

Series AMT Multitone and AMT Multitone Strobe Appliances



AMT-24MCW
AMT-241575

AMT-12/24

Description:

The Wheelock Series AMT Multiple Input Electronic Appliances provide the industry with a UL Standard 1971 and UL Standard 464 combination audible/visual device that simplifies installation and offers three (3) distinct prioritized audible signals from three isolated inputs. Priority (1) will override all other commands upon activation.

The AMT offers a choice of eight (8) self-prioritized sound combinations for suppression releasing systems, combination security and emergency evacuation systems and high risk installations as well as many other applications.

The AMT Strobes are designed for ADA applications 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).

Each AMT Audible and AMT Strobe appliance has two user selective sound output levels: STANDARD dBA and HIGH dBA. The AMT Audible provides 12VDC or 24VDC operation, filtered or FWR. The AMT Strobe Electronic Appliances operate at 24VDC and may be used with filtered or unfiltered (full-wave-rectified) input voltages. Separate supervised sets of input terminals are available for each prioritized input. Jumper plugs are provided to enable both tone and strobe to operate simultaneously for all inputs.

The AMT Multitone Strobe Appliances are UL Listed for indoor use, wall mount, under Standard 1971 for Signaling Devices for the Hearing Impaired and Standard 464 for 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.

All models may be synchronized using the Wheelock DSM Sync Modules, Wheelock Power Supplies or other manufacturers panels incorporating the Wheelock Patented Sync Protocol.

Features:

- Approvals include: UL Standard 1971 and UL Standard 464, FCC, ULC, Factory Mutual (FM), California State Fire Marshal (CSFM), New York City (MEA) and Chicago (BFP) See approvals by model in Specifications and Ordering Information
- Compliance with RFI limits in FCC Part 15, Class B for compatibility with sensitive detection and communication circuits
- Designed to meet or exceed NFPA/ANSI Standards and ADA Accessibility Guidelines. Meets OSHA 29 Parts 1910.165
- Three separate prioritized inputs that will activate three isolated signals
- All inputs are supervised
- Code-3 Horn and Tone meet ANSI/NFPA/ISO temporal pattern
- Two power taps for high dBA and standard dBA @ 10 feet
- Low current draw with low temperature compensation to reduce power consumption and wiring costs
- AMT Strobe models are available with Wheelock patented MCW Multi-Candela strobes with field selectable candela settings at 15/30/75/110cd or with single candela 1575cd strobes
- AMT with strobe can be wired to flash independently or in unison with all audible signals
- Strobes synchronize using the Wheelock Sync Modules or panels with built-in Wheelock Patented Sync Protocol
- Selectable input voltage (12 or 24 VDC) for non-strobe applications
- 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. Fast installation with In/Out screw terminals using #12 to #18 AWG



General:

Wheelock's AMT Appliances are unique multitone alarm signals with separate input terminals for each sound. They are the ideal choice for suppression systems and emergency signaling systems where distinctive multiple alarm conditions are required. Eight groups of three self-prioritized sound outputs are provided with separate electrically isolated input terminals for each sound (see Table 1 and Table 5 for sound selections). Sound output can be field set to provide either HIGH (HI) dBA or STANDARD (STD) dBA sound output level.

All AMT Multitone Strobe models are designed for use with either filtered or unfiltered Full-Wave-Rectified (FWR) input voltage. The AMT Multitone Strobe Appliances have separate input terminals for alarm tone activation and strobe activation. The strobes can be easily field programmed to operate independently or in unison with all of the audible alarms. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a fire Alarm Control Panel (F.A.C.P.). In the event that three simultaneous commands occur, priority one will activate. If priority 2 + priority 3 exist, priority 2 will activate.

