INSTALLATION INSTRUCTIONS
ELUXA SELF-AMPLIFIED SPEAKER
AND SPEAKER-STROBE
WALL MOUNT (CLEAR AND AMBER LENS)

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

GENERAL:

The Wheelock Eluxa ELSA-SSTW Self-Amplified Speaker-Strobe is UL Listed under Standards UL1638 and ULC526 (Visible Signaling Devices for Fire Alarm and Signaling Systems), and UL1480 and ULC541 (Speakers for Fire Alarm and Signaling Systems). ELSA-SW Speaker is for indoor fire protection service and provides a choice of 5 different sound output levels and operates with audio input levels of 0.5 V RMS and 25 V RMS by means of selectable switch settings. The low-profile design incorporates a high efficiency speaker for maximum output at minimum power across a frequency range of 400Hz to 4000Hz. The appliance mounts onto a 4" square deep back box. (See Mounting Options.) All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring via a Control Panel.

The Eluxa ELSA-SSTWA Speaker-Strobes with Amber lens are for Emergency Warning Signaling. Amber lens strobe appliances also comply with the polar distribution requirements for Indoor Fire Protection Service and NFPA-72 for Mass Notification Systems.

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"**

SPECIFICATIONS:

Table 1: Specifications	
Models	ELSA-SSTW (Speaker-Strobe, Clear Lens), ELSA-SW (Speaker) ELSA-SSTWA (Speaker-Strobe, Amber Lens)
Agency	UL1480, UL1638, ULC541, ULC526
Speaker DC Input Voltage	16.0 - 33.0 VDC. "Regulated 24"
Speaker DC Input Current	0.100 Amps RMS maximum
Audio Input Level	0.5 V RMS or 25 V RMS (field selectable, Table 4)
Audio Input Impedance (0.5V setting)	Greater than 400 Ohms, or equivalent to less than 1/1000 W (0.001 W or 1 mW) load
Audio Input Impedance (25V setting)	Greater than 20K Ohms, or equivalent to less than 1/32 W (0.03125 W or 31.25 mW) load
Strobe Input Voltage	16.0 - 33.0 VDC. "Regulated 24" or "24 FWR"
Strobe Input Current	See Table 3
Settings	Strobe: 15, 30, 75, 110, 135, 185cd (field selectable)
	Speaker: 1 to 5 (field selectable, Table 5)
NAC Characteristics (Strobe)	Maximum line resistance: 35Ω (ohms)
Environmental	Indoor Use Only. +32°F to 122°F (0°C to +50°C) 93% RH

Table 2A: Speaker Sound Pressure Level Ratings					
	Reverberant dBA at 10Ft per UL1480				
Setting	1	2	3	4	5
0.5Vrms Audio In	67	70	73	76	79
25Vrms Audio In	67	70	73	76	79

Table 2B: Directional Characteristics	
-3dB	+/- 30 Degrees Horizontal, +/- 32 Degrees Vertical
-6dB	+/- 57 Degrees Horizontal, +/- 53 Degrees Vertical

Table 3: Strobe Current Ratings (AMPS) **						
Candela Setting	15cd	30cd	75cd	110cd	135cd	185cd
DC	0.017	0.022	0.053	0.079	0.106	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 currents: Use Table 1 and 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 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 1A: Strobe (one circuit)

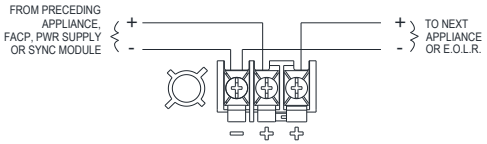
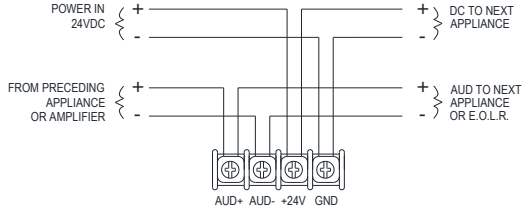
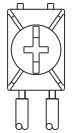


Figure 1B: Speaker (two circuits)



*Refer to Dual Sync Module instruction sheets DSM (P83177) or Wheelock's Power Supplies for additional information.
(Wiring must be all power-limited or all non-power-limited.)

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 strobes on a single notification appliance circuit shall not exceed 105.
4. 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.
5. 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.
6. 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.
7. 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.

SPEAKER SETTINGS: The switch on the PCB (SW1) is used to select the input voltage and sound output level, see Figure 3.

Figure 2:

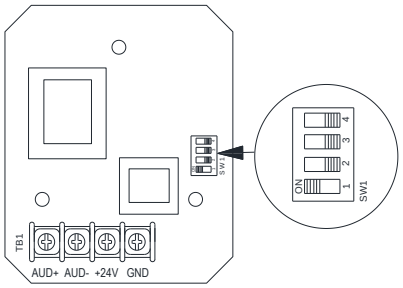


Figure 3:

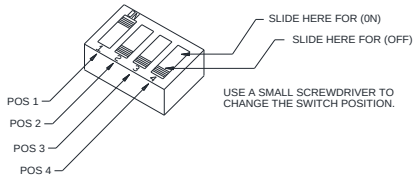


Table 4: Audio Input Voltage Mode Selection	
Audio Input Voltage Mode	Switch Settings (SW1)
	POS 1
0.5 V RMS	ON
25 V RMS	OFF

