAC) activate general alarm operation
- Manual operation also sends an alarm to a host panel initiating device circuit (IDC)
- Earth fault detection is maintained by host panel
- Compatible with Simplex model 4004, 4005, 4006, 4008, or 4010
- Also compatible for retrofit to installed Simplex model Series 4001, 4002, and 4020

Voice/Alarm features:

- Amplifier provides 75 W @ 25 VRMS with power-limited output
- Four general alarm Class A or Class B NACs
- Programmable tone and message sequence selection
- Internal microphone with manual controls

Surface/semi-flush beige cabinet included

Optional features:

- Supervised remote microphone with keyswitch control
- Additional four circuit general alarm NAC card, available as Class A or Class B; for separate control of DC notification appliances (typically strobes)
- Custom digitally recorded messages
- Available with 240 VAC input voltage

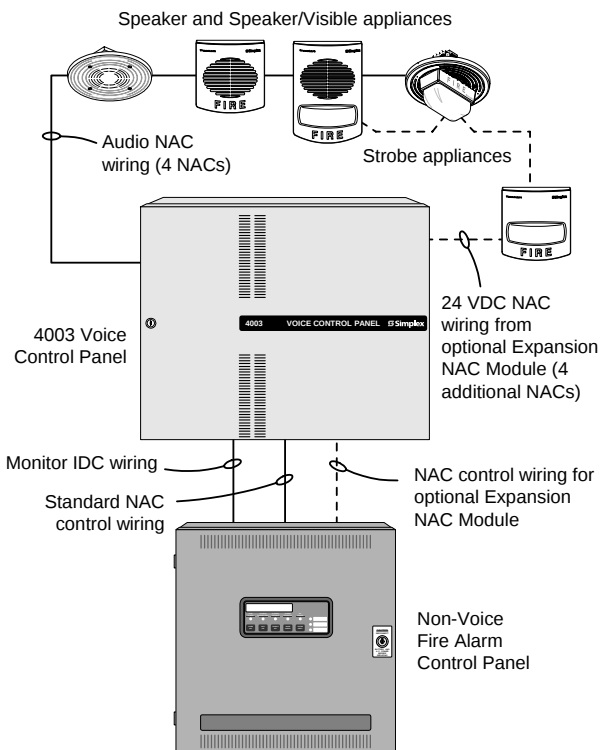
UL listed to Standard 864

Introduction

When non-voice fire alarm control panels require the addition of voice and tone generation, Simplex 4003 Voice Control Panels conveniently supply the required features. Functions include: on-board tone generation and pre-recorded announcements, 75W of amplifier power, four supervised audio Notification Appliance Circuits (NACs), and an internal microphone with local control.

Manual Operation is accessible by opening the locked cabinet door and revealing operating switches, status LEDs, the local microphone, and the microphone control. Control of the Remote Microphone option is secured by use of a keyswitch.

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 6911-0026:196 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. FM approval requires operation with 120 VAC input voltage. This product was not ULC listed as of document revision date. Additional listings may be applicable, contact Simplex for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.



4003 Series Voice Control Panel Wiring Reference

Introduction (Continued)

DC NAC Option. An optional, four circuit NAC module can be installed in the 4003 to provide power for 24 VDC notification appliances. The expansion NAC is controlled by a second NAC input from the host panel. Available DC power depends on audio power used, see table on page 3.

Applications Reference

The 4003 connects as the end-of-line device to a dedicated NAC and a dedicated IDC from the host fire alarm control panel. Alarms from the host panel will signal a general alarm to the four, 4003 NACs to respond with common tones and messages as selected. The IDC connection monitors the 4003 for system troubles and allows selection of the manual evacuation message to automatically send an alarm signal to the host panel. (Addressable panels require a dedicated Monitor ZAM for the IDC connection.)

Alarm Response. Alarm response can be selected to run continuous tones, follow coded NAC input control, or to play digitally pre-recorded messages with a programmable combination of digitally generated tones.

Host Panel Silence and Reset. Alarm Signal Silence and Alarm Reset are performed at the host panel.