Tone	Tone Description	dBA @ 10ft (reverberant)		dBA @ 10ft. (anchoic)	
		HI Output	STD Output	HI Output	STD Output
Horn	Broadband Horn (continuous)	92	86	98	92
Bell	1500 Hz Modulated (0.07 Sec. On/Repeat)	84	78	91	86
March Time Horn	Horn (0.25 Sec. ON/0.25 Sec. Off/Repeat)	88	82	98	92
Code-3 Horn	Horn (ANSI S3.41 Temporal Pattern)	88	81	98	92
Code-3 Tone	500 Hz (ANSI S3.41 Temporal Pattern)	84	78	94	89
Slow Whoop	500-1200Hz Sweep (4.0 Sec. On/0.5 Sec OFF/Repeat)	88	83	98	93
Siren	600-1200 Hz Sweep (1.0 Sec. On/Repeat)	89	83	97	92
HI/LO	1000/800 Hx (0.25 Sec. On/Alternate)	86	81	92	87
Vibrating Chime	700 Hz (1.0 Sec. Decay, Repeat)	78	71	88	82

Tone	RMS Current (amps)							
	24 vdc				12 vdc			
	HI Output		STD Output		HI Output		STD Output	
	@ 24 VDC	UL max*	@ 24 VDC	UL max*	@ 12 VDC	UL max*	@ 12 VDC	UL max*
Horn	0.085	0.108	0.034	0.043	0.100	0.210	0.020	0.058
Bell	0.042	0.057	0.020	0.026	0.031	0.117	0.010	0.031
March Time Horn	0.085	0.108	0.026	0.035	0.100	0.210	0.020	0.059
Code-3 Horn	0.085	0.108	0.034	0.043	0.100	0.210	0.020	0.057
Code-3 Tone	0.048	0.060	0.022	0.030	0.060	0.168	0.015	0.052
Slow Whoop	0.087	0.112	0.034	0.044	0.100	0.182	0.025	0.056
Siren	0.081	0.102	0.028	0.038	0.082	0.177	0.020	0.055
HI/LO	0.047	0.064	0.023	0.030	0.044	0.131	0.013	0.028
Vibrating Chime	0.032	0.041	0.015	0.020	0.027	0.090	0.010	0.028

Add strobe current from Table 3 (ordering information) to audible current from Table 2 to obtain total current for each unit, if the strobe and audible are wired to operate in unison on a single circuit. Refer to Installation Instruction Sheet (P84158) for peak and inrush current across the UL listed voltage range for both filtered and unfiltered full-wave-rectified voltage.

The Series AMT Multitone Strobe Appliances are UL Listed under Standard 1971 for Emergency Devices for the Hearing Impaired and UL Standard 464 for Audible Signal Appliances. They are listed for indoor only use with the backboxes specified in these instructions. AMT models without strobes are UL 464 Listed for indoor or outdoor use (see mounting options).

Model	RMS Current (amps)				
	AMT-121575	AMT-24MCW			
Candela	1575cd	15cd	30cd	75cd	110cd
@24VDC	0.064	0.041	0.063	0.109	0.140
UL max*	0.101	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.

Table 4: Specification and Ordering Information

Model Number	Order Code	Input Voltage	Candela	Mounting Options**	Agency Approvals				
					UL	MEA	CSFM	FM	BFP
AMT-12/24-R	5887	12/24	-	D,E,F,L,M,N,O,P,R	X	X	X	X	X
AMT-12/24-W	5893	12/24	-	D,E,F,L,M,N,O,P,R	X	X	X	X	X
AMT-241575W-FR	9463	24	15 (75 on axis)	D,E,F,L,M,N,O,P,R	X	X	X	X	-
AMT-241575W-NW	3047	24	15 (75 on axis)	D,E,F,L,M,N,O,P,R	X	X	X	X	-
AMT-241575W-FW	9466	24	15 (75 on axis)	D,E,F,L,M,N,O,P,R	X	X	X	X	-
AMT-24MCW-FR	3300	24	15/30/75/110	D,E,F,L,M,N,O,P,R	X	-	X	X	-
AMT-24MCW-FW	3302	24	15/30/75/110	D,E,F,L,M,N,O,P,R	X	-	X	X	-
AMT-12/24-R-NYC	7920	12/24	-	D,E,F,L,M,N,O,P,R	X	X	X	X	-
AMT-241575W-FR-NYC	9465	24	15 (75 on axis)	D,E,F,L,M,N,O,P,R	X	X	X	X	-

** Mounting Options: Refer to Data Sheet S7000 or current catalog for mounting options

The UL Listed voltage range is 16-33 VDC for 24 VDC and 8-17.5 VDC for 12 VDC using either filtered (DC) or unfiltered full-wave-rectified (FWR) voltage. Check the minimum and maximum output of the power supply and standby battery and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the notification appliance.

