BOSCH

Invented for life

SP40S Series Facility Communication Systems

▸ **One system provides multi-function facility communications**

▸ **Background music (BGM) system with supervision**

▸ **Supervised emergency and fire voice evacuation system that complies with NFPA 72 requirements**

▸ **Interfaces with telephone system for general paging requirements**

▸ **Built-in power for visual notification appliances**

▸ **Expandable for larger system requirements (with optional equipment)**

The Cooper Wheelock SAFEPATH4 SP40S is a series of multi-function supervised paging, messaging, background music, and emergency voice evacuation systems with 24 VDC battery backup. These single-channel systems can deliver 40 W of supervised high-fidelity audio power and 2 A of supervised 24 VDC synchronized strobe power.

The SP40S and SP40S-B can function as an evacuation system, emergency messaging system, paging system, employee notification system, and background music system according to the National Fire Protection Association (NFPA 72 [2002], section 6.8.4 Combination Systems). They are listed under UL864, 9th edition for fire code applications requiring delivery of supervised audio and voice messaging with strobes and notification appliance circuits (NACs) for visual alerting. They are Occupational Safety and Health Authority (OSHA 1910.165) compliant, not requiring reliability inspections every two months or the usually required spare parts inventory. They have wide-ranging applications from small to large facilities and operate on contact closure message activation.

The SP40S and SP40S-B comes with an on-board digital voice messaging system with eight standard messages having a maximum length per message of 30 seconds including tones:

Message 1

Fire — Three rounds of Code 3 horn followed by a male voice saying, "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. Do not use the elevators."

Message 2

Fire — Three rounds of Code 3 horn followed by a female voice saying, "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. Do not use the elevators."

Message 3

Fire — Three rounds of Code 3 horn followed by a male voice saying, "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."

Message 4

Fire — Three rounds of Code 3 horn followed by a female voice saying, "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."

Message 5

Fire — Three rounds of Code 3 horn followed by a male voice saying, "May I have your attention please! A fire emergency has been reported in the building. While this is being verified, please leave the building and report to the designated assembly area for your group."

Message 6

Weather — Five sec of 1 kHz tone followed by a male voice saying, "May I have your attention please! The National Weather Service has issued a severe weather warning for our area."

Message 7

All Clear — Five sec of 1 kHz tone followed by a male voice saying, "May I have your attention please! The building emergency has ended. An all clear has been given. Please resume normal activities."

Message 8

Test — Five sec of 1 kHz tone followed by a male voice saying, "May I have your attention please! This is a test of the Wheelock evacuation system; repeat, this is only a test."

Any or all of these standard messages are field programmable and each message can be selected to have a Code 3 pre-alert tone, a 1 kHz continuous pre-alert tone, or no pre-alert tone. Post-alert tones are also selectable and match the pre-alert tones for individual messages.

The SP40S systems also come with a hand-held microphone, a power supply and battery charger, and numerous additional features.

These systems are expandable to 5280 W using the SPB-80/4, SPB-160, or SPB-320 Supervised Audio Power Boosters.

Functions

Inputs and Activation
Audio

Each system has thirteen priority-ordered audio inputs:

Priority	Input	Input Type
1	On-board microphone	Push-to-talk microphone
2	Auxiliary	Remote microphone or remote microphone expander
3	Digital message input 1	Contact closure activation
4	Digital message input 2	Contact closure activation
5	Digital message input 3	Contact closure activation
6	Digital message input 4	Contact closure activation
7	Digital message input 5	Contact closure activation
8	Digital message input 6	Contact closure activation
9	Digital message input 7	Contact closure activation
10	Digital message input 8	Contact closure activation
11	Night ringer input	Contact closure activation
12	Telephone paging input	Page port input
13	Background music input	Line level input, 600Ω, input voltage must be less than 2.5 V peak to peak, or 0.3 VRMS

Strobe

These systems provide 2 A of 24 VDC supervised strobe power with built-in selectable Wheelock synchronization. The 24 VDC supervised and synchronized power can be expanded by adding optional power boosters. A DIP switch setting connects strobe activation to activation of any of the eight standard messages.

Outputs
Background Music (BGM)

The background music output requires line level input for the music source and the system is fully supervised while in BGM mode. There are volume and tone controls. In background music mode, the system has a frequency response from 100 Hz to 15 kHz.

General Paging

For general paging, these systems easily connect to most existing phone systems through the page port, CO port, or line level signals. They can support night ringer or security alert connections and automatically mute the background music. There are tone and volume controls. In general paging mode, these systems have a frequency response from 275 Hz to 6.5 kHz.

