

## SAFEPATH<sup>®</sup>4 Expansion Options

### SAFEPATH<sup>®</sup>4 Audio Boosters

- SPB-160** 160 Watt Supervised Audio Power Booster (Two 80 watt circuits)
- SPB-80/4** 80 Watt Supervised Audio Power Booster with 4 Amps of Supervised and Synchronizable Strobe Power (Two 2 Amp circuits)



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### SAFEPATH<sup>®</sup>4 2-Zone Class A or 4-Zone Class B Speaker Audio Splitter

- SP4Z-A/B** Supervised 2-Zone Class A or 4-Zone Class B Speaker Audio Splitter for the SP40/2, SPB-80/4 or SPB-160



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### SAFEPATH<sup>®</sup>4 Remote Microphone

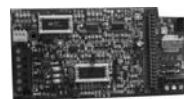
- SPRM** Remote Microphone for use with the SP40/2



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### SAFEPATH<sup>®</sup>4 3 Message Expander Module

- SP4-3MEM-SMK** 3-Message Expander Modules  
**SP4-3MEM-PMK** designed for use with the SP40/2



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## **SAFEPATH®4 Audio Boosters**

**SPB-160** 160 Watt Supervised Audio Power Booster (Two 80 watt circuits)

**SPB-80/4** 80 Watt Supervised Audio Power Booster with 4 Amps of Supervised and Synchronizable Strobe Power (Two 2 Amp circuits)

### **Description**

Supervised Facility Communication and Emergency Voice Evacuation Audio and Audio/Strobe Power Boosters, UL Standard 1711 and UL Standard 864 with 24VDC battery backup capabilities. Designed to provide for additional supervised audio power for live voice, pre-recorded messages or background music (BGM). Fully supervised patent pending circuitry is always in effect even during BGM. The SPB-80/4 also provides 4 Amps of Supervised and Synchronized Strobe Power.

The SPB-160 and the SPB-80/4 easily connects to the Wheelock SP40/2. Multiple SPB-160 and SPB-80/4 can be inter-connected to accommodate large installations with supervised audio power and also supervised and synchronized strobe power requirements.

The SPB-160 and the SPB-80/4 draws 1.2 watts of audio input power to properly operate and provide additional supervised audio output power. When connected to the Wheelock SP40/2, up to a combination of thirty three (33) boosters can be added. A maximum of 5,280 watts of supervised audio power can be utilized. Additional strobe power can be obtained via a combination of SPB-80/4 and PS-12/24-8MP boosters.

### **Applications**

- Provides for additional supervised and synchronizable strobe power for large installations
- Can be used in new construction as well as in retrofit construction



### **SPB-160 and SPB-80/4 Features**

#### **Approvals & Compliance**

- Approvals: UL Standard 864, UL Standard 1711, California State Fire Marshal (CSFM) (SPB-160)
- Pending: CSFM (SPB-80/4)
- OSHA 1910.165 and ADA compliant
- 3 year warranty

#### **System Activation: Audio**

- 70V or 25V input from the SP40/2

#### **System Activation: Strobe (SPB-80/4)**

- 8 - 33VDC NAC input contact closure connected to the strobe input

#### **Power Supply & Batteries**

- Fully supervised patent pending circuitry always in effect even during BGM
- Power limited circuitry
- Class D amplifier
- Internal battery charger and power supply
- Required batteries fit inside the enclosure (two 12VDC, 12 AH) sold separately

#### **Outputs:**

- SPB-160 has two 80 watt speaker output circuits
- Supervised Audio Speaker outputs: 70V or 25V field selectable (all boosters must be either 70 V or 25 V)
- Expansion output (supervised, 24VDC at .5A in alarm condition) used for connecting multiple SPB-160 or SPB-80/4 boosters
- DC output (unsupervised for optional SP4Z-B splitter power). Each speaker circuit (two for the SPB-160, one for the SPB-80/4) can connect to a SP4Z-B speaker splitter

**SPB-80/4 Strobe Features:**

- Two 24VDC 2 Amps, NAC supervised, synchronizable, power limited, Class B strobe outputs
- Selectable outputs; Wheelock sync, pass through, or constant DC
- Trouble LED's for open and short output conditions
- Alarm indicator: LED's for Strobe and Expansion Outputs

