

*Thank you for using our products.*  
**INSTALLATION INSTRUCTIONS**  
**SERIES STH CLUSTER SPEAKER ASSEMBLY**  
**(WEATHERPROOF)**


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


**GENERAL:**

The series STH-4M30WC Cluster Speaker Assembly is designed for ceiling, wall or roof mounting in high ambient noise level environments. The Series STH-4M30WC Cluster Speakers are a speaker/visual alerting system, equipped with four STH-30 horn loudspeakers, and a DC-MAX-C Strobe, mounted to a NEMA 4X rated fiberglass enclosure, 13.50"W X 15.50"L X 6.25"D. Speakers and Strobe are pre-wired to the internal terminal block. The Series STH-4M30WC appliances are weatherproof.

The STH-30 loudspeaker provides multiple power requirements with high dBA output at each power tap. Factory setting for each speaker is 30 Watts, at 70 Volts, (Setting #5). The ST-H30 design incorporates a compression driver, mounted on a double re-entrant horn for maximum output at minimum power. The speaker line inputs are compatible with standard supervision of circuit wiring by a Voice Control Panel. A capacitor is wired to the terminal block in series with the speaker for this purpose.

The DC-MAX-C strobe is a 5-inch tall, 6.2-inch diameter, cylindrical strobe light. The DC-MAX-C strobe provides a highly visible, clear lens, 100 candela and 60 double flashes per minute that can be seen in all directions. It operates on all standard voltages from 10.5VDC to 31.0VDC, and contains a blocking diode that allows this device to be supervised using standard reverse polarity.


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

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

**SPECIFICATIONS (SPEAKER):**

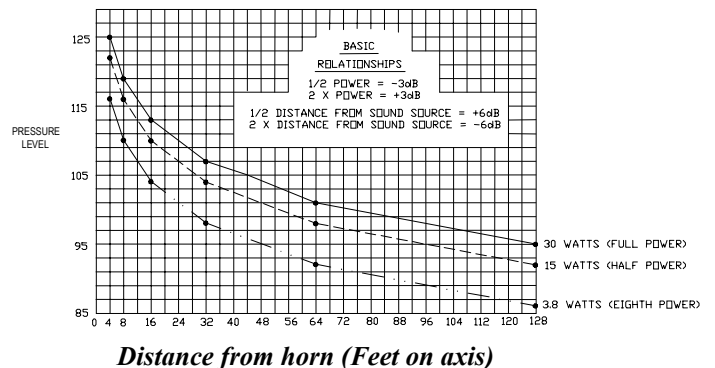
Each speaker has a slotted rotating switch used to change the dB setting for the output. Table 1 shows the settings and the outputs.

<i>Table 1: Speaker Output</i>		
Setting	dB at 1 Meter	Watts at 70V
1	113	2.0W
2	116	3.8W
3	119	7.5W
4	122	15.0W
5	125	30.0W
6	Not Used	Not Used
7	Not Used	Not Used

** WARNING: WHEELOCK STRONGLY RECOMMENDS THAT THE VOLTAGE APPLIED TO THESE PRODUCTS BE WITHIN THEIR RATED INPUT VOLTAGE RANGE. THE APPLICATION OF IMPROPER VOLTAGE MAY RESULT IN DEGRADED OPERATION OR DAMAGE TO THESE PRODUCTS, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.**

**NOTES: (Per Speaker)**

1. Power Handling Capacity (RMS): 30W
2. Sound Dispersion: 70 Degrees
3. Constant Voltage Line: 70Vrms
4. Frequency Response: 275-10KHz
5. Sound Level (Peak): 125dB at 30W, 1 Meter
5. Dimensions: 10"D X 10-1/2"L



**⚠ CAUTION:** Do not place switch in settings marked "not used". Failure to comply with these restrictions may cause damage to components and will void the warranty.

**STROBE:**

<i>Table 2A: Rating Per UL 1638</i>					
Model Code	Lens Color	Rated Voltage	Input Current	Flash Rate	Typ. Eff. Candela
DC-MAX-C	Clear	10.5 to 31.0 VDC	See Table 2B	60/Min Typical	100cd

<i>Table 2B: DC-MAX-C Input Current Versus Input Voltage</i>		
Voltage (VDC)	12	24
Current (mA)	1010	470

**NOTES:**

1. Temperature range for all models is -30°F to +150°F (-35°C to +66°C) and maximum humidity is 95%.
2. Flash energy and flash rate are specified for double flash operation.
3. Effective candela is measured per IES specifications.

