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INSTALLATION INSTRUCTIONS
WHEELOCK ELUXA HIGH FIDELITY SPEAKER-STROBES
WITH PRE-WIRE/PRE-TEST
CEILING MOUNT (BLUE LENS)

Use this product according to this instruction manual. Please keep this instruction manual for future reference.

GENERAL:

The Wheelock Eluxa ELSPSTC-B Series High-Fidelity Multi-Candela Speaker-Strobes are designed for easy installation with a pre-wire capable mounting plate. Eluxa Speaker-Strobes with Blue lens are Listed under Standard UL1638/ULC-S526 (Visual Signaling Appliance) for Private Mode Emergency General Utility Signaling.

Eluxa High-Fidelity Speakers are designed for multiple power requirements (1/8W to 8W at 70.7V and 1/8W to 2W at 25V) with high dBA output at each power tap. ELSPSTC-B series Speakers-Strobes are UL rated to meet the NFPA 72 requirement for 520Hz signals in sleeping areas when used in conjunction with Wheelock Safepath products (see SP40S manual for more details)

The design incorporates a high efficiency speaker for maximum output at minimum power across a frequency range of 300-8000Hz. The strobes can provide non-synchronized strobe operation when connected directly to a Fire Alarm Control Panel (FACP) or provide synchronized strobe operation when used in conjunction with a Dual Sync Module (DSM), or Wheelock's Power Supplies.

The Wheelock Eluxa Series meets NFPA 2016 20 millisecond light pulse duration code requirements. In addition, the Wheelock Eluxa and LED3 product lines have been UL/ULC listed as compatible with all Fire Alarm Control Panels (FACP) and accessories that have been determined to be compatible with Wheelock model RSS Strobe based products including the RSS, CH, E, EH, ET, ST, HS, MT, S8, SA, STH and Z Series. The maximum number of Eluxa devices per NAC is determined by dividing the maximum current rating of the FACP NAC by the total current rating of one Eluxa device, with a maximum of 105 Eluxa (or LED3) devices per NAC. Refer to FACP installation instructions for more detail. The Wheelock Eluxa Series and Exceder LED3 Series strobes may be installed in the same notification zone and field of view with any RSS Strobe based product.

⚠**CAUTION: Do not change factory applied finishes. "DO NOT PAINT".**

⚠**ATTENTION: Ne pas modifiez les finitions appliquées en usine. "NE PAS PEINTURER"**

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING INSTRUCTIONS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

SPECIFICATIONS:

Table 1: Specifications

Models	ELSPSTC-B (Speaker-Strobe, Blue Lens)
Agency	Speaker: UL1480, ULC-S541
	Strobe: UL1638, ULC-S526
Input Voltage	Speaker Audio: 25 or 70.7Vrms (field selectable, Table 4)
	Strobe: DC or FWR, 24V Regulated, 16 to 33V (All models)
Settings	Speaker Power: 1/8W to 8W (field selectable, Table 4)
	Strobe Candela On-Axis: 10, 20, 55, 80, 100, 130cd (field selectable)
NAC Characteristics	Max. line resistance: 35Ω
Environmental	Indoor Use Only. 0° C to 50° C (32° F to 122° F) 93% R.H.

Table 2A: Speaker Sound Pressure Level Ratings

	Reverberant dBA at 10Ft per UL1480							Anechoic dBA at 10Ft per ULC-S541						
Setting	1/8	1/4	1/2	1	2	4	8	1/8	1/4	1/2	1	2	4	8
25Vrms	75	78	81	83	86	---	---	75	79	82	85	87	---	---
70.7Vrms	75	78	81	83	86	88	90	75	79	82	85	87	89	91

Table 2B: Directional Characteristics

-3dB	+/- 80 Degrees Horizontal, +/- 80 Degrees Vertical
-6dB	+/- 90 Degrees Horizontal, +/- 90 Degrees Vertical

Table 3: Strobe Current Ratings (AMPS) **

Candela Setting	10cd	20cd	55cd	80cd	100cd	130cd
DC	0.017	0.023	0.053	0.079	0.110	0.161
FWR	0.036	0.050	0.092	0.142	0.196	0.274

** Setting will determine the current draw of the product.

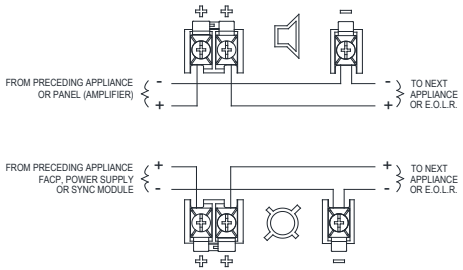
When calculating the total strobe current: Use Table 3 to determine the highest value of "RMS Current" for an individual appliance, then multiply these values by the total number of appliances; be sure to add the currents for any other appliances powered by the same source and include any required safety factors.

Make sure that the total RMS current required by all appliances that are connected to the system's PRIMARY and SECONDARY power sources, NAC circuits, DSM Sync Modules or Cooper Wheelock Power Supplies does not exceed the power sources' rated capacity or the current ratings of any fuses on the circuits to which these appliances are wired.

