

# Wheelock E70 & E90 Speakers & Speaker Strobes



## Description

The Wheelock E70 Wall and E90 Ceiling Speakers and Speaker Strobes are designed for high efficiency sound output for indoor applications. The E product line features intelligible communications with crisp, clear voice messages and tone signaling, ideal for mass notification, and voice evacuation.

Providing a sleek aesthetic appearance, the Wheelock Series E High Speaker Strobes feature dual voltage (25/70 VRMS) capability and field selectable taps from 1/8 to 2 watts. The low profile design incorporates a speaker mounting plate for faster and easier installation. Each model has a built-in level adjustment feature and an aesthetic two (2) screw grille cover.

For visible signaling to meet the hearing impaired, the E Speaker Strobe models incorporate the Low Current draw RSS Strobes.

Strobe options for wall mount models include 1575 or Wheelock patented MCW multi-candela strobe with field selectable candela settings of 15/30/75/110cd or the high intensity MCWH strobe with field selectable 135/185cd.

Ceiling mount models are available in Wheelock patented MCC multi-candela ceiling strobe with field selectable intensities of 15/30/75/95cd or the high intensity MCCH strobe with field selectable 115/177cd.

The strobe portion of all E Speaker Strobes may be synchronized when used in conjunction with the Wheelock DSM Sync Modules, Wheelock Power Supplies or other manufacturers panels incorporating the Wheelock Patented Sync Protocol. Wheelock synchronized strobes offer an easy way to comply with ADA recommendations concerning photosensitive epilepsy.

The E Speaker Strobes are UL Listed for indoor use under Standard 1971 (Signaling Devices for the Hearing-Impaired) and Standard 1480 (Speaker Appliances). All inputs employ IN/OUT wiring terminals for fast installation using #12 to #18 AWG wiring.

Color options for the E Speakers and Speaker Strobes are red and white.

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## Features

- Intelligible Communications
  - Efficient design for high intelligibility at minimum wattage across a frequency range of 400 to 4000 HZ
- Field Selectable Settings
  - Wall mount models are available with Field Selectable Candela Settings of 15/30/75/110cd or 135/185cd (Multi-Candela models)
  - Ceiling mount models are available with field selectable candela settings of 15/30/75/95cd or 115/177cd (Multi-candela models)
- Field Selectable Taps
  - 1/8 watt up to 2 watts
  - 25 or 70 VRMS operation
- Easy-to-Install
  - Low profile design incorporates speaker mounting plate for faster and easier installation
  - Built-in level adjustment feature and an aesthetic two (2) screw grille cover.
  - Quick installation with IN/OUT screw terminals using #12 to #18 AWG wires
  - 4" square backbox prevents wire damage
  - E70 No extension ring required
  - E90 Optional extender (E90 Ext) is available for mounting to 4" square backboxes
- Strobe Synchronization Components
  - Meet synchronizing standards with Wheelock's DSM Sync Modules, Power Supplies or SAFEPATH products
- Compliance
  - UL 1971, UL 1480
  - California State Fire Marshal (CSFM)
  - ADA/NFPA/ANSI/OSHA
  - FCC Part 15, ICES

**Note:** Please read these specifications and associated installation instructions, before using, specifying, or installing this product. Visit [Eaton.com/massnotification](http://Eaton.com/massnotification) for current installation instructions.

