

**INSTALLATION INSTRUCTIONS**  
**SERIES STH CLUSTER SPEAKER ASSEMBLY**  
**WITH ELUXA LED STROBE (INDOOR)**

Use this product according to these instructions. Please keep these instructions for future reference.

**GENERAL:**

The Wheelock STH Cluster Speaker/Strobe Assembly is designed for indoor ceiling mount, in high ambient noise level environments. The Cluster Speaker/Speaker Strobe is a speaker/visual alerting system, equipped with up to 4 UL Listed STH-15SR supervised horn loudspeakers and a UL Listed Eluxa LED Strobe, mounted to a NEMA galvanized steel enclosure, 10"W X 10" L X 6"D. The Strobe is mounted to a 4" deep backbox, which is then mounted to the steel enclosure. Speakers and Strobe are pre-wired to the internal terminal block. The speakers can be wired for one or two speaker circuit operation.

The STH-15 loudspeaker provides multiple power requirements with high dBA output at each power tap. STH-15 offers a choice of field selectable taps, 1 to 15 Watts for either 25VRMS or 70VRMS audio systems. The Series STH design incorporates a compression driver, mounted on a double re-entrant horn for maximum output at minimum power across a UL rated frequency range of 400 to 4,000Hz and an anechoic range of 400 to 14,000Hz. The speaker line inputs are compatible with standard supervision of circuit wiring by a Voice Control Panel. A capacitor is wired in series with the multi-tap transformer for this purpose. Each loudspeaker meets or exceeds the UL Standard 1480 (Speakers for Fire Protective Signaling Systems).

The Wheelock Eluxa Multi-Candela Strobes can provide a non-synchronized strobe appliance when connected directly to a Fire Alarm Control Panel (FACP), or provide a synchronized strobe appliance when used in conjunction with an FACP that incorporates the Cooper Wheelock sync protocol, a Dual Sync Module (DSM), or the Wheelock Power Supply. The Eluxa Strobe Appliance is UL Listed under Standard 1638, and is enclosed in a rugged polycarbonate lens to provide maximum visibility and reliability for effective visible signaling. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a FACP.

**MODELS AND SPECIFICATIONS:**

**Table 1: Indoor Cluster Speaker Models**

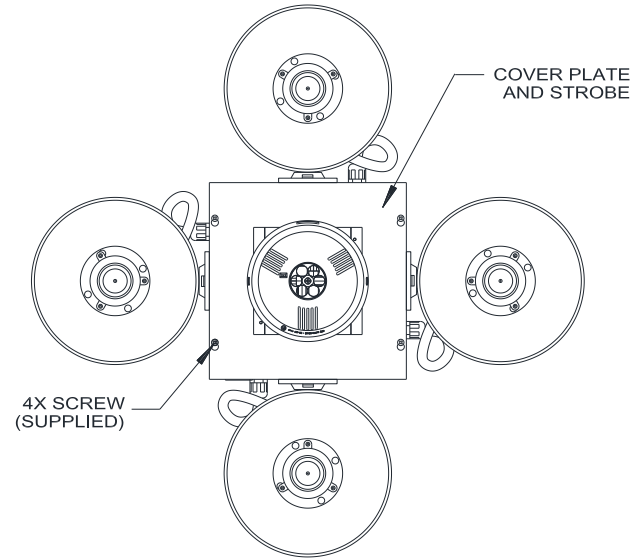
Model	Speaker	Audio Power	Strobe Candela	Strobe Lettering
STH-4R-ELSTC-F	4X STH-15SR	60 Watts	15,30,75,110,150,177	FIRE
STH-3R-ELSTC-F	3X STH-15SR	45 Watts	15,30,75,110,150,177	FIRE
STH-2R-ELSTC-F	2X STH-15SR	30 Watts	15,30,75,110,150,177	FIRE
STH-4R-ELSTC-N	4X STH-15SR	60 Watts	15,30,75,110,150,177	---
STH-3R-ELSTC-N	3X STH-15SR	45 Watts	15,30,75,110,150,177	---
STH-2R-ELSTC-N	2X STH-15SR	30 Watts	15,30,75,110,150,177	---

**NOTE:** All **CAUTIONS** and **WARNINGS** are identified by the symbol ⚠. All warnings are printed in bold capital letters.

