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## GENERAL

Wheelock has enhanced the ET Series high-performance Speakers and Speaker Strobe combinations. These speakers are specifically designed to meet the critical needs of the life safety industry for voice and tone signaling. These dual voltage (25/70 volt), multiple tap (from 1/8 to 8 watts) audio systems now incorporate a new low-profile design which results in more space in standard electrical backboxes. ET Series Speakers and Speaker Strobes now incorporate a new speaker mounting plate for faster and easier installation with a built-in level adjustment feature, and a new aesthetically pleasing two-screw grille cover. Additionally, the ET Series Speaker Strobe models now incorporate the new low-current, reduced-inrush, Wheelock RSS Series Non-Sync/Sync Strobes (synchronization of the strobe flash is achieved when used with the Wheelock SM or DSM Sync Module).

ET Series Speaker Strobes are designed with maximum performance, reliability and cost-effectiveness while meeting or exceeding the latest requirements of NFPA 72 (National Fire Alarm Code), ANSI 117.1 (American National Standard of Accessible and Usable Buildings and Facilities), and UL Standard 1971 (Standard for Signaling Devices for the Hearing Impaired). ET Speaker Strobes, when properly specified and installed in accordance with NFPA/ANSI standards, can provide the equivalent facilitation allowed under ADA Accessibility Guidelines (ADAAG General Section 2.2) by meeting or exceeding the illumination which results from the ADA specified strobe intensity of 75 candela at 50 feet (15.24 m). This is an illumination of 0.030 lumens per square foot.

ET Series Speaker Strobes are UL listed for indoor use, ceiling- and wall-mounting, under Standard 1971 for Signaling Devices for the Hearing Impaired and Standard 1480 for Speaker Appliances. They use a Xenon flashtube with solid state circuitry enclosed in a rugged LEXAN® lens to provide maximum reliability for effective visual signaling.

## FEATURES

- **Designed to meet or exceed NFPA/ANSI Standard and ADA Accessibility Guidelines. Meets OSHA 29 Part 1910.165.**
- **High-efficiency speakers designed for maximum output at minimum wattage across 400 to 4,000 Hz frequency range.**
- **Field-selectable taps for 25 or 70 V<sub>RMS</sub> operation from 1/8 watt up to 8 watts in 3-dB steps.**
- **Sealed-back speaker construction for extra protection and improved audibility.**
- **Easy installation with In/Out screw terminals using #12 AWG (3.25 mm<sup>2</sup>) to #18 AWG (0.75 mm<sup>2</sup>) wiring.**
- **ET Series Speaker Strobe models are available with the new RSS Series Non-Sync/Sync Strobes in 15, 15/75, 30, 75, and 110 candela for wall mounting; and 30, 75, and 100 candela for ceiling mounting. When used in conjunction with the Wheelock SM or DSM Sync Modules, these non-sync/sync strobes produce a synchronized strobe flash for compliance with ADA guidelines concerning photosensitive epilepsy.**
- **The 15/75 candela wall-mounted strobes are listed at 15 candela under UL standard 1971 and meet 75 candela intensity on axis for ADA guidelines, with low current draw.**
- **All strobe inputs compatible with standard reverse-polarity-type supervision of circuit wiring by an alarm panel.**
- **The new speaker mounting plate provides faster, easier installation in attractive package styles for flush, semi-flush, or surface mounting to standard low-cost backboxes. Special slots are provided for ease in leveling speaker and speaker-strobe models.**
- **ET-1010 or ET-1080 Series models available for vandal-resistant die-cast speakers and speaker strobes.**

ET70 SERIES  
ET90 SERIES



ET90 Series  
Speaker Strobe



ET70 Series  
Speaker Strobe



S2652 (Speakers)  
S2652/S5391  
(Strobe/Speakers)

MEA

151-92-E  
Vol. XXI



California  
State Fire  
Marshal  
7135-0785:134  
7125-0785:146

## An ISO 9001 Company

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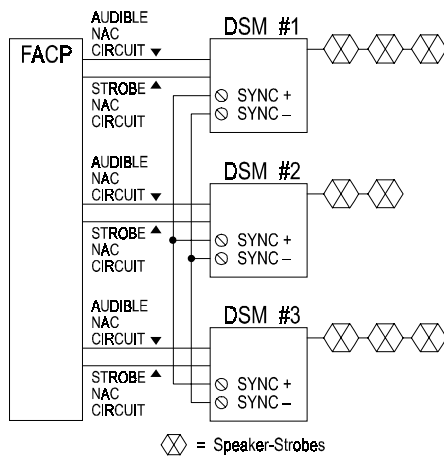
## FEATURES QUICK REFERENCE