Table 5: Sound Output Level Selection				
Sound Output Level	Relative Level (dB)	Switch Settings (SW1)		
		POS 2	POS 3	POS 4
A[1]	+9 (typical)	OFF	ON	OFF
B[1]	+6 (typical)	ON	ON	OFF
C[1]	+3 (typical)	OFF	OFF	OFF
5[2]	0 (Reference)	ON	OFF	OFF
4	-3[3] (typical)	OFF	ON	ON
3	-6[3] (typical)	ON	ON	ON
2	-9[3] (typical)	OFF	OFF	ON
1	-12[3] (typical)	ON	OFF	ON

NOTES

1. **These settings are not to be used in UL/ULC Listed applications** and should be used in non-UL Listed applications only when the audio input level is not at the rated value (0.5V RMS for the 0.5-V mode and 25V RMS for the 25-V mode) to provide 3 or 6dB compensation for line losses and/or low drive levels. ***Using these settings while applying the rated audio input will cause excessive distortion and increased current consumption and is not a recommended operating condition.***
2. This is the setting used as a reference level for the other settings in this Table 5.
3. These are ***typical*** values with respect to the reference level (Sound Output Level 5: 0 dB) and are included only to assist the user in choosing a setting during installation. ***Use the values in Table 2 for the actual sound output levels.***

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

Figure 4: Candela. Set from rear. Factory Setting is 15cd.

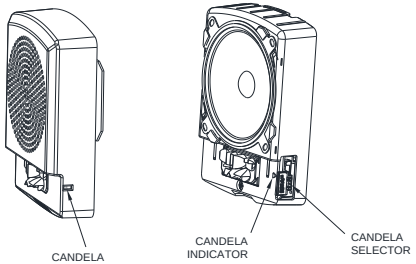
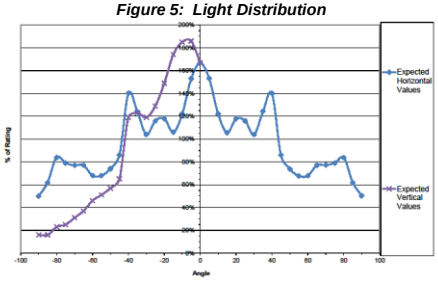


Figure 5: Light Distribution



Strobe device has only one mounting orientation. LED light element should be oriented toward the floor.
NFPA 72/ANSI 117.1 provide means for determining equivalent illumination using fewer, higher intensity strobes within the same area.

Figure 6: Grille Removal **

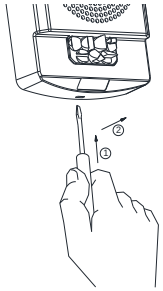
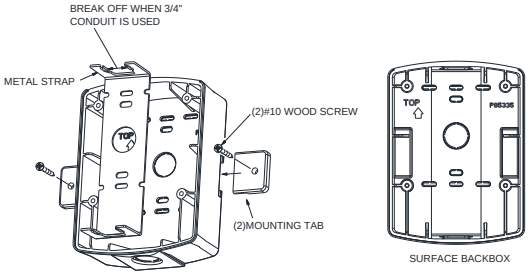


Figure 7: ELSPKBB Surface Back Box



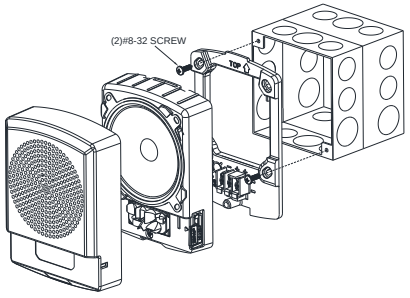
**** Grille removal:** 1) Insert Screwdriver into slot and push to release snap. 2) Remove the grille.

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.

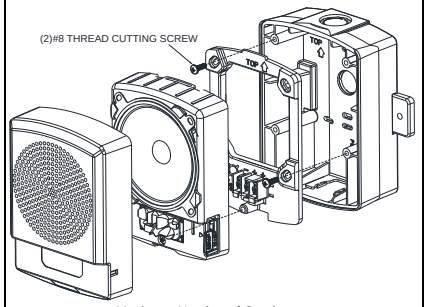
Figure A: Flush Mount
4" SQ x 2 1/8" Box w/Ext.



Maximum Number of Conductors

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

Figure B: Surface Mount (ELSPKBB)



Maximum Number of Conductors

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

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 back box. Screws are provided. Conduit entrances to the back box 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 back box. Such additional wires could result in insufficient wiring space for the signaling appliance.
2. Install the Mounting Plate on the back box. Use 8-32 screws for 4" back box or hi-lo screws for the surface box.
3. Verify appliance settings are correct for your application: Set SW1 to match your Audio Input Voltage (Table 4) and Output Sound Level (Table 5). Move the candela selector switch in Figure 4 to required setting.
4. Connect field wires to terminals on mounting plate for the strobe and on the appliance (reference Figure 1 and 2). Use care and proper techniques to position the field wires in the back box 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.
5. Check to ensure that speaker wiring is connected to speaker terminals (AUD+, AUD-), the dc power wiring is connected to the 24V terminals (+24V, GND), and strobe wiring is connected to strobe terminals on the mounting plate. Check to ensure that wiring at FACP is also correct. Improper input voltage can cause a malfunction or damage.
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 with strobe opening over LED lens. Then, snap the cover in place.
8. To remove the cover/grille, insert a small flat-bladed screwdriver into the bottom slot 1/2" as shown in Figure 5.
9. Accessories for Eluxa Speaker Strobes: ELSPKBB (Red: CN110754; White: CN110755).

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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