**Inputs:**

- Audio Speaker Inputs: 70V or 25V, field selectable
- Auxiliary in (for alarm input signal)

**Technical Specifications:**

- 120VAC, 3.8A, 50 – 60 Hz input
- Standby current draw: 120mA
- Alarm current draw: 9 Amps
- System Frequency Response:
  - Voice 400 Hz - 6.5 kHz +/- 3 dB
  - BGM 275 Hz - 15 kHz +/- 3 dB
- Removable quick connect/disconnect terminals, accept 12 - 22 AWG
- Multiple LED's for easy indication of system diagnostic conditions
- Signal to Noise Ratio: > 70 dB
- Dynamic Range: > 65 dB
- Total Harmonic Distortion: 2%

**Mechanical:**

- Dimensions: 21" H x 16" W x 6" D (wall mount)
- Weight: 36 lbs. (without batteries)
- Finish: Red exterior enclosure
- Door Lock: Wheelock key-lock

**Options:**

- SP4Z-A/B Supervised 2-Zone Class A or 4-Zone Class B Speaker Audio Splitter can be connected to either the SPB-160 or SPB-80/4

*Note: The Speaker Splitter-Mounting Bracket (SPMB4Z) is required when the Speaker Splitter is used. The SPMB4Z can support two splitters.*

**Wiring Options:**

There are two modes of operation for the audio input, Two Wire and Four Wire.

**Two Wire Audio Mode**

Supervision of the audio booster is performed over the same wires as the audio input signal, this means that if any one audio booster connected in the system goes into trouble, all secondary operations (BGM, telephone paging) will disengage from all audio boosters connected in the system. This method conserves battery backup power, if AC power is lost. When an alarm message or a live voice message from the microphone is broadcast by the SP40/2, the amplifier section is energized and the message is broadcast through the Audio Booster.

**Four Wire Audio Mode**

Alarm signal is input to the audio boosters via an additional pair of 2 wires. If any audio booster connected in the system goes into trouble, only that audio booster will loose secondary operations and the BGM will disengage on that audio booster only.

When using the SPB-80/4 strobe outputs, two additional wires are required for connection of strobes.

**Ordering Information**

Model	Order Code	Description
SPB-160	8989	160 Watt Supervised Audio Power Booster (Two 80 watt circuits)
SPB-80/4	8988	80 Watt Supervised Audio Power Booster with 4 Amps of Supervised and Synchronized Strobe Power (Two 2 Amp circuits)
SP4Z-A/B	9900	Supervised 2-Zone Class A or 4-Zone Class B Speaker Audio Splitter for the SP40/2, SPB-80/4, or SPB-160
SPMB4Z	9907	Speaker Splitter Mounting Bracket for SPB-160 or SPB-80/4

**2-Zone Class A  
or  
4-Zone Class B  
Speaker Audio Splitter**

**SAFEPATH®4  
Expansion Modules  
2-Zone Class A or 4-Zone Class B  
Speaker Audio Splitter  
and Remote Microphone**

For operation with **SAFEPATH®4** Family of Products: SP40/2, SPB-80/4, & SPB-160

**Description:**

Supervised 2-Zone Class A or 4-Zone Class B Speaker Audio Splitter for the SP40/2, SPB-80/4 or SPB-160. Enables a single supervised speaker audio output to drive up to two Class A supervised speaker audio outputs or four Class B supervised speaker audio outputs.



**Applications:**

- Provides for expansion of one zone to up to 2 zones of supervised speaker audio output in Class A
- Provides for expansion of one zone to up to 4 zones of supervised speaker audio output in Class B

**Features:**

- Approvals: UL Standard 864 and California State Fire Marshal (CSFM)
- Expands one zone to up to 2 zones of supervised speaker audio output in Class A
- Expands one zone to up to 4 zones of supervised speaker audio output in Class B
- Each Class A zone can accept up to 40 watts of audio
- Each Class B zone can accept up to 20 watts of audio
- Operates on either 25V or 70.7V RMS
- Mounts inside the enclosure of either the SP40/2, SPB-80/4 or SPB-160
- Power and Trouble LED's
- Individual zone short and open LED indication
- Capable of detecting wiring faults
- Removable wiring terminals for quick connect/disconnect accepting 12–22 AWG
- All output circuitry is Power Limited
- Space provided to allow for naming of the zones
- Powered by 24VDC, supplied by either the SP40/2, SPB-80/4 or SPB-160
- Standby and Alarm current at 24VDC is 15mA