## Drawings

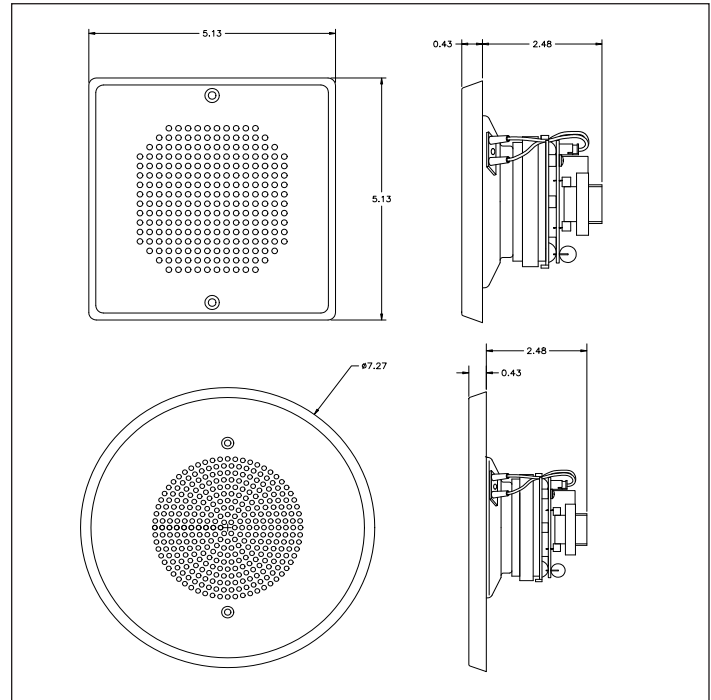


Figure 1. E70 (top) and E90 (bottom) Speakers - Front & Side Views

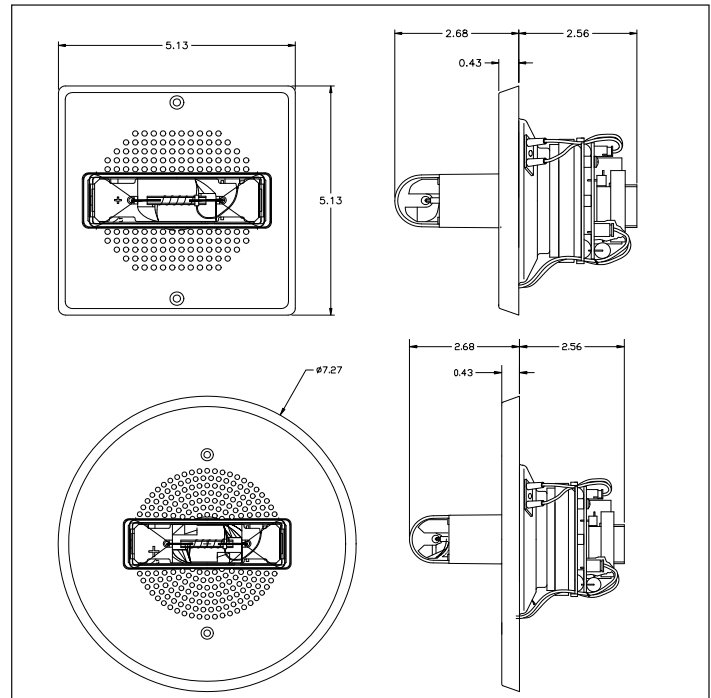


Figure 2. E70 (top) and E90 (bottom) Speaker Strobes - Front & Side Views

## General Notes

- Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range." Note that NFPA-72 specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specify a flash rate of 1 to 3 flashes per second.
- All candela ratings represent minimum effective Strobe intensity based on UL 1971.

Table 1. Maximum RMS Current

Model	Regulated Voltage Range VDC	UL Max Current <sup>①</sup>								
		24MCW/24MCC				24MCWH/24MCCH				
		15	30	75	95	110	115	135	177	185
E70	16.0-33.0	0.060	0.092	0.165		0.220		0.300		0.420
E90	16.0-33.0	0.065	0.105	0.189	0.249		0.300		0.420	

Table 2. UL Listed Models and Ratings

Model	UL Reverberant dBA at 10 Feet <sup>②</sup>				
	1/8 watts <sup>③</sup>	1/4 watts	1/2 watts	1 watts	2 watts
E70 Speaker	72	75	78	81	83
E90 Speaker	72	75	78	81	82
E70 Speaker Strobe	71	75	78	81	83
E90 Speaker Strobe	74	77	80	82	85

Table 3. Specification & Ordering Information

Model	Order #	Strobe Candela	Red	White	Lettering	Wall	Ceiling	Mounting Options	Sync w/ DSM or Wheelock Power Supplies
<b>Speakers</b>									
E70-R	9865		X		No Lettering	X		P, Q	
E70-W	9866			X	No Lettering	X		P, Q	
E90-R	9875		X		No Lettering		X	P, Q	
E90-W	9876			X	No Lettering		X	P, Q	
<b>Speaker Strobes</b>									
E70-24MCW-FR	0183	15/30/75/110	X		FIRE	X		P, Q	X
E70-24MCW-FW	0184	15/30/75/110		X	FIRE	X		P, Q	X
E70-24MCW-NW	9748	15/30/75/110		X	No Lettering	X		P, Q	X
E70-24MCW-ALR	4123	15/30/75/110	X		ALERT	X		P, Q	X
E70-24MCW-ALW	4124	15/30/75/110		X	ALERT	X		P, Q	X
E70-24MCWH-FR	0185	135/185	X		FIRE	X		P, Q	X
E70-24MCWH-FW	0186	135/185		X	FIRE	X		P, Q	X
E70-24MCWH-ALW	4456	135/185		X	ALERT	X		P, Q	X
E70-24MCC-ALR	4308	15/30/75/95	X		ALERT		X	P, Q	X
E70-24MCC-ALW	5838	15/30/75/95		X	ALERT		X	P, Q	X
E70-24MCC-NW	1000	15/30/75/95		X	No Lettering		X	P, Q	X
E90-24MCC-FR	0191	15/30/75/95	X		FIRE		X	P, Q	X
E90-24MCC-FW	0192	15/30/75/95		X	FIRE		X	P, Q	X
E90-24MCC-NW	3181	15/30/75/95		X	No Lettering		X	P, Q	X
E90-24MCC-ALW	4189	15/30/75/95		X	ALERT		X	P, Q	X
E90-24MCC-ALR	4309	15/30/75/95	X		ALERT		X	P, Q	X
E90-24MCCH-FR	0194	115/177	X		FIRE		X	P, Q	X
E90-24MCCH-FW	0193	115/177		X	FIRE		X	P, Q	X
E90-24MCCH-ALR	0980	115/177	X		ALERT		X	P, Q	X
E90-24MCCH-ALW	2975	115/177		X	ALERT		X	P, Q	X
E90-24MCCH-NW	2974	115/177	X		No Lettering		X	P, Q	X