4003 Product Selection

Standard Models

Model	Description		
4003-9001	Class B NACs	120 VAC, 60 Hz input	Voice Control Panel with four audio NACs, 75 W amplifier, internal power supply/battery charger, and microphone; mounted in beige cabinet
4003-9002	Class A NACs		
4003-9101	Class B NACs	240 VAC, 50/60 Hz input	
4003-9102	Class A NACs		

Accessories and Options

Model	Description	
4003-9801	Class B NACs	Additional four circuit NAC module; use for DC appliances only; when used for 24 VDC strobes, use external synch module 4905-9914 (Class B) or 4905-9922 (Class A), see data sheet S4905-0003 for details
4003-9802	Class A NACs	
4003-8800	Custom Message Set, two messages; select 4003-0221 for messages from tape, or 4003-0222 for messages from transcript, or 4003-0223 for messages from archive	
4003-9803	Remote microphone, one maximum per 4003 Voice Control Panel	
4081-9012	End-of-Line Resistor	for output NAC wiring; 22 kΩ, 1/2 W (ref. 733-985); one per connected output NAC
4081-9008	Harness	for input control NAC wiring; 10 kΩ, 1/2 W (ref. 733-894); one per connected input NAC (NOTE: Also used for output NAC wiring when connected to models 4001, 4002, 4004 or 4020)
2975-9801	Semi-flush trim, beige	
2081-9275	18 Ah, 12 V Battery, two required (refer to Simplex data sheet S2081-0006 for additional battery information)	

Simplex 4020 Applications Reference

When used to retrofit to an installed Simplex 4020 fire alarm control panel, the 4003 can digitally communicate via the Remote Unit Interface (RUI) bus. This allows the 4020 to monitor the 4003 status and to control tone and message selection. A dedicated 4020 NAC is connected to the 4003 to activate the 4003 output NACs.

When system WALKTEST™ service testing is in process, the 4020 will communicate to the 4003 to generate a voice message response to the device tested. For example, activating addressable manual station 075 on an addressable MAPNET II® circuit on Channel one would yield “Testing Channel One, Device Seven Five.”

4003 Voice Control Module Features

Local Selection of Audio Tones. The desired combination of tones and messages are determined at the 4003 Voice Control Panel. The following audio tones are available. Continuous or coded operation is determined by the host fire alarm control panel NAC output.

- **Slow Whoop Tone** starts at 200 Hz and rises to 830 Hz in 2.5 sec, recommended for fire alarm use only
- **High/Low Tone** is a free running signal with a high frequency of 750 Hz for 0.1 sec and a low frequency of 500 Hz for 0.4 sec
- **Horn Tone** at 120 beats per minute
- **Horn Tone** at 20 beats per minute
- **Chime Tone** is a 600 Hz tone with a 1.5 sec delay time, use for coded or free-running signaling
- **Continuous Bell Tone** has a fundamental frequency of 350 Hz with prominent harmonics at 700 Hz and 2100 Hz
- **Bell Tone** at 60 beats per minute
- **Temporal Code Selection.** Selectable Temporal Code for horn, bell, whoop, and chime tones (1/2 sec on, 1/2 sec off, 1/2 sec on, 1/2 sec off, 1-1/2 sec on, 1-1/2 sec off).

Voice Control Module Features (Cont'd)

Standard digitally recorded messages:

- **Evacuation:** “Attention...Attention...Attention. An emergency situation has been detected in this building. Proceed to the nearest exit and leave the building. Do not re-enter the building until directed to by the proper authorities.”
- **All Clear:** “Attention. Your attention please. The building emergency condition has been cleared. You may return to your normal activities.”

Custom digitally recorded messages:

- Messages can be reproduced from high quality customer supplied tapes, professionally recorded to customer requirements, or selected from the archived message library

Service Convenience:

- Additional internal status indicating LEDs identify operating status to assist installation and service
- A service disconnect switch allows the host panel to be tested without sending an alarm to the 4003; when disconnected, the control NAC is reported as a trouble at the host panel

NAC Module Features

Standard NACs. Standard 4003 panels provide four, general alarm operation, Class B or Class A (model dependent) audio NACs rated 2A @ 25 VRMS (50W). See page 3 for additional NAC ratings.

