


Thank you for using our products.

**INSTALLATION INSTRUCTIONS
 SERIES E50 SPEAKERS**

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

GENERAL:

Series E50 Speakers are UL Listed under UL Standard 1480 for Speaker Appliances. They are designed for multiple power requirements with high dBA output at each power tap. All models offer a choice of field selectable taps, 1/8W to 2W, for either 25.0VRMS or 70.0VRMS audio systems. The design incorporates a high efficiency speaker for maximum output at minimum power across a frequency range of 400Hz to 4000Hz, and features a sealed back construction for extra protection and improved audibility. All models are UL Listed for indoor use only with the backboxes specified in these instructions (see Mounting Options).

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

 **WARNING: THE SPEAKER APPLIANCE IS A "FIRE ALARM DEVICE - DO NOT PAINT".**

 **WARNING: PLEASE 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 AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.**

SPECIFICATIONS:

Model	Speaker					Mounting Options	
	Voltage (VRMS)	dBA at 10 Feet (Rated Watts)					
		1/8	1/4	1/2	1		2
E50	25/70	77.0	79.5	82.5	85.0	88.0	A,B

NOTES:

1. All models 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.
2. dBA is rated per UL Standard 1480 for Speaker Appliances. Frequency range of speakers is 400 – 4000HZ

WIRING INFORMATION:

A 1.5µF blocking capacitor for DC supervision of audio lines by the FACP is factory wired in series with the speaker input. Supervision voltage must not exceed 33 volts DC.

Figure 1:

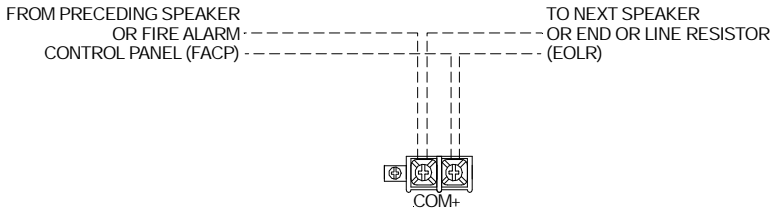
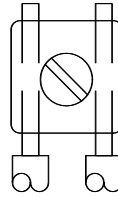


Figure 2:



1. Series E50 Speaker models have in-out wiring terminals that accept two #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.

GROUNDING: Connect ground wire to backbox. Install signaling appliance to backbox using mounting screws provided.

NOTE: Check electrical ratings specified in tables 1 and 2 (as appropriate) to ensure proper electrical input. Be sure that speaker wiring is connected to speaker terminals only and strobe wiring is connected to strobe terminals only. Check to insure that wiring at FACP is correct.

⚠ WARNING: IMPROPER ELECTRICAL INPUT CAN DAMAGE THE PRODUCT OR CAUSE IT TO MALFUNCTION.

Figure 3: Jumper plug is used to select dBA loudness.

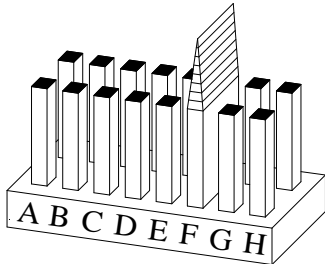
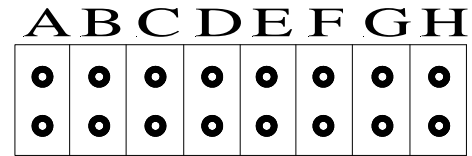


Figure 4: Tap Settings (Factory setting is 70V @ 1/2W (F))



NOTE: Use needle nose pliers to pull and properly insert the jumper plug to the desired tap setting.

Connect speaker wires to common and positive of terminal block and select the power tap terminal for 1/8W, 1/4W, 1/2W, 1W or 2W; 25V or 70V as required (see Figures 1, 2, 3, 4 and Table 2). Each doubling of rated Watts increases sound output by 3 dBA.

Each letter corresponds to a plug position of the header located on the printed circuit board. Select voltage and wattage as shown in Table 2 below.

Position	25V	70V
A	2	-----
B	1	-----
C	1/2	-----
D	1/4	2
E	1/8	1
F	-----	1/2
G	-----	1/4
H	-----	1/8

NOTE: The speaker strobe appliances must be set to the desired dBA sound output level before they are installed. This is done by properly inserting jumper plugs in accordance with these instructions.