MODEL NUMBER	WALL MOUNT	CEILING MOUNT	STROBE NON-SYNC	STROBE SYNC	STROBE CANDELA	COLOR RED	COLOR WHITE
ET70-R	X					X	
ET70-W	X						X
ET90-W	X						X
ET70-2415W -FR	X		X	X	15	X	
ET70-241575W -FR	X		X	X	15/75	X	
ET70-2430W -FR	X		X	X	30	X	
ET70-2475W -FR	X		X	X	75	X	
ET70-24110W -FR	X		X	X	110	X	
ET70-24110W -FW	X		X	X	110		X
ET90-2430C -FW		X	X	X	30		X
ET90-2475C -FW		X	X	X	75		X
ET90-24100C -FW		X	X	X	100		X
ET-1010-R	X					X	
ET-1010-W	X						X
ET-1080-R	X					X	
ET-1080-LS-24-VFR	X		X		15	X	
ET-1080-SL-VFR	X			X	15	X	
ET-1080-LSM-24-VFR	X		X		15/75	X	
ET-1080-SLM-24-VFR	X			X	15/75	X	
ET-1080-MS-24-VFR	X		X		30	X	
ET-1080-IS-24-VFR	X		X		75	X	

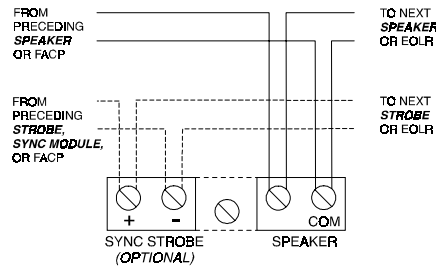
## WIRING DIAGRAMS (all models)

ET Strobe devices synchronized with multiple DSM Modules.

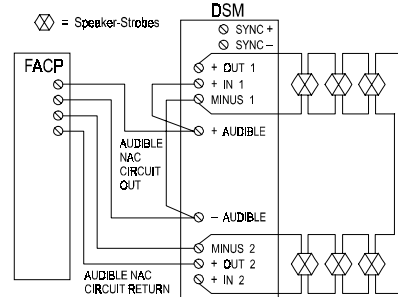
Interconnecting wiring shown. Maximum of twenty (20) DSM Modules.



ET Speaker and Strobe operate independently (non-sync or sync).



ET Strobe devices synchronized with DSM Module dual Class "A" (Style Z) circuit with NO audible silence feature.



For details on using SM or DSM Sync Modules, refer to Wheelock data sheet #S3000, or Wheelock installation instructions P83123 (for SM) or P83177 (for DSM).

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FIRE CONTROL INSTRUMENTS

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Contact Wheelock for installation instructions (Wheelock P83567) and general information sheet (Wheelock P82380) for these products. These materials undergo periodic changes. It is important that you have current information on these products. These materials contain important information that should be read prior to specifying or installing these products, including:

- Total current required by all devices connected to system primary and secondary power sources.
- Fuse ratings on NAC circuits to handle maximum inrush or peak currents from all devices on those circuits.
- Composite flash rate from multiple strobes within a person's field of view.
- Voltage applied: the voltage applied to these products must be within their rated input voltage range.
- Installation of 110/100 candela strobe products in sleeping areas.
- Installation in office areas and other specification and installation issues.
- Note: Use strobes only on circuits with continuously applied operating voltage. Do not use strobe on coded or interrupted nac circuits in which the applied voltage is cycled on and off, as the strobe may not flash.
- Conductor specifications: Conductor size (AWG), length and capacity should be taken into consideration prior to design and installation of these products, particularly in retrofit installations.

**FAILURE TO COMPLY WITH THE INSTALLATION INSTRUCTIONS OR GENERAL INFORMATION SHEETS COULD RESULT IN IMPROPER INSTALLATION, APPLICATION, 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.**

Wheelock products must be used within their published specifications and must be **PROPERLY** specified, applied, installed, operated, maintained, and operationally tested in accordance with their installation 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 must be performed by qualified personnel for proper operation in accordance with all of the latest National Fire Protection Association (NFPA), Underwriters' Laboratories (UL), 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).

