

Series MT Multitone Horns and Series MT Multitone Horn-Strobes

Effective: October 2004

FENWAL®

75-001

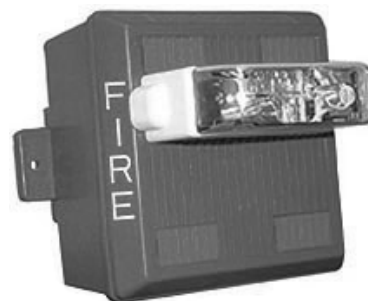
FEATURES

- Approvals include: UL 1971 and UL 464. Factory Mutual (FM), California State Fire Marshal (CSFM) and New York City (MEA).
- Designed to meet or exceed ADA/NFPA/UFC/ANSI Standards and Accessibility Guidelines. Meets OSHA 29 Part 1910, 165.
- One alarm appliance with eight (8) selective signals to provide superior sound penetration for various ambient and wall conditions with two field selectable sound output levels.
- Audible and strobe can operate from a single signaling circuit with any of the eight (8) audible signals.
- Code-3 Horn and Tone meet ANSI/NFPA temporal pattern for standard emergency evacuation signaling.
- Multi-Candela MT Strobe models available with field selectable 15/30/75/110 candela settings.
- Single Candela MT Strobe models available with 15/75 candela rating.
- Weatherproof MT Strobe models available with 75/180 candela rating
- Strobe markings for fire and suppression applications.
- Wide listed voltage range, filtered (DC) and FWR.
- Polarized inputs for compatibility with standard reverse polarity type supervision of circuit wiring by an alarm panel.
- Low cost installation via standard electrical boxes. Attractive flush or surface mounting options. No additional trimplate required for flush mounting.
- IN and OUT wiring terminations that accept two (2) #12 to #18 AWG wires at each terminal.

DESCRIPTION

Fenwal Series MT and MT Strobe Multitone electronic signals offer a choice of eight (8) nationally and internationally recognized alerting sounds: Horn, Bell, March Time Horn, Code-3 Tone, Code-3 Horn, Slow Whoop, Siren or Hi/Lo Tone. Our Code-3 horn and tone patterns are engineered to comply with NFPA/ANSI Temporal Pattern specifications without requiring additional equipment. With MT and MT Strobe Signals, one alarm appliance meets most of your signaling needs.

The MT Strobes are designed for ADA applications with maximum performance, reliability and cost-effectiveness while meeting or exceeding the latest requirements of NFPA 72 (1999), ANSI 117.1, UFC (2000) and UL Standard 1971



Series MT Horn Strobe
(with IOB backbox)



Series MT Horn

as well as meeting ADA requirements concerning photosensitive epilepsy.

Each MT and MT Strobe appliance has two user selective sound output levels: STANDARD dBA and HIGH dBA. The MT-12/14 provides dual voltage capability in one unit, 12 Vdc or 24 Vdc operation, filtered or FWR. The MT Strobe Electronic Signals operate with 24 Vdc and may be used with filtered or unfiltered (full-wave-rectified) input voltages. Separate input terminals are available and shunt wires are provided to enable both tone and strobe to operate simultaneously from a single input.

The Multitone Strobe Signals are UL Listed for indoor wall mount applications, under Standard 1971 for Devices for the Hearing Impaired and under Standard 464 for Audible Signal Appliances. MT Strobe models are listed for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% ± 2%. The MT-12/24 and MTWP models for outdoor use are Listed for -31°F to 150°F (-35°C to 66°C) and maximum humidity of 95%. The strobe devices use a Xenon flashtube with solid state circuitry enclosed in a rugged Lexan® (or equivalent) lens to provide maximum reliability for effective visible signaling. Strobe lens markings available for "Fire" and "Agent" labeled applications.

The Series MT Signals have IN and OUT wiring terminations that accept two #12 to #18 AWG wires at each terminal. Inputs are polarized for compatibility with standard reverse polarity type supervision.

Table 1. Alarm Tones

Tone	Alarm Tones Pattern Description
Horn	Broadband Horn (Continuous)
Bell	1560 Hz Modulated (0.07 sec. ON/Repeat)
March Time Horn	Horn (0.25 sec. ON/0.25 sec. OFF/Repeat)
Code-3 Horn	Horn (ANSI S3.41 Temporal Pattern)
Code-3 Tone	500 Hz (ANSI S3.41 Temporal Pattern)
Slow Whoop	500-1200 Hz SWEEP (4.0 sec. ON/0.5 sec. OFF/Repeat)
Siren	600-1200 HZ SWEEP (1.0 sec. ON/Repeat)
Hi/Lo	1000/800 (0.25 sec. ON/Alternate)

- The MT Audible is UL 464 Listed.
- “Regulated Voltage Range” is the newest terminology used by UL to identify the voltage range. Prior to this change, UL used the terminology “Listed Voltage Range.”