**Ordering Information:**

Model	Order Code	Description
SP4Z-A/B	9900	Supervised 2-Zone Class A or 4-Zone Class B Speaker Audio Splitter for the SP40/2, SPB-80/4, or SPB-160
SPMB4Z	9907	Mounting Bracket for the SP4Z-A/B is required when used with the SPB-80/4 or the SPB-160

Note: The SP4Z-A/B mounts inside the SP40/2 (a mounting bracket is not required). When mounting inside the SPB-80/4 or SPB-160, the additional mounting bracket, SPMB4Z is required and is sold separately.

Refer to products installation Instructions for proper installation, wiring procedures and any additional specifications.

**SAFEPATH®4**  
**Remote Microphone**

**Description:**

Remote Microphone for use with the SAFEPATH®4 SP40/2 Facility Communications System



**Applications:**

- Provides for an additional microphone in a remote location
- Can be mounted up to 2,000 feet away from the SP40/2

**Ordering Information:**

Model	Order Code	Description
SPRM	8996	Remote Microphone for use with the SP40/2

NOTE: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Wheelock Inc. standard terms and conditions.

Refer to products Installation Instructions for proper installation, wiring procedures and any additional specifications.

**Features:**

- Approvals: UL Standard 864 and California State Fire Marshal (CSFM)
- Supervised hand held push to talk microphone
- Key required to enable remote microphone use (same key as SP40/2)
- Removable wiring terminals for quick connect/disconnect accepting 12-22 AWG
- Individual front panel LED indication for System Normal, System Trouble, Alarm
- Multiple on board diagnostic LED's
- When used with the SP40/2, the priority level is 2, the SP40/2 on board microphone is priority 1
- Remote microphone usage disengages background music and general paging
- Voice frequency response: 275 Hz - 6.5 kHz +/- 2.4dB
- Requires by 24VDC, supplied by the SP40/2
- Input current: Standby: 26mA  
Alarm: 38mA
- Audio output level: 1.05V RMS
- 6 wire connection to the SP40/2
- Mounting plate is red and measures, 8 3/4" x 5 1/4", fits into a 4 gang back box
- All output circuitry is Power Limited

# SAFEPATH®4

## 3 Message Expander Module

### SP4-3MEM-SMK

3 Message Expander Module with 3 standard messages for use with the SP40/2

### SP4-3MEM-PMK

3 Message Expander Module with custom programmed messages for use with the SP40/2

#### Description:

The SP4-3MEM-SMK and the SP4-3MEM-PMK are 3-message expander modules designed for use with the SP40/2. The SP4-3MEM-SMK and the SP4-3MEM-PMK provide a means of expanding the number of digital voice messages by as many as three. When used with the SP40/2 a maximum of 6 digital voice messages will be available for UL Life Safety applications.