If the strobe fails to operate make sure the correct voltage is being supplied to the strobe leads. If the unit still fails to operate call Wheelock Customer Service/Tech Support at (800) 631-2148.

**NOTE:** No field repairs other than lens replacements are recommended.

**INSTALLATION INSTRUCTIONS:**

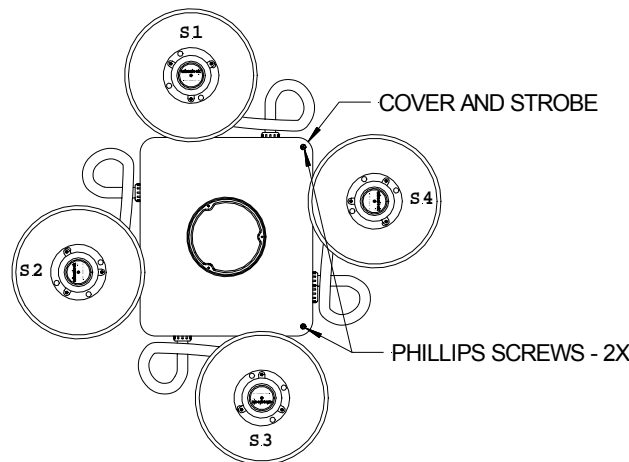
**SPEAKER WATTAGE SELECTOR SWITCH SETTING:**

1. Remove the cable entrance interface adaptor and gasket.
2. Adjust the Speaker Wattage Selector Switch for the desired dB and wattage setting (Table 1) for each speaker. Note: Factory preset is 30 Watts, Setting 5.
3. Reinstall the cable entrance interface adaptor and gasket.

**APPLICATION NOTES:**

1. Mount the speaker assembly to the desired location.
2. Loosen the 2 Phillips screws to open the enclosure for wiring. (Figure 1)
3. Tighten the 2 Phillips screws to close and seal the enclosure.
4. Loosen the wingnut prior to adjusting the speaker.
5. Adjust speaker orientation for desired direction of sound. Note: Speakers must not be set in a position that will allow water to accumulate in the speaker.
6. Be sure to keep all wire connections in phase. If wiring is out of phase (+ to + and - to -), lower volume may result.

**Figure 1: Phillips Screw Location**



**NOTE:** Weatherproof 1/2" conduit fitting is provided for the power wire entrance. Conduit tubing should be rated as weatherproof material that is comparable to weatherproof conduit fitting on the enclosure.

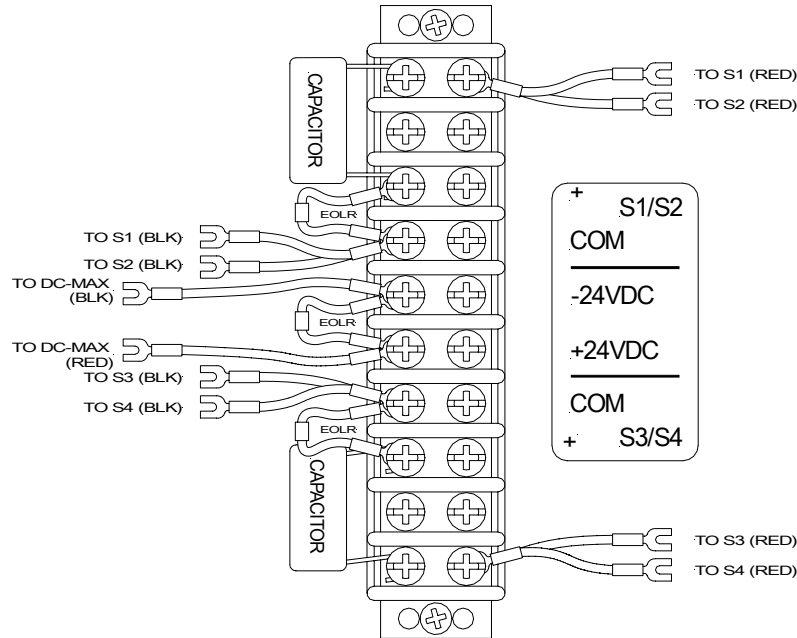
**⚠ WARNING: THE MAX INDUSTRIAL STROBES ARE NOT TO BE USED AS AN INDOOR VISUAL EVACUATION SIGNAL FOR THE HEARING IMPAIRED.**

## WIRING INFORMATION:

**NOTE:** The Series MAX Strobe is not designed to operate on a synchronized circuit. All wiring must comply with NEC and local electrical codes.

