

# Edwards® 2452THS Field Programmable Electronic Horn/Strobe



## Features

- Synchronized audible & synchronized visual signal
- Supervised wiring
- Terminals for easy wiring
- Red or white flame resistant housing
- Strobe available in 15, 30, 15/75, and 110 candela models

## Description

The Edwards 2452THS series is a low current, high decibel, high quality notification appliance intended for use in fire alarm applications. The unit is a self-synchronized, temporal-audible and synchronized visual signal that meets the requirements of NFPA 72. It is suitable for wall or ceiling mounting in outdoor or indoor applications. Both output level and sound pattern are field selectable. The unit comes factory set for a temporal signal with a 102 dB output.

## Agency Approvals

- UL 1971 Listed
- UL 1638 Listed
- UL 464 Listed
- CSFM Listed
- Engineered thermoplastic housing UL flame rated 94V-0

## Specifications

- Horn output: selectable - 98 or 102dB
- Horn pattern: selectable - temporal pattern or continuous
- Temporal horn pattern: 1/2 sec on, 1/2 sec off, 1/2 sec on, 1/2 sec off, 1/2 sec on, 1 1/2 sec off, repeat cycle
- Strobe flashes at 1 fps synchronized
- Operating voltage: 24V DC (-20% to +10% of nominal)

- Horn may be connected to continuous or pulsed voltage when set to sound the continuous pattern
- Strobe must always be connected to a continuous voltage
- Indoor Operating Environment: 85% relative humidity at 86°F (30°C); 32°F to 120°F (0° to 49°C) variable ambient
- Outdoor Operating Environment: 95% relative humidity at 86°F (30°C); -31°F to 150°F (-35° to 66°C) variable ambient

## Installation

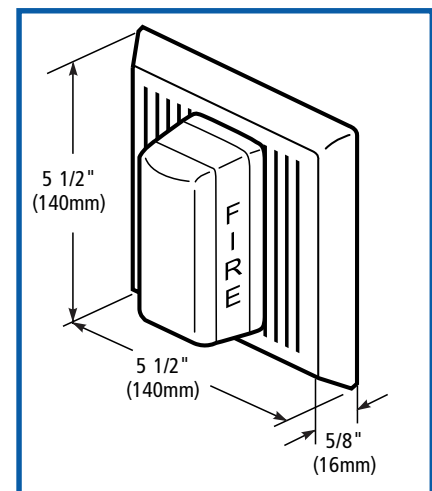
The 2452THS is designed for indoor or outdoor wall or ceiling mounting. For flush mounting use a 4" (102mm) square box with a minimum depth of 2 1/8" (38mm). For surface mounting, use Cat. No. 2459-SMB-R (red) or 2459-SMB-W (white) surface mount box. For weatherproof mounting, use weatherproof surface box Cat. No. 2459-WPB-R (red) or 2459-WPB-W (white).

See Strobe Application Data, page 12-38, for the following: sizing wall and ceiling mounted strobes to room size, mounting strobes in corridors, and mounting strobes in sleeping rooms.

See System Design Criteria on page 12-51.

## Applications

The 2452THS horn/strobe is an audible/visual signaling appliance for installations that operate in conjunction with an installed fire alarm panel and detection devices.



## Catalog Numbers

Cat. No.	Color	Candela Rating
2452THS-15-R	Red	15
2452THS-15-W	White	15
2452THS-15/75-R	Red	15/75
2452THS-15/75-W	White	15/75
2452THS-30-R	Red	30
2452THS-30-W	White	30
2452THS-110-R	Red	110
2452THS-110-W	White	110

## Specification Information for 2452THS Horn/Strobes

Tone	<i>Temporal</i>				<i>Continuous</i>			
Operating Voltage (1)	20 to 24V DC		20 to 24V FWR		20 to 24V DC		20 to 24V FWR	
Operating Current - Horn (2)	<i>Low Volume</i> 20 mA	<i>High Volume</i> 40 mA	<i>Low Volume</i> 23 mA	<i>High Volume</i> 52 mA	<i>Low Volume</i> 20 mA	<i>High Volume</i> 40 mA	<i>Low Volume</i> 23 mA	<i>High Volume</i> 52 mA
Horn Synchronization	Pulses at temporal rate within 200 ms on common circuit*							
Strobe Flash Rate (per second)	1 fps (synchronized)							
Sound Level Output at 10 ft. (3.05 m)	<i>Low Volume</i>		<i>High Volume</i>		<i>Low Volume</i>		<i>High Volume</i>	
Anechoic - Peak at 24V DC	98 dBA		102 dBA		98 dBA		102 dBA	
Anechoic - Average at 24V DC	93 dBA		97 dBA		93 dBA		97 dBA	
Reverberant Room per UL 464 at 24V DC	75 dBA		79 dBA		79 dBA		85 dBA	
ULI at 20V DC	75 dBA		79 dBA		79 dBA		82 dBA	
Light Output (cd)	<i>2452THS-15</i>		<i>2452THS-30</i>		<i>2452THS-15/75</i>		<i>2452THS-110</i>	
UL 1971	15 cd wall mount only		30 cd wall 15 cd ceiling		15 cd wall 15 cd ceiling		110 cd wall 60 cd ceiling	
UL 1638	15 cd		30 cd		75 cd		120 cd	
ULC 5526	15 cd		30 cd		75 cd		120 cd	
Operating Current - Strobe (2)								
Average operating current (3,5)	70mA @ 24VDC 79mA @ 20VDC		105mA @ 24VDC 125mA @ 20VDC		105mA @ 24VDC 125mA @ 20VDC		219mA @ 24VDC 272mA @ 20VDC	
Peak operating current (3,5)	125mA @ 20VDC		185mA @ 20VDC		185mA @ 20V DC		340mA @ 20VDC	
Peak operating current (4,5)	375mA @ 20VDC		530mA @ 20VDC		530mA @ 20VDC		910mA @ 20VDC	
Peak inrush current (6)	7.6A @ 24VDC		7.6A @ 24VDC		7.6A @ 24VDC		7.8A @ 24VDC	