AMT Multitone strobe models are Listed for indoor use with a temperature rate of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93%

NOTE: All CAUTIONS and WARNINGS are identified by the symbol ▲. All warnings are printed in bold capital letters.
▲ WARNING: PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING 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, SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS. REFER TO CURRENT INSTALLATION INSTRUCTION SHEET P84158.

▲ WARNING: MAKE SURE THAT THE TOTAL CURRENT REQUIRED BY ALL APPLIANCES THAT ARE CONNECTED TO THE SYSTEM'S PRIMARY AND SECONDARY POWER SOURCES AND NAC CIRCUITS DOES NOT EXCEED THEIR RATED CURRENT. OVERLOADING THESE SOURCES COULD RESULT IN LOSS OF POWER AND FAILURE TO ALERT OCCUPANTS DURING AN EMERGENCY.

▲ WARNING: MAKE SURE THAT ALL FUSES USED ON NAC CIRCUITS ARE RATED TO HANDLE THE MAXIMUM INRUSH OR PEAK CURRENT FROM ALL APPLIANCES ON THOSE CIRCUITS. FAILURE TO DO THIS MAY RESULT IN LOSS OF POWER TO THE NAC CIRCUIT AND THE FAILURE OF ALL APPLIANCES ON THAT CIRCUIT TO OPERATE.

▲ WARNING: THE STROBES ARE DESIGNED TO FLASH AS SPECIFIED WITH CONTINUOUS (NON-CODED) APPLIED VOLTAGE. THE STROBES MAY NOT FLASH IF USED IN CODED SYSTEMS.

AMT Multitone Strobe Appliances are field set for any one of eight groups of self-prioritized tones by setting a four position switch (SW1) as shown in Table 5. Use SW1 POS 2,3,4 to select the desired alarm tones. Note: The prioritized tones contained in each group is factory pre-set which can not be changed.

Tones			Switch Settings		
PRI 1	PRI 2	PRI 3	POS 2	POS 3	POS 4
Horn	Bell	Siren	1	1	1
Code 3 Horn	Siren	Vibrating Chime	1	0	1
Slow Whoop	March Time Horn	HI/LO	0	0	1
March Time Horn	HI/LO	Vibrating Chime	1	1	0
Code 3 Horn	Bell	Siren	0	1	1
Siren	Horn	Vibrating Chime	0	1	0
Bell	March Time Horn	Siren	1	0	0
Code 3 Tone	HI/LO	Siren	0	0	0

Note: The **Code-3 Horn** and **Code-3 Tone** (set on HIGH dBA) incorporate the temporal pattern specified by ANSI/NFPA for standard emergency evacuation signaling. They should be used only for fire evacuation signaling and not for any other purpose.

The Horn and Bell Tones can be used on coded systems with a minimum On-Time of 1/4 second if the audible and strobe are wired to operate independently. All other tones are recommended for use only on continuous (non-coded) systems.

Architects and Engineers Specifications

When notification appliances are required for applications with more than one function, an appliance with multiple inputs and capable of being programmed shall be used. The notification appliance shall be capable of accepting three (3) individual DC signals and providing three (3) distinct audible signals. In the event the signals are simultaneous, the priority shall be as follows. Highest priority = PR1, Second priority = PR2 and the Third priority = PR3. With the addition of the Strobe, the appliance shall operate with an independent input DC voltage to the strobe terminals. When it is desired to operate the strobe with all of the audible signals, only a set of jumpers shall be required.