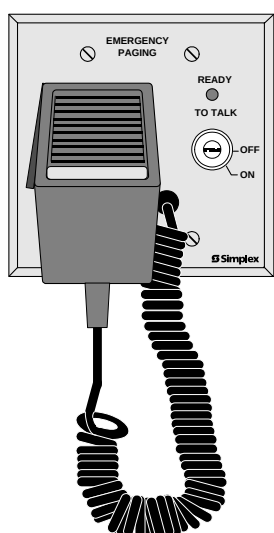
NAC Expansion Modules. One optional four circuit NAC module (Class B or Class A) can be field installed to provide additional NACs to separately control 24 VDC notification appliances (typically strobes). A second, dedicated NAC control from the host panel is required. See page 3 for expansion NAC ratings.

Power Supply/Battery Charger Features

- Charges up to 18 Ah batteries for internal or external mounting
- Green power-on LED, yellow trouble LED
- Battery supervision circuitry
- Power loss and brownout voltage supervision
- Selectable for remote battery and no charger
- 24 VDC power not used by the amplifier is available for Special Application Notification Appliances (strobes) per the following chart (outputs are power-limited):

Speaker Load	25 W	37 W	50 W	62 W	75 W
Available DC	4 A	3 A	2 A	1 A	0 A

4003-9803 Remote Microphone



- Provides supervised microphone control from a remote location with keyswitch controlled access
- Includes Ready-to-talk LED indicator
- Maximum wiring distance from 4003 cabinet is 4500 ft (1372 m)
- Mounts on a standard double gang box, 2" (51 mm) minimum depth

Specifications

Input Specifications

Input Current	120 VAC	3 A @ 102-132 VAC, 60 Hz
	240 VAC	1.5 A @ 204-264 VAC, 50/60 Hz
NAC and Alarm/Supervisory Input Voltage	18-32 VDC, filtered or unfiltered	

Amplifier Specifications

Output Power	75 W @ 25 VRMS, power-limited
UL Fire Alarm Frequency Response	200 Hz to 10 kHz

Battery Requirements

Standard 4003 Panel	130 mA supervisory
Expansion NAC Module	35 mA supervisory
Remote Microphone	25 mA
Alarm Total Current	7 A maximum
Standard NAC Ratings	2 A (50 W) maximum

Power Supply Rating when Operating DC Notification Appliances on 4003-9801 and 4003-9802 Option Modules*

Special Application Appliances	4 A maximum + 25 W
Regulated 24 DC Appliances	3 A maximum + 25 W