**Note 1:** The strobe must be connected to a continuous voltage. The horn must be connected to a continuous voltage when it is set to sound a temporal tone; it may be connected to either a pulsed or continuous voltage when set to sound a steady tone.

**Note 2:** When horn and strobe are connected in parallel to the same circuit the currents for each must be added together.

**Note 3:** Connected to filtered DC source.

**Note 4:** Connected to unfiltered DC source (full wave rectified).

**Note 5:** Use the peak current rating to establish the maximum number of strobes, wire gauge, and standby power requirements. Consult the panel manufacturer to determine the maximum number of strobes for each signaling circuit.

**Note 6:** Peak inrush current at 24V DC for less than 50 microseconds.

Process Control Signals

Hazardous, NEMA &amp; IP Definitions

Visual Signals

Electronic Signals

Bells &amp; Buzzers

Horns &amp; Sirens

Message Centers &amp; Annunciators

Outdoor Warning Signals

Electric Chimes

Push Buttons Contactors Door Devices

Transformers

Fire Alarm Equipment

# Edwards® Strobe Application Data



## Description

The National Fire Protection Association (NFPA) has established guidelines for the installation of visual signaling appliances for rooms, corridors, and sleeping areas. These guidelines, referenced in NFPA 72, Chapter 6, take into consideration the effective intensity of the strobe light, the size of the space, and whether the appliance is installed on the wall or ceiling. Edwards synchronous, fire alarm strobes are listed to UL Standard 1971 and conform to the ADA (Americans with Disabilities Act) equivalent facilitation when installed using these guidelines. When employing these guidelines consult the Authority Having Jurisdiction.

## Space Allocation for Rooms

Table 1 provides the candela rating required for strobes when installed on walls in rooms of varying size. When ceiling mounted, the number of strobes may be reduced while continuing to provide equivalent facilitation. Table 2 lists room, ceiling height, and appropriate light intensity for the given space.

## Space Allocation for Corridors

Strobes mounted in corridors not greater than 20 feet (6.1m) wide shall be located no more than 15 feet (4.6m) from the end of the corridor with a separation no greater than 100 feet (30.5m) between appliances. They shall be wall mounted in accordance with Table 3.

## Space Allocation for Sleeping Rooms

Strobes mounted on the wall with the top of the strobe greater than 24 inches (61cm) from the ceiling shall be rated 110 cd. Strobes closer to the ceiling than 24 inches (61cm) shall be rated 177 cd.

**Table 1**

Max. Room Size	Minimum Required Light Output, Candela (CD) Effective Intensity		
	One Light Per Room (CD)	Two Per Room (On Opposite Walls) (CD)	Four Per Room (One per Wall) (CD)
20' x 20'	15	—	—
30' x 30'	30	15	—
40' x 40'	60	30	15
50' x 50'	95	60	30
60' x 60'	135	95	30
70' x 70'	185	110	60
80' x 80'	—	140	60

**Note:** The bottom of the wall mounted appliance should be not less than 80 inches (203cm) or more than 96 inches (244cm) from the floor.

**Table 2**

Max. Room Size	Minimum Required Light Output, Candela (CD) Effective Intensity	
	Maximum Ceiling Height (ft.)	One Light (CD)
20' x 20'	10	15
30' x 30'	10	30
40' x 40'	10	60
50' x 50'	10	95
20' x 20'	20	30
30' x 30'	20	45
40' x 40'	20	80
50' x 50'	20	115
20' x 20'	30	55
30' x 30'	30	75

**Note:** Where ceiling heights exceed 30 ft. (91.4m), visible signaling appliances should be suspended at or below 30 ft. (91.4m) or wall mounted.

**Note:** The above table is based on locating the visible signaling appliance at the center of the room. Where it is not located at the center of the room, the effective intensity (cd) should be determined by doubling the distance from the appliance to the farthest wall to obtain the max. room size.

**Table 3**

Corridor Length (ft.)	Min. Number of 15 cd Visible Appliances Required
0-30	1
31-130	2
131-230	3
231-330	4
331-430	5
431-530	6