



CSFM: 7125-0785:122

SERIES MT and MT STROBE MULTITONE ELECTRONIC APPLIANCES

Description

Wheelock's Series MT and MT Strobe Multitone electronic appliances 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. The 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 appliances, one alarm appliance meets most of your signaling needs. Synchronized strobe versions are available.

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 (the National Fire Alarm Code), ANSI 117.1 (the American National Standard For Accessible and Usable Buildings and Facilities) and UL Standard 1971 (Standard for Signaling Devices for the Hearing Impaired). MT 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. This is an illumination of 0.030 lumens per square foot.

Each MT and MT Strobe appliance has two user selective sound output levels: STANDARD dBA and HIGH dBA. Non-strobe versions provide selectable voltage capability in one unit, 12VDC or 24VDC, filtered or FWR. Strobe versions are specific for either 12VDC or 24VDC and may be used with filtered or unfiltered (full-wave-rectified) input voltages. Separate input terminals are available, shunt wires are provided to enable both tone and strobe to operate simultaneously from a single input.

The Multitone Strobe appliances are UL Listed for indoor use, ceiling and wall mount, under Standard 1971 (Signaling Devices for the Hearing Impaired) and Standard 464 (Audible Signal Appliances), and use a Xenon flashtube with solid state circuitry enclosed in a rugged Lexan® lens to provide maximum reliability for effective visible signaling. Options include LS, LSM, MS and IS Series which are Listed at 15, 15/75, 30 and 75 candela intensity. Also available with the WM (117cd) strobe model which is UL 1638 Listed for indoor or outdoor applications. The LSM 15/75 candela wall mounted strobes are Listed at 15 candela under UL 1971 and meet 75 candela intensity on axis for ADA guidelines with low current draw.



SERIES MT WITH STROBE

Features

- **Approvals include: Underwriters Laboratories UL 1971 and UL 464 Listings, FCC Part 15, Factory Mutual (FM), California State Fire Marshal (CSFM), New York City (MEA) and Chicago (BFP), European Community (CE), approvals on all models.**
- Designed to meet or exceed NFPA/ANSI Standards and ADA Accessibility Guidelines. Meet OSHA 29 Part 1910.165.
- **MT & MT-WM Strobe model available for outdoor installation requiring weatherproof devices. In private mode location where UL 1971 strobes are not required the MT-WM strobe model is UL 1638 Listed at 117 cd and is designed for mounting indoors or outdoors.**
- Series MT appliances have IN and OUT wiring terminations that accept two #12 to #18 American Wire Gauge (AWG) wires at each terminal. Inputs are polarized for compatibility with standard reverse polarity type supervision.
- One alarm appliance with (8) eight selective signals to provide superior sound penetration for various ambient and wall conditions with two field selectable sound output levels.
- **Code-3 Horn and Tone** meet ANSI/NFPA temporal pattern for standard emergency evacuation signaling.
- Audible and strobe can operate from a single NAC circuit with any of the (8) eight audible sounds.
- MT Strobe models available with 15, 15/75, 30 and 75 candela ratings for independent or single input activations and synchronized strobe design.
- Wheelock's patented Series LS, LSM, MS, IS and synchronized SL, SLM offer fire alarm system designers, specifiers and installers the industry's widest selection of UL 1971 Listed strobe products.
- Series MT Strobe multitone electronic appliances equipped with SL/SLM synchronized strobes, when used in conjunction with Wheelock SM/DSM sync modules, produce a **synchronized strobe flash** for compliance with ADA guidelines concerning photosensitive epilepsy.
- Selectable input voltage on non-strobe versions. Strobe versions are factory set for either 12 or 24VDC, with wide-Listed voltage range, filtered (DC) and FWR.
- Mounts to either 4" square or double gang boxes (important for retrofit installations). Attractive flush or surface mounting.
- No additional trimplate required for flush mounting.



SERIES MT WITHOUT STROBE



SERIES MT STROBE WITH IOB

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

▲ WARNING: PLEASE READ THESE SPECIFICATIONS AND INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THESE 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.

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 Hz (0.25 sec. ON/Alternate)

General Notes:

- Strobes are designed to flash at 1 flash per second minimum from 20-31VDC (for 24VDC models) or 12-15.6VDC (for 12VDC models). Note that ADA guidelines presently specify a flash rate of 1 to 3 flashes per second and NFPA-72 (1996) specify a flash rate of 1 to 2 flashes per second.
- All candela ratings represent minimum effective Multitone Strobe intensity based on UL 1971.
- MT Strobe models are UL 1971 Listed for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 85%. All MT and MT4 with WM or WH strobe models for outdoor use are Listed for -31°F to 150°F (-35°C to 66°C) and maximum humidity of 95%.