1. Attach the speaker input wire to the proper terminals on the terminal block.
2. Attach the 24VDC strobe input wires to the  $\pm$  24VDC terminals on the terminal block.

*Figure 2: Terminal Block Layout*



## ASSEMBLY:

1. Connect  $\pm$  24VDC pre-wires from the terminal block to the strobe pre-wires on the enclosure box cover plate using the wire-nuts (provided). (Red to Red. Black to Black.)
2. Replace enclosure box cover to the enclosure box and tighten the 2 Phillips Screws.

**NOTE:** Loosening the wing nut will allow for both pitch and rotation of the unit.

**CAUTION:** When adjusting horn position, be careful not to lose adjusting hardware.

**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. 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.

**NOTE:** This product is not intended for life-safety applications and therefore units sold for use in military applications are not listed with Underwriters' Laboratories.

**NOTE:** NFPA 72/ANSI 117.1 conform to ADAAG Equivalent Facilitation Guidelines in using fewer, higher intensity strobes within the same protected area.

**CAUTION:** These devices are not intended for use in hazardous locations as defined by the National Electrical Code (NEC) and by the National Fire Protection Association (NFPA).

**WARNING:** A SMALL POSSIBILITY EXISTS THAT THE USE OF MULTIPLE STROBES WITHIN A PERSON'S FIELD OF VIEW, UNDER CERTAIN CIRCUMSTANCES, MIGHT INDUCE A PHOTO-SENSITIVE RESPONSE IN PERSONS WITH EPILEPSY. STROBE REFLECTIONS IN A GLASS OR MIRRORED SURFACE MIGHT ALSO INDUCE SUCH A RESPONSE. TO MINIMIZE THIS POSSIBLE HAZARD, WHEELOCK STRONGLY RECOMMENDS THAT THE STROBES INSTALLED SHOULD NOT PRESENT A COMPOSITE FLASH RATE IN THE FIELD OF VIEW WHICH EXCEEDS FIVE (5) Hz AT THE OPERATING VOLTAGE OF THE STROBES. WHEELOCK ALSO STRONGLY RECOMMENDS THAT THE INTENSITY AND COMPOSITE FLASH RATE OF INSTALLED STROBES COMPLY WITH LEVELS ESTABLISHED BY APPLICABLE LAWS, STANDARDS, REGULATIONS, CODES AND GUIDELINES.

**⚠ 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).

**ANY MATERIAL EXTRAPOLATED FROM THIS DOCUMENT OR FROM WHEELOCK 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 WHEELOCK WILL NOT HAVE ANY LIABILITY FOR SUCH USE.**

**IMPORTANT: READ SEPARATE "GENERAL INFORMATION" SHEET FOR INFORMATION ON THE PLACEMENT, LIMITATIONS, INSTALLATION, FINAL CHECKOUT, AND PERIODIC TESTING OF NOTIFICATION APPLIANCES.**

### **Limited Warranty**

Wheelock products shall be used within their published specifications and shall be PROPERLY specified, applied, installed, operated, maintained and operationally tested in accordance with these instructions at the time of installation and at least twice a year or more often and in accordance with local, state and federal codes, regulations and laws. Specification, application, installation, operation, maintenance and testing shall be performed by qualified personnel for proper operation in accordance with all of the latest National Fire Protection Association (NFPA), Underwriters' Laboratories (UL), Underwriters' Laboratories of Canada (ULC), National Electrical Code (NEC), Occupational Safety and Health Administration (OSHA), local, state, county, province, district, federal and other applicable building and fire standards, guidelines, regulations, laws and codes including, but not limited to, all appendices and amendments and the requirements of the local authority having jurisdiction (AHJ). Wheelock products when properly specified, applied, installed, operated, maintained and operationally tested as provided above are warranted against mechanical and electrical defects for a period of one year from date of manufacture (as determined by date code). Correction of defects by repair or replacement shall be at Wheelock's sole discretion and shall constitute fulfillment of all obligations under this warranty. THE FOREGOING LIMITED WARRANTY SHALL IMMEDIATELY TERMINATE IN THE EVENT ANY PART NOT FURNISHED BY WHEELOCK IS INSTALLED IN THE PRODUCT. THE FOREGOING LIMITED WARRANTY SPECIFICALLY EXCLUDES ANY SOFTWARE REQUIRED FOR THE OPERATION OF OR INCLUDED IN A PRODUCT. WHEELOCK MAKES NO REPRESENTATION OR WARRANTY OF ANY OTHER KIND, EXPRESS, IMPLIED OR STATUTORY WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER MATTER.

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