① RMS current ratings are per UL maximum RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16-33v for 24v units). For strobes the UL max current is usually at the minimum listed voltage (16v for 24v units). For audibles the max current is usually at the maximum listed voltage (33v for 24v units). For unfiltered FWR ratings, see installation instructions.

b dBA ratings are based on testing under UL Standard 1480.

c 1/8 watt tap is for private mode only.

**Note:** Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc., dba Eaton standard terms and conditions.

Table 4. Specifications

<b>Physical</b>	
Material	Red or white textured UV stabilized, colored impregnated engineered plastic. Exceeds 94V-0 UL flammability rating.
Weight	E70 Speaker: 1.7 lbs (0.77 kg); E70 Speaker Strobe 1.8 lbs (0.82kg); E90 Speaker: 1.5 lbs (0.68 kg); E90 Speaker Strobe 1.6 lbs (0.73 kg)
Lens	GE Lexan 943A
Dimensions	E70 Speaker: 5.13" W x 5.13" H x 0.43"D; E70 Speaker Strobe: 5.13" W x 5.13" H x 2.56"D; E90 Speaker: 7.27" Diameter x 0.43" D; E90 Speaker Strobe: 7.327 Diameter x 2.68" D
Operating Temperature	Indoor: 33.8°F to 120.2°F (0°C to 49°C) and maximum humidity of 93%
<b>Mounting &amp; Wire Connections</b>	
Mounting (indoor only)	4" square backbox with extension ring prevents wire damage; SBB for surface mount of E70
Wire Connections	#12 through #18 AWG
<b>Power &amp; General</b>	
Operating voltage	25/70 VRMS
Strobe Output Rating	UL 1971
Strobe Flash Rate	Strobes are designed to flash at 1 flash per second
Synchronization Models	Strobes can be synchronized with Wheelock's DSM Sync Modules, Power Supplies or SAFEPATH products, using Wheelock patented sync protocol
Frequency Range	400 Hz to 4000 Hz

### Architects and Engineers Specifications

The speaker appliances shall be Wheelock Series E70 or E90 Speakers and Speaker Strobe appliances or approved equals. The speakers shall be UL Listed under UL 1480 for Fire Protective Service and speakers equipped with strobes shall be listed under UL 1971 for Emergency Devices for the Hearing-Impaired. In addition, the strobes shall be certified to meet the requirements of FCC Part 15, Class A.

All speakers shall be designed for a field selectable input of either 25 or 70 VRMS, with selectable power taps from 1/8 watt to 2 watts. All models shall have listed sound output of up to 87 dB at 10 feet and a listed frequency response of 400 to 4000 Hz. The speaker shall also incorporate a sealed back construction. All inputs shall employ terminals that accept #12 to #18 AWG wire sizes. The strobe portion of the appliance shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range. The strobe shall be of low current design. Where Multi-Candela Speaker Strobes are specified, the strobe intensity shall have field selectable settings and shall be rated per UL 1971 at 15/30/75/110cd or 135/185cd for wall mount and 15/30/75/95cd or 115/177cd for ceiling mount. The selector switch for selecting the candela shall be tamper resistant.

When synchronization is required, the strobe portion of the appliance shall be compatible with Wheelock DSM sync modules, Wheelock Power Supplies or other manufacturers panels incorporating the Wheelock Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync module or Power Supply fails to operate, (i.e., contacts remain closed), the strobe shall revert to a non-synchronized flash rate.

The speaker and speaker strobe appliances shall be designed for indoor surface or flush mounting. The speaker and speaker strobe shall incorporate a speaker mounting plate with a grille cover which is secured with two screws for a level, aesthetic finish and shall mount to standard electrical hardware requiring no additional trimplate or adapter.

The finish of the Series E speakers and strobe speakers shall be red or white.

All speaker and speaker strobe appliances shall be backward compatible.

UL 1971, UL 1480, CSFM, FCC.



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