**⚠ WARNING: PLEASE READ THESE INSTRUCTIONS CAREFULLY. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING INSTRUCTIONS, CAUTIONS AND WARNINGS COULD RESULT IN IMPROPER APPLICATION, CANDELA SETTING, 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.**

**NOTES:**

1. STH-15 Horn Speakers are UL Listed for indoor use with a temperature range of 32°F to 120° F (-0°C to 49°C) and maximum humidity of 85% RH.



**Figure 1: STH-4R-ELSTC-N Shown with Eluxa LED Strobe**

**SPEAKER WATTAGE SELECTOR SWITCH SETTING:**

(Each Speaker is factory preset to 7.5 Watts, 70 Volts.)

1. Turn Off Power.
2. Remove the cable entrance interface adaptor and gasket (two screws).
3. Adjust the Speaker Wattage Selector Switch for the desired dBA per Instruction Sheet P82697.
4. Reattach the cable entrance interface adaptor and gasket using two screws from step 1.

**STROBE CANDELA SETTING:**

(ELSTC strobe is factory preset to 15cd.)

1. Remove the cover from the ELSTC strobe (see install sheet P85756).
2. Remove ELSTC strobe from mounting plate by loosening mounting screw.
3. Adjust the strobe candela setting from rear per strobe Installation Instruction Sheet (P85756).
4. Place the strobe over the mounting plate. Engage TOP hook on mounting plate, then secure with screw.
5. Align cover to the strobe, so candela setting is visible. Then, snap the cover in place.

**⚠ WARNING: ENSURE THE TOTAL RMS CURRENT REQUIRED BY ALL APPLIANCES THAT ARE CONNECTED TO THE SYSTEM'S PRIMARY AND SECONDARY POWER SOURCES, NOTIFICATION APPLIANCE CIRCUITS, DSM SYNC MODULES, COOPER NOTIFICATION'S POWER SUPPLIES, VOICE EVACUATION PANEL, OR AUDIO BOOSTERS DOES NOT EXCEED THE POWER SOURCE'S RATED CAPACITY OR THE CURRENT RATINGS OF ANY FUSES ON THE CIRCUITS TO WHICH THESE APPLIANCES ARE WIRED. OVERLOADING POWER SOURCES OR EXCEEDING FUSE RATINGS COULD RESULT IN LOSS OF POWER AND FAILURE TO ALERT OCCUPANTS DURING AN EMERGENCY, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.**

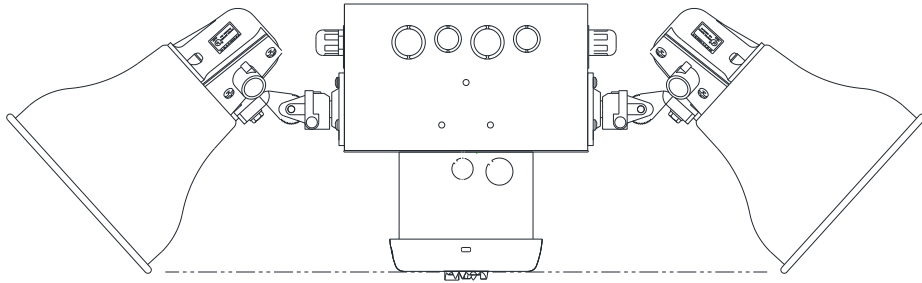


Figure 2: STH Shown with ELSTC Strobe (Side View)

**MOUNTING INSTRUCTIONS:**

1. Mount the speaker assembly to the desired location.
2. Loosen the 4 cover screws to open the enclosure for wiring. (See Figure 1)  
(Speakers are pre-wired to the internal terminal block.)
3. Attach the speaker input wires to the proper terminals on the terminal block. (See Wiring Diagrams)  
Be sure all wire connections in phase (+ to + and - to -). If wiring is out of phase, lower volume may result.
4. Attach strobe wires to the proper terminals on the terminal block. (See Wiring Diagrams)
5. Place cover and tighten the 4 screws to close the enclosure.
6. Loosen the STH wingnut prior to adjusting each speaker.
7. Adjust speaker orientation for desired direction of sound, and tighten wingnut. See note 2 and 3 below.