#### Applications:

- Provides for the addition of up to 3 digital voice messages

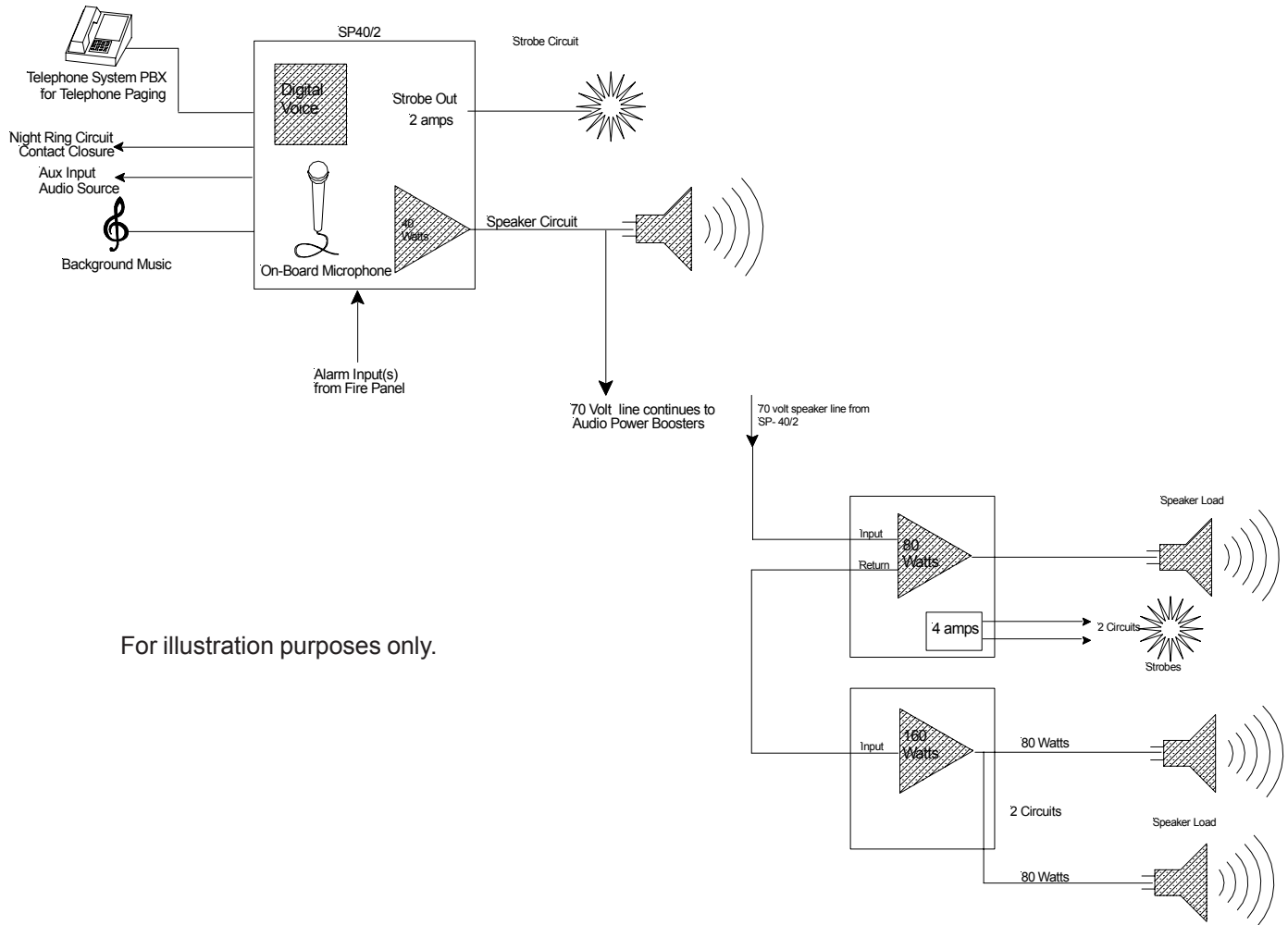
#### Ordering Information

Model Number	Order Code	Description
SP4-3MEM-SMK	9913	3-message expander module designed for use with the SP40/2, with 3 standard messages (see standard messages)
SP4-3MEM-PMK	9915	3-message expander module designed for use with the SP40/2, with 3 custom programmed messages