The notification appliance shall be a Wheelock Series AMT audible/visual appliance or equivalent. Notification appliance shall be electronic and use solid state components. Electromechanical alternatives are not approved. 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 appliances shall provide two output sound levels: STANDARD and HIGH dBA. The HIGH anechoic dBA measurement at 10 feet at the alarm HORN SETTING shall be 98 dBA for AMT and 98 dBA for AMT Strobes, at nominal voltage. Operating voltages shall be either 12VDC (Audible only) 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. When synchronization is required, the appliance shall be compatible with Wheelock's DSM Sync Modules, Wheelock Power Supplies or other manufacturers panels with built-in Wheelock Patented Protocol.

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 (16VDC-33VDC) range. The Series AMT-241575W shall be specified when 15 candela UL 1971 Listing with 75 candela intensity near-axis is required. The AMT-24MCW shall be specified when field selectable 15/30/75/110 candela ratings are required.

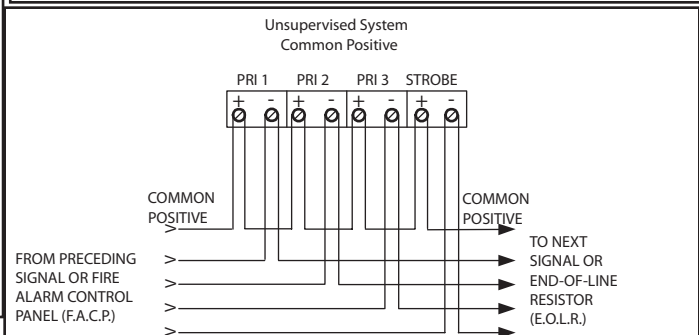
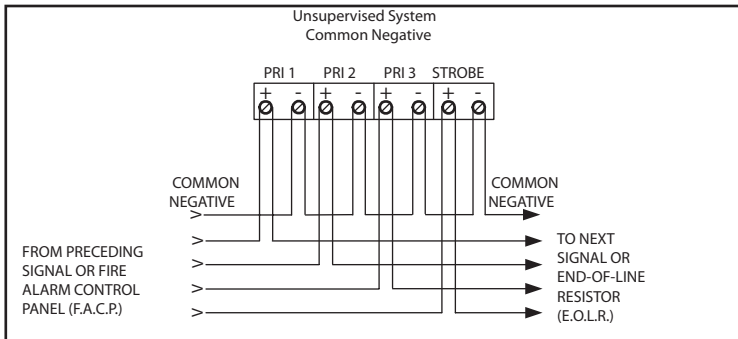
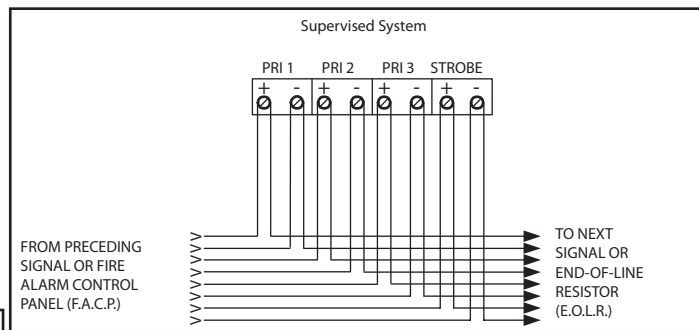
All UL Standard 1971 Listed strobe appliances shall be verified to meet FCC Part 15, Class B. Strobe activation shall be via independent input or from the same input circuit as the audible.

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.

Wiring Diagrams (for all models)

- Isolated inputs are provided for independent supervision and actuation of the three audible inputs.
- In case of simultaneous inputs, the three audible outputs are self-prioritized as follows: 1st priority = PRI 1; 2nd priority = PRI 2, 3rd priority = PRI 3. (See table 4 for tone selection).
- Leave any unused inputs disconnected.
- For applications not requiring supervision: connect all positive (+) terminals to the power source. The negative (-) terminal for each signal will actuate the device.



1. AMT Multitone appliances have in-out wiring terminals that accept two #12 to #18 American Wire Gauge (AWG) wires at each screw terminal. Strip leads 3/8 inches and connect to screw terminals.

2. Break all in-out wire runs on supervised circuits to assure integrity of circuit supervision as shown on left. The polarity shown in the wiring diagrams is for operation of the appliance. The polarity is reversed by the F.A.C.P. during supervision.



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