Specifications

Table 1: dBA and Current Ratings for Multitone Signals Without Strobes

Tone	Input Current AMPS @ 24VDC		Input Current AMPS @ 12VDC		Typical Anechoic ¹ dBA at 10 Feet		Rated Reverberant dBA ² at 10 Feet Per UL 464			
					At Nominal Input Voltage		At Minimum Input Voltage		At Nominal Input Voltage	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.023	0.100	0.020	101	95	88	82	91	85
Bell	0.014	0.012	0.031	0.010	94	89	82	75	85	79
March Time Horn	0.040	0.023	0.100	0.020	101	95	85	79	88	82
Code-3 Horn	0.040	0.023	0.100	0.020	101	95	85	75	85	79
Code-3 Tone	0.028	0.017	0.060	0.015	97	92	79	75	82	75
Slow Whoop	0.048	0.026	0.100	0.025	101	96	88	82	88	82
Siren	0.036	0.023	0.082	0.020	100	95	85	82	88	82
HI/LO	0.020	0.014	0.044	0.012	95	90	82	79	85	79

Table 2: dBA and Current Ratings for Audible Portion of Multitone Signals With Strobes

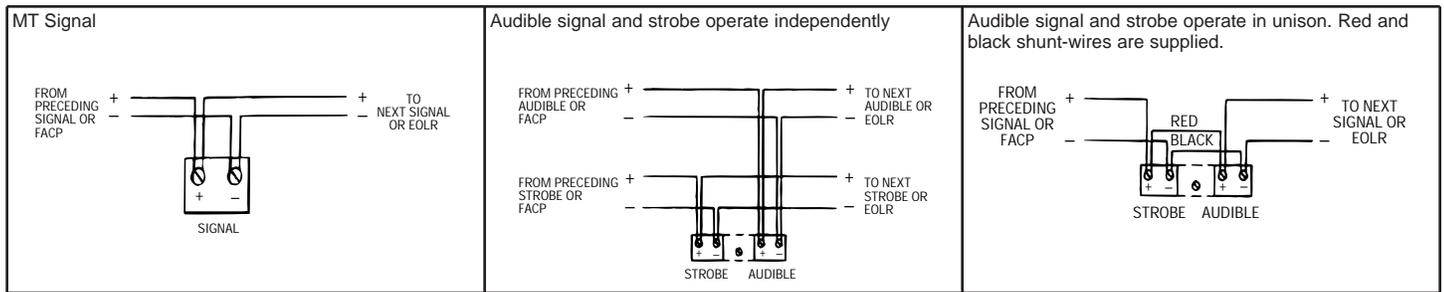
Tone	Input Current AMPS @ 24VDC		Input Current AMPS @ 12VDC		Typical Anechoic ¹ dBA at 10 Feet		Rated Reverberant dBA ² at 10 Feet Per UL 464			
					At Nominal Input Voltage		At Minimum Input Voltage		At Nominal Input Voltage	
	HI	STD	HI	STD	HI	STD	HI	STD	HI	STD
Horn	0.040	0.023	0.100	0.020	99	93	85	79	88	82
Bell	0.014	0.012	0.031	0.010	92	87	79	75	82	75
March Time Horn	0.040	0.023	0.100	0.020	99	93	82	75	85	79
Code-3 Horn	0.040	0.023	0.100	0.020	99	93	79	75	82	75
Code-3 Tone	0.028	0.017	0.060	0.015	95	90	75	70 *	79	73 *
Slow Whoop	0.048	0.026	0.100	0.025	99	94	82	75	85	79
Siren	0.036	0.023	0.082	0.020	98	93	82	75	85	79
HI/LO	0.020	0.014	0.044	0.012	93	88	79	75	82	75

1. Anechoic dBA is measured on axis in a non-reflective (free field) test room using fast meter response. For peak dBA (measured with peak meter response), add 5 dBA to typical anechoic values shown in Table 1 and 2.

2. Reverberant dBA is a minimum UL rating based on sound power measurements in a reverberant test room.

*▲ CAUTION: This setting is acceptable only for general signaling (non-fire alarm) use. Use the "high" dBA setting with this tone or use a different tone for public mode fire alarm service.

Wiring Diagrams (for all models)



Ordering Information

MODEL NUMBER	ORDER CODE	INPUT VOLTAGE	RATED CANDELA	AVERAGE* STROBE CURRENT (AMPS)	MOUNTING** OPTIONS
MT-12/24-R	5023	12/24	---	----	D,E,F,G,L,M,O,R
MT4-115-R	6223	115 VAC	---	----	D,E,J,K,O,R,Z
MT-24-LS-VFR	5183	24	15	.074	D,E,F,G,L,M,O,R
MT-24-SL-VFR	6306	24	15	.096	D,E,F,G,L,M,O,R
MT-24-LSM-VFR	5182	24	15/75	.100	D,E,F,G,L,M,O,R
MT-24-SLM-VFR	6307	24	15/75	.138	D,E,F,G,L,M,O,R
MT-24-MS-VFR	5321	24	30	.124	D,E,F,G,L,M,O,R
MT-24-IS-VFR	5355	24	75	.200	D,E,F,G,L,M,O,R
MT4-115-WH-VFR ***	6224	115 VAC	15	.060	D,E,J,K,O,R,Z
MT-24-WM-VFR ***	5025	24	117	.088	D,E,F,G,L,M,O,R
MT-12-LS-VFR	5383	12	15	.155	D,E,F,G,L,M,O,R
MT-12-MS-VFR	5384	12	30	.227	D,E,F,G,L,M,O,R
MT-12-LSM-VFR	5683	12	15/75	.210	D,E,F,G,L,M,O,R
SYNC MODULES****					
SM-12/24-R	6369	12 or 24		.014/.025	E,N
DSM-12/24-R	6374	12 or 24		.020/.038	W

NOTE: If the strobe and audible operate on the same circuit, add the strobe current from above to the proper current from Table 2. The letters SL and SLM denote synchronized models.