#### Features

- Approvals: UL Standard 864  
Pending: California State Fire Marshal (CSFM)
- 3 message expander module
- Expands the message capability of the SP40/2 to six (6) messages for UL Life Safety applications
- Each message has the capability of strobe activation selection – strobe on/off
- The messages on the SP4-3MEM-SMK or the SP4-3MEM-PMK **will have higher priority levels** than the on board messages in the SP40/2
  - Priority Levels when the SP4-3MEM is used:
    1. SP40/2 On Board Microphone
    2. SP40/2 Remote Microphone (optional)
    3. SP40/2-3MEM-SMK or SP4-3MEM-PMK, Message 1
    4. SP40/2-3MEM-SMK or SP4-3MEM-PMK, Message 2
    5. SP40/2-3MEM-SMK or SP4-3MEM-PMK, Message 3
    6. SP40/2, Message 1
    7. SP40/2, Message 2
    8. SP40/2, Message 3
    9. Night Ringer
    10. Telephone Page
    11. BGM
- The SP4-3MEM-SMK or SP4-3MEM-PMK mount to the SP40/2 motherboard and fit inside the enclosure
- All messages are pre-programmed from the factory
- The standard messages for the SP4-3MEM-SMK are as follows:
  - Message 1:** (3 cycles of code 3 horn) “May I have your attention please! A fire emergency has been reported in the building. While this is being verified, please leave the building by the nearest exit.”
  - (Fire)**
  - Message 2:** (2 cycles of slow whoop) “May I have your attention please! An emergency has been reported in the building. While this is being verified, please stand by for further instructions.”
  - (Alert)**
  - Message 3:** (5 seconds of chime) “May I have your attention please! The building emergency has ended. An all clear has been given. Please resume activities.”
  - (All Clear)**
- Note: These are the same messages as the standard messages for the SP40/2. Custom messages will need to be ordered by ordering the SP4-3MEM-PMK. This will avoid duplicate messages.*
- The maximum length of message options are as follows:
  - Option 1** 3 messages with a maximum of 20 seconds each (Standard)
  - Option 2** 2 messages, 1 message with a maximum of 40 seconds and 1 message with a maximum of 20 seconds
  - Option 3** 1 message with a maximum of 60 seconds
- Removable wiring terminals for quick connect/disconnect accepting 12 – 18 AWG
- When the optional Remote Microphone (SPRM) is used, it is connected into the auxiliary input of the SP4-3MEM-SMK or SP4-3MEM-PMK

# Wheelock SAFEPATH®4 System Architecture



For illustration purposes only.

## Architects and Engineers Specifications

### SAFEPATH®4 Audio Boosters

The booster system shall be NFPA compliant supervised audio and supervised 24VDC synchronized strobe power boosters (some models will have supervised 24VDC synchronized strobe booster capability). The booster system shall have 24VDC battery backup capabilities. The booster systems shall have the capability to supervise the circuitry during playback of background music. The booster shall have the capability to be inter-connected to accommodate large installations with supervised audio power and also supervised and synchronized strobe power requirements.

The booster system shall use 1.2 watts of audio input power to properly operate and provide additional supervised audio output power. A combination of thirty three (33) boosters can be added to provide for a maximum of 5,280 watts of supervised audio power. Additional strobe power can be obtained via a combination of boosters. The audio section of the booster shall be connected via a selectable 70V or 25V input from the Wheelock SP40/2. The strobe section of the booster shall be divided into two sections each supplying two Amps of 24VDC, NAC, supervised, synchronizable, power limited, Class B strobe outputs, with selectable outputs offering Wheelock sync, pass through, or constant DC and can be activated via 8-33VDC NAC input or contact closure.

The system shall have power-limited circuitry and be a class D amplifier with an internal battery charger and power supply. The required batteries shall fit inside the enclosure (two 12VDC, 12 AH) batteries shall be purchased separately.

The booster system shall operate on 120VAC, 3.8A, 50 – 60 Hz input. Standby current draw shall be 120mA and alarm current draw shall be 9 Amps. The voice frequency response shall be 400 Hz – 6.5 kHz +/- 3 dB, the BGM frequency response shall be 275 Hz - 15 kHz +/- 3 dB. Removable quick connect/disconnect terminals that accept 12 - 22 AWG shall be used. Multiple LED's for easy indication of system diagnostic conditions shall be present on the PC board. The Signal to Noise Ratio shall be > 70 dB, the dynamic range shall be > 65 dB, the Total Harmonic Distortion spec shall be 2%.

The booster system shall be wall mountable, enclosed in a steel locking enclosure, with a red finish, weighing no more than 36 lbs. (without batteries) and its dimensions shall not exceed 21" H x 16" W x 6" D. The system shall be made in the USA. Approvals for the system shall include; UL Standard 864, UL Standard 1711, and CSFM. The system shall be OSHA 1910.165 and ADA compliant. The booster system shall carry a 3 year warranty.