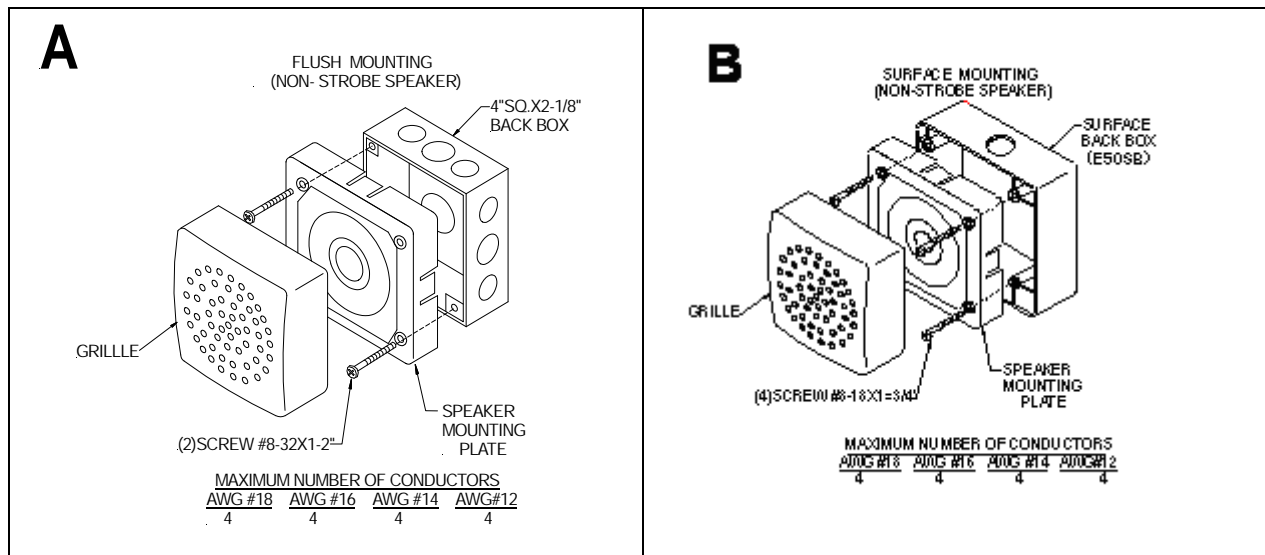
⚠ WARNING: INCORRECT SETTINGS WILL RESULT IN IMPROPER PERFORMANCE.

⚠ CAUTION: Always operate audio amplifiers and speakers within their specified ratings. Excessive input may distort sound quality and may damage audio equipment. 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.

MOUNTING OPTIONS:

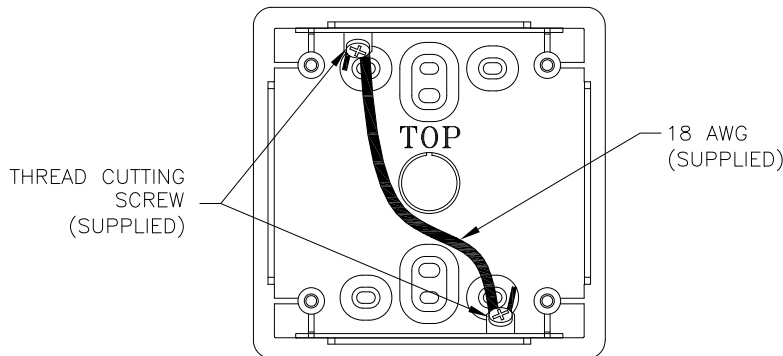
⚠ CAUTION: The following figures show the maximum number of field wires (conductors) that can enter the backbox used with each mounting option. If these limits are exceeded, there may be insufficient space in the backbox to accommodate the field wires and stresses from the wires could damage the product.

Although the limits shown for each mounting option comply with the National Electrical Code (NEC), Cooper Wheelock recommends use of the largest backbox option shown and the use of approved stranded field wires, whenever possible, to provide additional wiring room for easy installation and minimum stress on the product from wiring.



NOTE: Surface backbox (E50SB) in Figure B, is compatible with wiremold and conduit. Mounting holes are for single-gang, double-gang, and #10 wood screws for stud mounting. If metal conduit is installed onto top and bottom conduit entrances, then an insulated grounding wire (18 AWG, supplied) must be connected between the top and bottom plate by using thread cutting screws (supplied) to provide electrical continuity per UL 50. See Figure 5.

Figure 5



MOUNTING PROCEDURES:

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

1. E50 models have an integrated Speaker Mounting Plate.
2. The Speaker Mounting Plate must be oriented correctly when it is mounted to the backbox. Refer to mounting options for orientation.
3. First mount the Speaker Mounting Plate to the backbox. Next slide the grille over the Speaker Mounting Plate until both snaps are engaged.
4. 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. Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product.
6. 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.
7. Mounting hardware for each mounting option is supplied. Use (2) wood screws to mount surface backbox on wall surface.
8. All models can be flush mounted to a 4" square by 2-1/8" deep backbox in the wall (Figure A).
9. 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.
10. Use care to prevent speaker cone damage when driving screws for speaker product mounting.

If this appliance is required to produce a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, the appliance must be used with a fire alarm control unit that can generate the temporal pattern signal. Refer to manufacturer's installation manual for details.

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

⚠ 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 crosstalk).

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) Reorient or relocate the receiving antenna, 2) Increase the separation between the equipment and receiver, 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected, and 4) Consult the dealer or an experienced radio/TV technician for help.

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