## ARCHITECT & ENGINEER SPECIFICATIONS

The speaker appliances shall be Wheelock ET Series Speakers and Speaker Strobes or approved equivalent. The speakers shall be listed under Standard UL 1480 for Fire Protective Service. Speaker appliances equipped with strobes shall additionally be Listed under UL 1971, Signaling Devices for the Hearing Impaired.

All speakers shall include both 25 and 70  $V_{RMS}$  inputs with field-selectable power taps from 1/8 watt to 8 watts with listed sound output up to 94 dBA for speakers and speaker-strobes. Strobes shall be Listed for 20 to 31 VDC input using filtered power or unfiltered power supply  $V_{RMS}$ . All models shall have provisions for standard reverse-polarity-type supervision for strobe portion and In/Out field wiring using terminals that accept #12 AWG (3.25 mm<sup>2</sup>) to #18 AWG (0.75 mm<sup>2</sup>) wiring. Additionally, the speaker shall incorporate sealed-back construction.

Combination speaker-strobe appliances shall incorporate a Xenon flashtube enclosed in a rugged LEXAN® lens or equivalent with solid state circuitry. Strobe shall meet UL 1971 and produce a flash rate of one (1) flash per second minimum over the listed input voltage (20 - 31 VDC) range. The strobe intensity shall be rated per UL 1971 for 15, 15/75, 30, 75, or 110 candela for wall mounting; and 15, 30, 75, or 100 candela for ceiling-mount applications. The 15/75 candela wall strobe shall be specified when 15 candela UL 1971 listing with 75 candela intensity on-axis is required.

Combination speaker-strobe appliances shall incorporate the Wheelock RSS Series Non-Sync/Sync circuitry and shall be designed for compatibility with Wheelock SM and DSM Sync Modules for synchronized strobe flash. Wheelock Sync Modules and Synchronized Strobes shall be designed as a system for continuous activation of the strobes; should the Sync Module contacts fail in the passive state (i.e., contacts remain closed), the strobes shall revert to a non-synchronized rate of 1 flash per second (default mode).

All UL 1971 listed strobe appliances shall be certified to meet FCC Part 15, Class B and incorporate low temperature compensation to ensure the lowest possible current consumption. Strobe activation shall be via independent input from the audio circuit.

The speakers and speaker-strobe appliances shall be designated for indoor surface or flush mounting. The speaker and speaker strobes shall incorporate a speaker mounting plate with a grille cover which is secured with two screws for a level, aesthetically pleasing finish. They shall mount on standard electrical hardware requiring no additional trim plate or adapter. The appliance shall be finished in a textured red or white color.

## GENERAL NOTES

- Strobes are designed to flash at 1 flash per second minimum from 20 to 31 VDC. Note that NFPA-72 (1996) 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.
- Series ET70 and ET90 Speaker Strobe products are listed under UL 1971 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 85%. Series ET-1010 Speakers (without strobes) are listed for indoor/outdoor use with a temperature range of -31°F to 150°F (-35°C to 66°C) and maximum humidity of 95%. ET-1080 Speaker Strobes are listed for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C).

Speaker dB at 10 ft. (3.048 m) (Rated W atts)						
1/8	1/4	1/2	1	2	4	8
78.3	81.5	84.4	87.2	90.1	92.8	94.9
<b>NOTE:</b> Slight increase in dB on Non-Strobe Speakers.						