Table 3. Current Ratings for Series MT Strobe Portion

Model	RMS Current (Amps)					
	MT-241575		MTWP-2475		MT-24MCW	
Candela	1575cd	180cd	15cd	30cd	75cd	110cd
24.0 Vdc	0.060	0.094	0.041	0.063	0.109	0.140
UL Max*	0.090	0.138	0.060	0.092	0.165	0.220

* RMS current ratings are per UL average 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.

GENERAL NOTES

- Strobes are designed to flash at 1 flash per second minimum over their “Regulated Voltage Range.” Note that NFPA-72 (1999) specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specifies a flash rate of 1 to 3 flashes per second.
- All candela ratings represent minimum effective Multi-ton Strobe intensity based on UL 1971.

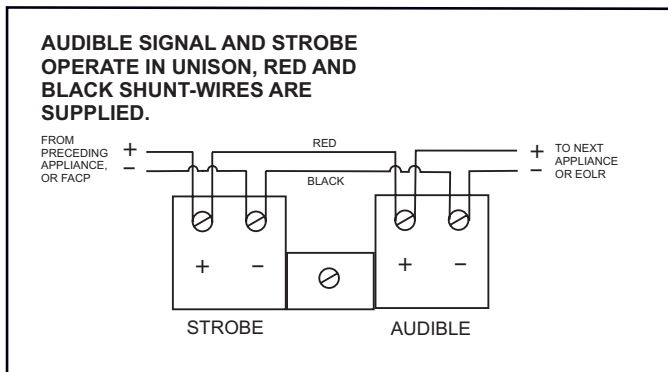
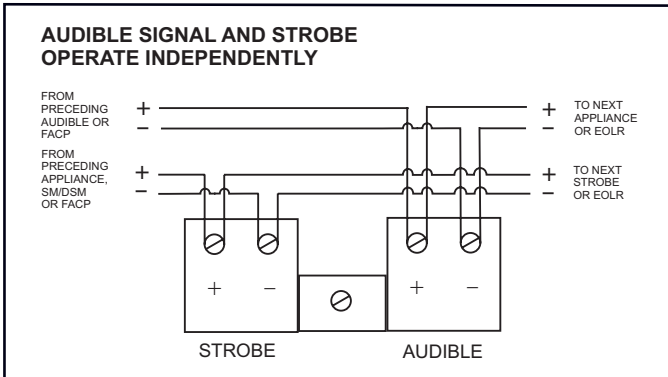
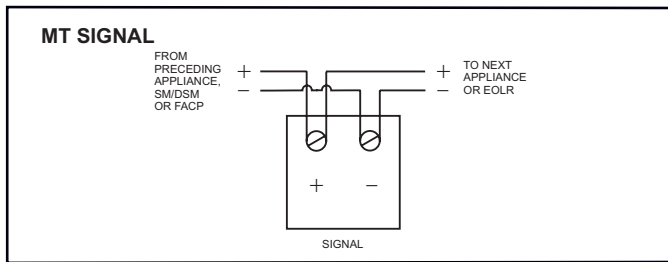
SPECIFICATIONS

Table 2. dBA and Current Ratings for Series MT Audible Portion

Tone	RMS Current (Amps)								dBA @ 10 Ft (UL Reverberant)				dBA @ 10 Ft (anechoic)	
	24 VDC				12 VDC				24 VDC		12 VDC		12 and 24 VDC	
	HI Output		STD Output		HI Output		STD Output		HI Output	STD Output	HI Output	STD Output	HI Output	STD Output
	@ 24 VDC	UL max*	@ 24 VDC	UL max*	@ 24 VDC	UL max*	@ 24 VDC	UL max*						
Horn	0.074	0.108	0.033	0.044	0.145	0.176	0.023	0.034	92	87	90	77	99	93
Bell	0.040	0.053	0.018	0.024	0.077	0.095	0.014	0.020	86	80	85	69	92	87
March Time Horn	0.067	0.104	0.033	0.038	0.109	0.142	0.023	0.034	89	84	89	74	99	93
Code-3 Horn	0.069	0.091	0.026	0.035	0.100	0.142	0.023	0.034	88	83	88	73	99	93
Code-3 Tone	0.061	0.075	0.026	0.035	0.088	0.105	0.015	0.021	85	80	84	70	95	90
Slow Whoop	0.069	0.098	0.028	0.037	0.100	0.142	0.025	0.035	90	89	89	75	99	94
Siren	0.080	0.104	0.027	0.036	0.122	0.152	0.021	0.030	89	84	89	75	98	93
HI/LO	0.044	0.057	0.020	0.026	0.089	0.114	0.018	0.026	86	81	86	71	93	88

* RMS current ratings are per UL average 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.

WIRING DIAGRAMS



INSTALLATION NOTES

1. If the strobe and audible operate on the same circuit, add the strobe current from Table 3 to the audible current from Table 2. For Peak and Inrush current across the listed voltage range, refer to Installation Instructions.
2. The average current indicated is per actual Production Testing at listed Vdc. For rated average and Peak current across the UL listed voltage range for both filtered DC and unfiltered VRMS, see Installation Instructions.

WARNING

Failure to comply with the installation instruction 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.