Speaker

These systems provide 40 W of supervised audio power for 25 V or 70.7 V power-limited speakers.

Voice Evacuation

The voice evacuation function complies with the requirements of NFPA 72. All NAC circuits are supervised and all strobes can be synchronized. These systems come with eight messages that are automatically activated by a NAC input from the fire alarm control panel (FACP). Any message can be erased and the message time can be field--recorded as a custom message (30 sec maximum each). These messages are automatically over-ridden by a live microphone transmission.

Certifications and Approvals

Cooper Wheelock, Inc. holds these Listings and Approvals:

Region	Certification	
USA	UL	SP40S: UOXX: Control Unit Accessories, System (UL864, 9th edition)
	CSFM	SP40S: 6911-0785: 157

ADA	Complies with Americans with Disabilities Act
FCC	Complies with Federal Communications Commission Part 15
NFPA	Complies with National Fire Protection Association NFPA 72
OSHA	Complies with Occupational Safety and Health Administration OSHA 1910.165

Installation/Configuration Notes

Compatibility Information

The SP40S Series Facility Communication Systems are compatible with all Bosch 24 V control panels. For notification devices, they are compatible with all Wheelock speakers (including cluster speakers), strobes, and speaker-strobes.

Mounting Considerations

In order to comply with NFPA and UL requirements for interconnection of fire alarm control equipment, the SP40S series systems must be located in the same room as and within 20 ft (6 m) of a listed compatible fire alarm control panel (FACP).

Wiring Considerations

Wiring between the SP40S series systems and the FACP must be enclosed in conduit. The terminals accept wiring from 12 AWG (2.3 mm) to 22 AWG (0.8 mm).

Note	Notification appliance circuits require a UL listed end-of-line resistor (10 kΩ, 0.5 W).

Parts Included

Quant.	Component
1	SP40S board
1	Enclosure with lock and key set
1	Hand-held microphone
1	Hardware pack
1	Literature pack

Technical Specifications

Audio Specifications

Dynamic Range:	Better than 65 dB
Frequency Response:	BGM: 100 Hz to 15 kHz Voice: 275 Hz to 6.5 kHz
Signal –to-Noise Ratio:	Better than 65 dB
Total Harmonic Distortion:	Less than 2%

Environmental Considerations

Relative Humidity:	Up to 85.5% non-condensing at +86 ± 4℉ (+30 ± 2℃)
Temperature (operating):	+32℉ to +120℉ (0℃ to +49℃)

Mechanical Properties

Dimensions (H x W x D):	21 in. x 16 in. x 6 in. (53.3 cm x 40.6 cm x 15.2 cm)
Material:	Back box: 0.62 in. (15.7 mm) steel Door: 0.05 in. (1.3 mm) steel
Weight (without batteries):	36 lb (16.3 kg)

Outputs

Alarm Relay*:	One set of unsupervised Form C (normally-open) contacts rated at 2.0 A at 24 VDC maximum for resistive loads
Central Amplified Audio Circuit:	One supervised output circuit selectable for 25 V or 70.7 V output at 40 W
Trouble Relay*:	One set of unsupervised Form C (normally-closed) contacts rated at 2.0 A at 24 VDC maximum for resistive loads
Visual NAC:	One supervised output circuit rated at 2.0 A at 24 VDC

*Do not exceed contact ratings. Doing so can cause the relay to fail, preventing indication of a trouble condition or playing of the messages.

Power Requirements

Current Draw (alarm):	4.7 A
Current Draw (standby):	140 mA
Voltage (input):	120 VAC, 2.14 A, 50 Hz or 60 Hz

Trademarks

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Ordering Information

SP40S Facility Communication System (red)
SP40S
Red multi-function supervised paging, messaging, background music, and emergency voice evacuation system with 24 VDC battery backup

SP40S B Facility Communication System (black)
SP40S B
Black multi-function supervised paging, messaging, background music, and emergency voice evacuation system with 24 VDC battery backup

Accessories

SPB-320 Supervised Audio Power Booster (320 W)
SPB-320
Provides four 80 W circuits.

SPB-160 Supervised Audio Power Booster (160 W)
SPB-160
Provides two 80 W circuits.

SPB-80/4 Supervised Audio Power Booster (80 W) with Strobe Power
SPB-80/4
Provides two 2 A circuits.

SP-COA C.O. Port Adapter
SP-COA
Used for telephone paging with the SP40S Facility Communication System. Requires 24 VDC filtered and regulated power supply.