Check the minimum and maximum output of the power supply and standby battery, and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the appliance.

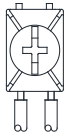
WIRING DIAGRAMS:

Figure 1: Speaker-Strobe (two circuits)



*Refer to Dual Sync Module instruction sheets DSM (P83177) or Wheelock's Power Supplies for additional information.

Figure 2:



1. This model has in-out wiring terminals that accept #12 to #18 American Wire Gauge (AWG) wires at each screw terminal. Strip leads 3/8 inches and connect to screw terminals.

2. Break all in-out wire runs on supervised circuits to assure integrity of circuit supervision as shown in Figure 2. The polarity shown in the wiring diagrams is for operation of the appliances. The polarity is reversed by the FACP during supervision.

NOTES:

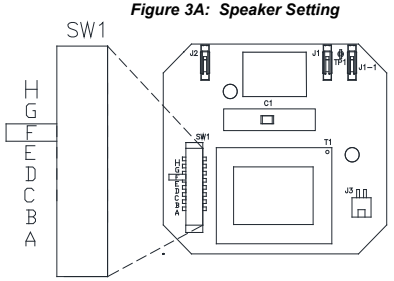
1. The strobe will produce 1 flash per second over the "Regulated Voltage" range.
2. Strobe is not designed to be used on coded systems in which the applied voltage is cycled on and off.
3. The maximum number of Eluxa or LED3 series strobes on a single notification appliance circuit shall not exceed 105.
4. Blue strobes are not to be used as a Visual Public Mode alarm notification appliance.
5. These appliances are UL Listed as "Regulated". They are intended to be used with FACPs whose notification circuits are UL Listed as "Regulated." Refer to the FACP instructions or the Wheelock Strobe Compatibility Data Sheet (P85328) for special application and strobe synchronization compatibility.
6. These appliances were tested to the regulated voltage limits of 16.0-33.0 Volts. Do not apply voltage outside of this range. Check the minimum and maximum output of the power supply and standby battery and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the strobes. The max wire impedance between strobes shall not exceed 35 ohms.
7. The Code 3 temporal pattern (1/2 second on, 1/2 second off, 1/2 second on, 1/2 second off, 1/2 second on, 1-1/2 off and repeat) is specified by ANSI and NFPA 72 for standard emergency evacuation signaling. Code 3 shall be used only for fire evacuation signaling and not for any other purpose.
8. The effect of shipping and storage temperatures shall not adversely affect the performance of the appliance when it is stored in the original cartons and not subjected to misuse or abuse.

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SETTINGS:

Switch (SW1) on the PCB is used to select the speaker voltage/wattage (Table 4) and sound output level (Table 2A). See Figure 3A.

Figure 3A: Speaker Setting



Factory setting is 70.7V, 1/2W, position "F"

Table 4: Speaker Voltage and Wattage Chart		
Position	25V	70.7V
A	2W	------
B	1W	8W
C	1/2W	4W
D	1/4W	2W
E	1/8W	1W
F	------	1/2W
G	------	1/4W
H	------	1/8W

Each doubling of rated Watts increases sound output by 3dB

1. Using the slide switch shown in Figure 3A, select voltage and wattage as shown in Table 4.
2. Each letter corresponds to a position of the switch located on the printed circuit board.
3. A blocking capacitor (1.5uF) for DC supervision of audio lines by the FACP is factory wired in series with the speaker input.

Important: Always operate audio amplifiers and speakers within their specified ratings. Excessive input may distort sound quality and may damage audio equipment. Do not exceed 100% of speaker input voltage per UL1480. Improper input voltage can damage speaker. If distortion is heard, check for clipping of the audio appliance with an oscilloscope and reduce the amplifier input level or gain level to eliminate any clipping.

SETTINGS: To set candela, slide the selector switch to the desired setting. See Figure 3B.

Figure 3B: Candela Setting

Set from rear. Factory Setting is 10cd.

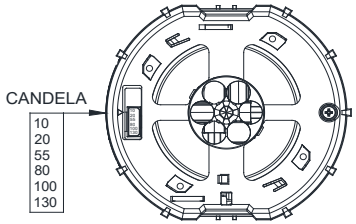
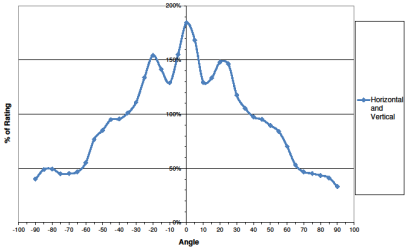
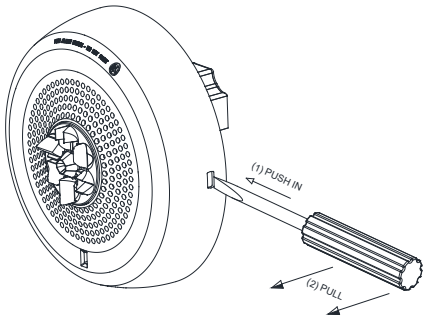


Figure 4: Light Distribution



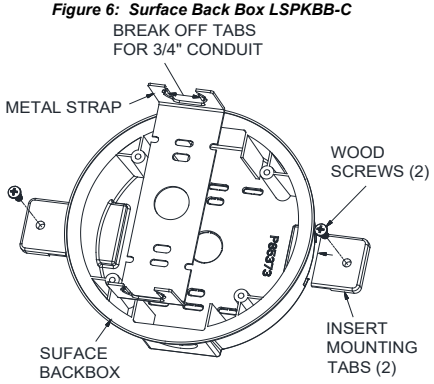
NFPA 72/ANSI 117.1 provide means for determining equivalent illumination using fewer, higher intensity strobes within the same area.