## Architects and Engineers Specifications

### 4 Zone Class B Speaker Splitter

The Wheelock, SP4Z-A/B shall be UL Standard 864 and California State Fire Marshal (CSFM) approved, 2-Zone Class A or 4-Zone Class B Speaker Splitter for operation with the Wheelock, SP40/2 or SPB-80/4 or SPB-160. The SP4Z-A/B shall enable a single supervised speaker audio output to drive up to two Class A supervised speaker audio outputs or four Class B supervised speaker audio outputs. Each Class A zone shall be capable of accepting up to 40 watts and operate on either 25 or 70.7V RMS of audio input. Each Class B zone shall be capable of accepting up to 20 watts of audio and operate on either 25 or 70.7V RMS of audio input. The SP4Z-A/B shall be capable of supporting live microphone paging, prerecorded emergency voice evacuation messages, supervised background music and general paging announcements.

The SP4Z-A/B shall mount inside the enclosure of the SP40/2, SPB-80/4 or SPB-160, and shall have power and trouble LED's with individual zone short and open LED indication. The SP4Z-A/B shall be capable of detecting wiring faults. The SP4Z-A/B shall be powered by 24VDC, which is to be supplied by the SP40/2, SPB-80/4 or SPB-160. Standby and Alarm current at 24VDC shall be 15mA. Removable wiring terminals for quick connect/disconnect accepting 12–22 AWG shall be incorporated. All output circuitry shall be power limited. Space shall be provided to allow for naming of the zones.

### Remote Microphone

The Wheelock, SPRM shall be UL Standard 864 and California State Fire Marshal (CSFM) approved, Remote Microphone for use with the SAFEPATH4 SP40/2 Facility Communications System.

The SPRM shall be a supervised hand held push to talk microphone and a key shall be required to enable remote microphone use. (Same key as SP40/2) Removable wiring terminals for quick connect/disconnect accepting 12 – 22 AWG shall be incorporated. All output circuitry shall be power limited. Individual front panel LED's shall be provided for indication of System Normal, System Trouble and Alarm. Multiple on board diagnostic LED's shall be provided. When used with the SP40/2, the priority level shall be number two. Remote microphone usage shall disengage background music and general paging.

Voice frequency response shall be 275 Hz - 6.5 kHz +/- 2.4 dB. Power requirements shall be 24VDC and will be supplied by the SP40/2. Input current for Standby shall be 26mA and for Alarm 38mA. Audio output level shall be 1.05V RMA. There shall be a 6-wire connection to the SP40/2. The mounting plate shall be red and measure, 8 3/4" x 5 1/4", and shall fit into a 4 gang back box.

### 3 Message Expansion Module

The Wheelock, SP4-3MEM-SMK and the SP4-3MEM-PMK shall be UL Standard 864 three (3) message expander modules for use with the Wheelock SP40/2. The SP4-3MEM-SMK or the SP4-3MEM-PMK shall provide for a maximum of three additional messages when utilized with the SP40/2 for use in UL Life Safety applications. The SP4-3MEM-SMK or the SP4-3MEM-PMK shall fit within the enclosure of the SP40/2. Removable wiring terminals for quick connect/disconnect accepting 12 – 18 AWG shall be incorporated. When either the SP4-3MEM-SMK or the SP4-3MEM-PMK is used with the SP40/2, the message priority levels shall be: (1) SP40/2 On Board Microphone, (2) SP40/2 Remote Microphone (optional), (3) SP4-3MEM-SMK or the SP4-3MEM-PMK, Message 1, (4) SP4-3MEM-SMK or the SP4-3MEM-PMK, Message 2, (5) SP4-3MEM-SMK or the SP4-3MEM-PMK, Message 3, (6) SP40/2, Message 1, (7) SP40/2, Message 2, (8) SP40/2, Message 3, (9) Night Ringer, (10) Telephone Page and (11) Background Music. The SP4-3MEM-SMK or the SP4-3MEM-PMK shall have the following maximum length of message options:

- Option 1** 3 messages with a maximum of 20 seconds each (Standard)
- Option 2** 2 messages, 1 message with a maximum of 40 seconds and 1 message with a maximum of 20 seconds
- Option 3** 1 message with a maximum of 60 seconds

**NOTE: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Wheelock Inc. standard terms and conditions.**

Note: Refer to the products Installation Instructions for proper installation, wiring procedures and any additional specifications.

## WE ENCOURAGE AND SUPPORT NICET CERTIFICATION

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### 3 YEAR WARRANTY

Made in USA



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