Expansion NAC Ratings for DC Notification Appliances

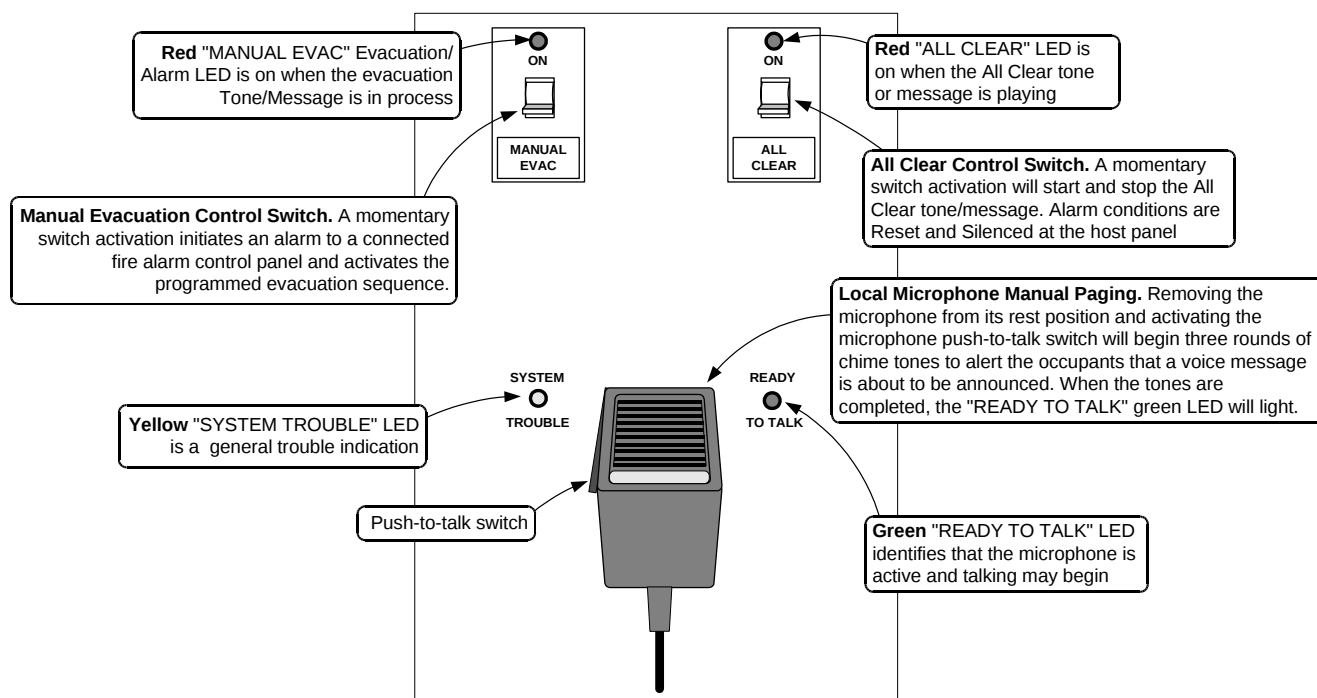
DC Only	2 A maximum
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General Specifications

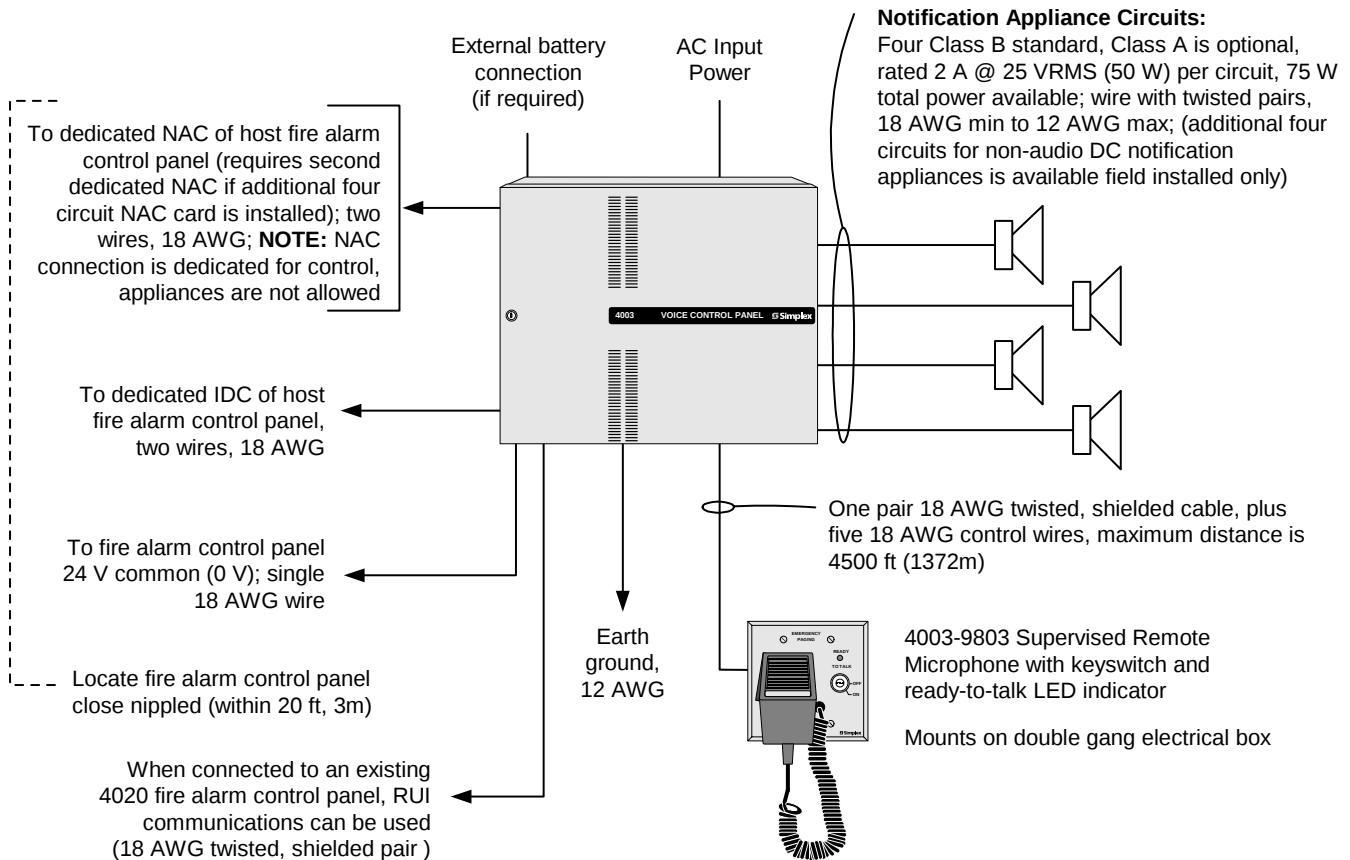
Distance from Host Fire Alarm Control Panel	20 ft maximum (6 m)
Operating Temperature	32° to 120° F (0° to 49° C)
Operating Humidity Range	Up to 93% RH, non condensing @ 100° F (38° C)