Figure 5: Grille Removal **



INSERT SCREW DRIVER INTO SLOT,
(1) PUSH IN TO RELEASE SNAP, AND
(2) PULL TO REMOVE THE COVER

Figure 6: Surface Back Box LSPKBB-C



**** Grille removal:** 1) Insert Screwdriver into slot and push to release snap. 2) Remove the grille.

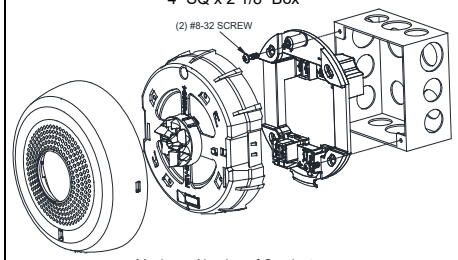
MOUNTING OPTIONS:

The following figures (A and B) show the maximum number of field wires (conductors) that can enter the back box used with each mounting option. If these limits are exceeded, there may be insufficient space in the back box to accommodate the field wires and stresses from the wires could damage the product.

Check that the installed product will have sufficient clearance and wiring room prior to installing back boxes and conduit, especially if sheathed multiconductor cable or 3/4" conduit fittings are used.

Figure A: Flush Mount

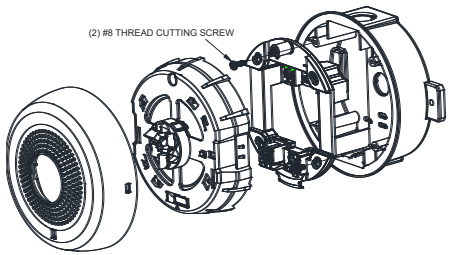
4" SQ x 2 1/8" Box



Maximum Number of Conductors

AWG	#18	#16	#14	#12
	8	8	8	8

Figure B: Surface Mount with LSPKBB-C



Maximum Number of Conductors

AWG	#18	#16	#14	#12
	8	8	8	8

All installations shall be in accordance with:

1) In the United States, the National Electrical Code, NFPA 70, and the National Fire Alarm and Signaling Code, NFPA 72.
2) In Canada, CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, Section 32; and the Canadian Standard for the Installation of Fire Alarm Systems ULC-S524.

MOUNTING PROCEDURES:

1. Select a mounting option and install the backbox. Screws are provided. Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product. Do not pass additional wires (used for other than the signaling appliance) through the backbox. Such additional wires could result in insufficient wiring space for the signaling appliance.
2. Install the Mounting Plate on the backbox. Use 8-32 screws for 4" square back box or hi-lo screws for the surface box.
3. **Pre-Wire:** Connect field wires to terminals on mounting plate (reference Figure 1 and 2). Use care and proper techniques to position the field wires in the backbox so that they use minimum space and produce minimum stress on the product. This is especially important for stiff, heavy gauge wires and wires with thick insulation or sheathing. When terminating field wires, do not use more lead length than required. Excess lead length could result in insufficient wiring space for the signaling appliance.
4. **Pre-Test:** Mounting Plate contains a SHUNT between adjacent "+" terminals to facilitate testing before device is attached. Note: Shunt will open permanently when device is installed on mounting plate.
5. Verify appliance settings are correct for your application. See Figure 3A and 3B. Factory settings are 70.7V, 1/2W (F), 10cd.
6. Place the appliance over the mounting plate. Engage TOP hook on mounting plate, then secure with screw at the bottom. Use care to prevent speaker cone damage when driving the screw.
7. Align cover to the appliance (and verify candela setting is visible in window). Then, snap the cover in place.
8. To remove the cover/grille, insert a small flat-bladed screwdriver into the bottom opening 1/2" as shown in Fig. 5. Then remove grille.
9. Accessories for ELUXA ceiling mount Speakers/Speaker-Strobes: LSPKBB-C (Red: CN1120927; White: CN121003).

Important: Do not fully back out terminal screws. Do not over tighten screws or terminals. Excessive torque may affect operation. When using power tools, ensure the torque is set to the lowest setting available.

NOTE: Final acceptance is subject to Authorities Having Jurisdiction.

Check the installation instructions of the manufacturers of other equipment used in the system for any guidelines or restrictions on wiring and/or locating Notification Appliance Circuits (NAC) and notification appliances. Some system communication circuits and/or audio circuits, for example, may require special precautions to assure immunity from electrical noise (e.g. audio crosstalk).

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe A respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

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