**NOTES:**

1. All wiring must comply with National Electrical Codes.
2. Speakers shall NOT be set in a position that will allow water to accumulate in the speaker.
3. Speakers shall NOT be positioned below strobe axis shown in Figure 2.
4. Strip leads 3/8 inches. Only one #12 to #18 AWG wire at each screw terminal.

**⚠ CAUTION:** If the STH Cluster Speaker Strobe assemblies are operated within 15 inches of a person's ear, they can produce a sound pressure level that exceeds the maximum 120dBA permitted by NFPA and OSHA rules. Exposure to such sound levels can result in damage to a person's hearing.

**⚠ CAUTION:** Always operate audio amplifiers and speakers within their specified ratings. Excessive input may distort sound quality and may damage audio equipment. Do not exceed +130% of speaker input voltage per UL 1480. 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.

**⚠ CAUTION:** 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 electrical noise immunity (e.g. audio cross talk).

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.

**WIRING DIAGRAMS:**

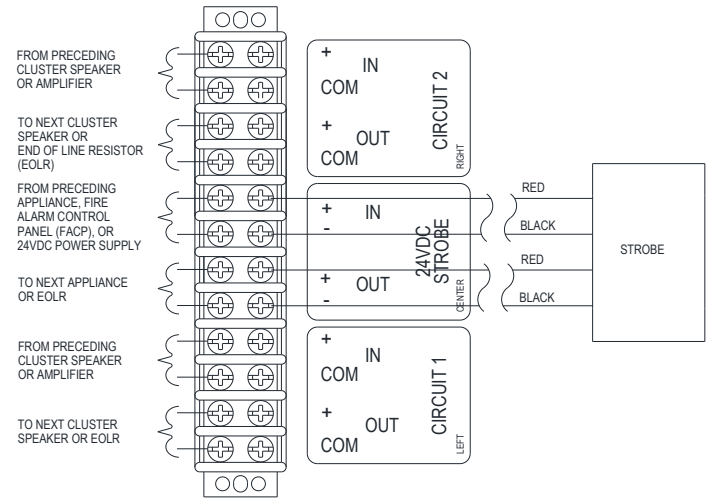


Figure 3: One Audio Circuit (60 Watts Max)

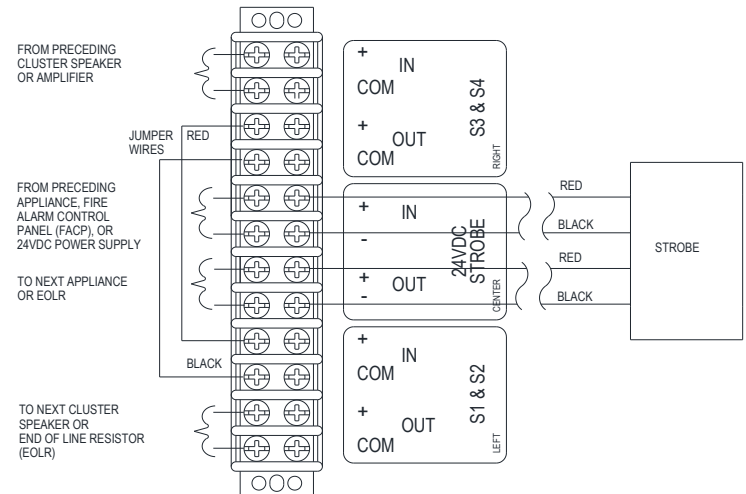


Figure 3: Two Audio Circuits (30 Watts Each)

ANY MATERIAL EXTRAPOLATED FROM THIS DOCUMENT OR FROM COOPER NOTIFICATION MANUALS OR OTHER DOCUMENTS DESCRIBING THE PRODUCT FOR USE IN PROMOTIONAL OR ADVERTISING CLAIMS, OR FOR ANY OTHER USE, INCLUDING DESCRIPTION OF THE PRODUCT'S APPLICATION, OPERATION, INSTALLATION AND TESTING IS USED AT THE SOLE RISK OF THE USER AND COOPER NOTIFICATION WILL NOT HAVE ANY LIABILITY FOR SUCH USE. IN NO CASE WILL SELLER'S LIABILITY EXCEED THE PURCHASE PRICE PAID FOR A PRODUCT.