* Average current per actual Wheelock Production testing at 12 & 24VDC nominal voltage. For rated average, peak and inrush currents across the listed voltage ranges for both filtered DC and full waded rectified (FWR), see the Installation Instruction for this product series or Wheelock's current catalog.

** For additional information, please refer to Data Sheet #S7000 for mounting options.

*** Listed for UL 1638 only.

**** 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. The maximum number of interconnected DSM modules is twenty (20). Refer to Data Sheet #S3000.

MT-12/24 models can be used with Wheelock's model RSSP-24110 W-FR 110 candela strobe plate appliance.

Suffix: V = vertical lens; H = horizontal lens; F = fire lettering; R = red plate.

▲ WARNING: CONTACT WHEELOK FOR THE CURRENT "INSTALLATION INSTRUCTIONS" (P82475) AND "GENERAL INFORMATION" SHEET (P82380) ON THESE PRODUCTS. THESE DOCUMENTATIONS DO 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 APPLIANCES CONNECTED TO SYSTEM PRIMARY AND SECONDARY POWER SOURCES.
- FUSE RATINGS ON NAC CIRCUITS TO HANDLE MAXIMUM INRUSH OR PEAK CURRENTS FROM ALL APPLIANCES ON THOSE CIRCUITS. THE TIME DURATION OF THE MAXIMUM STROBE INRUSH OR PEAK CURRENT IS 2 MILLISECONDS FOR LS/LSM/MS MODELS AND 4 MILLISECONDS FOR IS MODELS.
- COMPOSITE FLASH RATE FROM MULTIPLE STROBES WITHIN A PERSON'S FIELD OF VIEW.
- THE VOLTAGE APPLIED TO THESE PRODUCTS MUST BE WITHIN THEIR RATED INPUT VOLTAGE RANGE.
- INSTALLATION OF 110 CANDELA STROBE PRODUCTS IN SLEEPING AREAS.
- INSTALLATION IN OFFICE AREAS AND OTHER SPECIFICATION AND INSTALLATION ISSUES.
- USE STROBES ONLY ON CIRCUITS WITH CONTINUOUSLY APPLIED OPERATING VOLTAGE. DO NOT USE STROBE ON CODED OR INTERRUPTED CIRCUITS IN WHICH THE APPLIED VOLTAGE IS CYCLED ON AND OFF AS THE STROBE MAY NOT FLASH.
- 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.
- CONDUCTOR SIZE (AWG) LENGTH AND CAPACITY SHOULD BE TAKEN INTO CONSIDERATION PRIOR TO DESIGN AND INSTALLATION OF THESE PRODUCTS, PARTICULARLY IN RETROFIT INSTALLATIONS.

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).

Architects and Engineers Specifications

The notification appliance shall be a Wheelock Series MT audible/visual appliance or equivalent. Notification appliance shall be electronic and use solid state components. Electromechanical alternatives are not approved. Each electronic appliance shall provide eight (8) field selectable alarm tones. The tones shall consist of: TONE, HORN, 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 audible and the strobe shall be able to operate from a single NAC circuit while producing any of these tones. The appliance 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 101 dBA minimum for MT and 99 dBA minimum for MT Strobes, at nominal voltage. Operating voltages shall be either 12VDC or 24VDC 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 meet UL 1971 and produce a flash rate of one (1) flash per second minimum over the Listed input voltage (20VDC-31VDC) range. The strobe intensity shall be rated per UL 1971 for 15, 15/75, 30, 75 or 110 Candela (by using the RS5P 110cd strobe/plate). The LSM 15/75 candela strobe shall be specified when 15 candela UL 1971 Listing with 75 candela intensity on-axis is required (e.g., ADA compliance). Series SL/SLM Models shall incorporate circuitry for *synchronized strobe flash* and shall be designed for compatibility with Wheelock: 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.

The Sync Module shall be designed and available in two versions; the SM 12/24 for control of a Class B circuit; and a dual output version, the DSM-12/24 for control of either Class A or multiple Class B circuits. Rated average current requirement for the SM 12/24 shall be .014/.025 amperes; the DSM 12/24 shall be .020/.038 amperes. A single circuit SM Sync Module shall be capable of handling a 3 ampere load @ 12 or 24 VDC; dual circuit DSM Sync Modules shall be capable of handling a load of 3 amperes *per circuit* @ 12 or 24 VDC.

All UL 1971 Listed strobe appliances shall be verified to meet FCC Part 15, Class B and 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.

The audible appliance may be installed indoor or outdoor with the proper backbox. The WM and WH Strobes are UL 1638 Listed and are for outdoor use.

Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Wheelock, Inc. Standard Terms and Conditions.

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3 YEAR WARRANTY



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