## ORDERING INFORMATION

	MODEL NUMBER	STROBE CANDELA	AVG.*STROBE CURRENT (AMPS)@ 24 VDC	MOUNTING OPTIONS**
SPEAKERS Wall Mount or Ceiling Mount	ET70-R	—	—	E, L, N, O, P, Q, V, Y, Z
	ET70-W	—	—	E, L, N, O, P, Q, V, Y, Z
	ET90-W	—	—	E, L, N, O, P, Q, V, Y, Z
SPEAKER STROBES Wall Mount	ET70-2415W-FR	15	0.050	E, L, N, O, P, Q, V, Y, Z
	ET70-241575W-FR	15/75	0.065	E, L, N, O, P, Q, V, Y, Z
	ET70-2430W-FR	30	0.081	E, L, N, O, P, Q, V, Y, Z
	ET70-2475W-FR	75	0.133	E, L, N, O, P, Q, V, Y, Z
	ET70-24110W-FR	110	0.161	E, L, N, O, P, Q, V, Y, Z
	ET70-24110W-FW	110	0.161	E, L, N, O, P, Q, V, Y, Z
SPEAKER STROBES Ceiling Mount	ET90-2430C-FW	30	0.102	E, L, N, O, P, Q, V, Y, Z
	ET90-2475C-FW	75	0.204	E, L, N, O, P, Q, V, Y, Z
	ET90-24100C-FW	100	0.238	E, L, N, O, P, Q, V, Y, Z
SYNC MODULES***		INPUT VOLTAGE	AVG. CURRENT	
	SM -12/24R	12 VDC / 24 VDC	0.014 (12) / 0.025 (24)	E, N
	DSM -12/24R	12 VDC / 24 VDC	0.020 (12) / 0.038 (24)	W

**NOTES:** 1) ET90 MODELS with and without strobes are offered in white only. 2) SUFFIXES USED ABOVE: W = Wall mounting; C = Ceiling mounting; F = Fire lettering; R at end = Red; W at end = White. EXAMPLES: ET70-R (Red); ET70-2415W-FR (Wall mounting – Fire lettering, Red); ET90-2475C-FW (Ceiling mounting – Fire lettering; White). 3) FREQUENCY RANGE of speakers is 400 to 4,000 Hz. 4) A 10 µF BLOCKING CAPACITOR for DC supervision of audio lines by the FACP is factory-wired in series with the speaker input. 5) dBA is rated per UL 1480.

\* **Average current** per actual Wheelock production testing 24 VDC nominal voltage. For rated average, peak and inrush currents across the listed voltage ranges for both filtered DC and unfiltered V<sub>RMS</sub> (or on models below, full-wave-rectified), see the installation instructions for this product series (Wheelock P83567).

\*\* For descriptions of **MOUNTING OPTIONS**, refer to Notifier Data Sheet DN-6111, derived from Wheelock S7000.

\*\*\* **SM Sync Modules** are rated for 3.0 amperes at 12/24 VDC; **DSM Dual Control Modules** are rated for 3.0 amperes per circuit. The maximum number of interconnected DSM modules is twenty (20). Refer to installation instructions for SM (Wheelock P83123) and DSM (Wheelock P83177).

	MODEL NUMBER	STROBE CANDELA	dBA @ 10 FT. (3.048 m)	AVG.*STROBE CURRENT (AMPS)@ 24 VDC	MOUNTING OPTIONS**
SPEAKERS Die-Cast	ET-1010-R	—	78 - 96	—	E, K, N, R, S, T, U, Z
	ET-1010-W	—	78 - 96	—	E, K, N, R, S, T, U, Z
	ET-1080-R	—	78 - 96	—	E, L, N, O, P, Q, V, Y, Z
SPEAKER STROBES Die-Cast	ET-1080-LS-24-VFR	15	78 - 96	0.074	E, L, N, O, P, Q, V, Y, Z
	ET-1080-SL-VFR	15	78 - 96	0.096	E, L, N, O, P, Q, V, Y, Z
	ET-1080-SLM-24-VFR	15/75	78 - 96	0.100	E, L, N, O, P, Q, V, Y, Z
	ET-1080-SLM-VFR	15/75	78 - 96	0.138	E, L, N, O, P, Q, V, Y, Z
	ET-1080-MS-24-VFR	30	78 - 96	0.124	E, L, N, O, P, Q, V, Y, Z
	ET-1080-S-24-VFR	75	78 - 96	0.200	E, L, N, O, P, Q, V, Y, Z
These models also utilize the SM and DSM Sync Modules, see previous table.					

**NOTES PARTICULAR TO TABLE ABOVE:** 1) ET-1010/1080 MODELS can be used with Wheelock Model RSSP-24110W-FR strobe/plate assembly for 110 candela wall speaker strobes. 2) SUFFIXES USED ABOVE: V = Vertical lens; C = Ceiling lens; F = Fire lettering; R = Red plate; W = White plate. The letters SL and SLM denote synchronized products. 3) FIELD-SELECTABLE TAPS for above models: 1/8, 1/4, 1/2, 1, 2, 4 or 8 watt operation (4-watt tap not available with 25 V<sub>RMS</sub> output).