3. Contact Fenwal for “Installation Instructions” sheets 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 signaling 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.
 - Installation in office areas and other specification and installation issues.
 - Use strobes only on circuits with continuously applied operating voltage. Do not use strobes on coded or interrupted circuits in which the applied voltage is cycled on and off, as the strobe may not flash.
 - The voltage applied to these products must be within their rated input voltage range.
 - Conductor size (AWG), length and ampacity should be taken into consideration prior to design and installation of these products, particularly in retrofit installations.
4. Fenwal notification appliances 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).

ARCHITECTS AND ENGINEERS SPECIFICATIONS

The notification appliance shall be a Fenwal MT Series audible/visual device or equivalent. Notification appliance shall be electronic and use solid state components. Electromechanical alternatives are not approved. Each electronic signal shall provide eight (8) field selectable alarm tones. The tones shall consist of: HORN, BELL, MARCH TIME HORN, CODE-3 HORN, CODE-3 TONE, SLOW WHOOP, SIREN AND HI/LO. Tone selection shall be by durable dip switch assembly and not clips or jumpers. The Multitone Audible appliance shall be UL Listed under Standard 464 for Audible Signal Appliances. The audible and the strobe shall be able to operate from a single notification circuit while producing any of these tones. The device shall provide two output sound levels: STANDARD and HIGH dBA. The HIGH dBA setting shall provide a minimum 5 dBA increase in sound output at nominal voltage. The HIGH anechoic dBA measurement at 10 feet at the alarm HORN SETTING shall be 99 dBA minimum. Operating voltages shall be 24 Vdc using filtered power or unfiltered power supply (full-wave-rectified). All models shall have provisions for standard reverse polarity type supervision and IN/OUT field wiring using terminals that accept #12 to #18 AWG wiring.

Combination audible/visual appliances shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens or equivalent with solid state circuitry. Strobe shall produce a flash rate of one (1) flash per second minimum over the voltage range. The strobe intensity shall be rated per UL and Listed under Standard 1971 for Signaling Devices for the Hearing Impaired for 15/75 cd multi-candela with field selectable 15/30/75/110 candela settings. The 15/75 candela strobe shall be specified when 15 candela or with 75 candela intensity on-axis is required. Strobe models shall incorporate circuitry for synchronized strobe flash and shall be designed for compatibility with Fenwal SM and/or DSM Sync Modules. The strobes shall not drift out of synchronization at any time during operation. If the module fails to operate (i.e., contacts remain closed), the strobes shall revert to a non-synchronized default flash rate.

All Listed strobe appliances shall incorporate low temperature compensation to insure the lowest possible current consumption. Strobe activation shall be via independent input or from the same input circuit as the audible.

The combination audible/visual appliances may be installed indoors and surface or flush mounted. They shall mount to standard electrical hardware requiring no additional trimplate or adapter. The aesthetic appearance shall not have any mounting holes or screw heads visible when the installation is completed. The appliance shall be finished in a textured red color.

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The audible device may be installed indoors or outdoors with the proper backbox.

For weatherproof applications where specifications require 75 cd at -31°F (-35°C) and full temperature range of -31°F to 150°F, the Fenwal Model MTWP-2475W FR shall be used.

ORDERING INFORMATION

Model Number	Part Number	Input Voltage	Rated Candela	Strobe Label	Mounting Options
MT-12/24-R	75-000010-001	12/24	—	—	B,H,I,J,K
MT-241575W-FR	75-000015-001	24	15 (75 on AXIS)	FIRE	B,H,I,J,K
MT-241575W-AR	75-000015-002	24	15 (75 on AXIS)	AGENT	B,H,I,J,K
MT-24MCW-FR	75-000018-001	24	15/30/75/ 110	FIRE	B,H,I,J,K
MT-24MCW-AR	75-000018-002	24	15/30/75/ 110	AGENT	B,H,I,J,K
MTWP-2475W-FR	75-000017-001	24	180 @ 77°F (25°C)	FIRE	H

Notes:

1. MT-12/24 Audible can be used with Fenwal's RSSP Multi-Candela for applications requiring 15, 30, 75, 110 cd Wall Strobes.
2. MTWP-2475W is weatherproof and rated for 180 cd @ 77°F (25°C) and 75 cd @ -31°F (-35°C) with low current draw.
3. SM Sync Modules are rated for 3.0 amperes at 12/24 Vdc; DSM Dual Circuit Modules are rated for 3.0 amperes per circuit. Maximum number of interconnected DSM modules is twenty (20). Refer to Data Sheet 75-12.
4. Use MT-241575W when 15 cd is specified. 15/75 is UL Listed for 15 cd with 75 cd on AXIS.

MOUNTING OPTIONS

Model Number	Part Number	Mounting Options
DBB-R	75-000000-009	A
ISP-R	75-000000-002	B
WBB-R	75-000000-008	E
IOB-R	75-000000-001	H
RP-R	75-000000-003	J

For complete installation options, refer to the Alarm Signals Installation Data Sheet 75-008.A.



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