* Refer to Field Wiring Diagram 841-921 for additional details. "Special Application Appliances" and "Regulated 24 DC" are as defined in UL Standards 464, 864, and 1971.

Internal Operator Controls

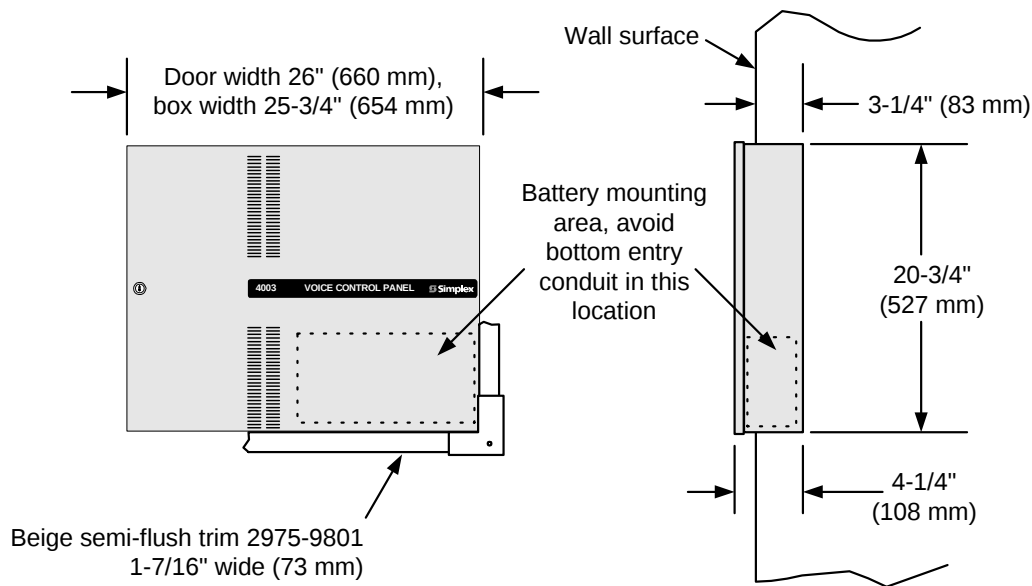


4003 Voice Control Panel Connection Diagram



NOTE: Refer to field wiring diagrams 841-921 and Installation Instructions 574-039 for additional information.

Mounting Information



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