

INSTALLATION INSTRUCTIONS
120VAC MULTITONE STROBE APPLIANCE
MT4-115-WH

Use this product according to this instruction manual. Please keep this instruction manual for future reference.

GENERAL

MT4-115-WH Multitone Strobe Signals are UL-Listed under Standard 464 and 1638 for Private Mode Fire Protective Signaling Service. They are listed for both indoor and outdoor use with the backboxes specified in these instructions (See Mounting Information).

MT4-115-WH Multitone Strobe Signals can be field set to produce any one of eight commonly used alarm tones. Sound output can be field set to provide either HIGH (HI) dBA or STANDARD (STD) dBA sound output level. They are available with a MT4-115-WH Xenon Tube Strobe with an intensity of 15 candela (cd).

The MT4-115-WH Multitone Strobe Signals have separate input terminals for alarm tone activation and strobe activation. Shunt wires are provided to operate both the alarm tone and the strobe simultaneously on a single input circuit (See Wiring Diagram). All inputs have a DC blocking capacitor for compatibility with supervision when used with a Fire Alarm Control Panel (F.A.C.P.).

WARNING: Please read these instructions carefully before using this product. The Multitone Strobe Signals must be field set to the desired dBA sound output level and alarm tone before they are installed. This is done by properly inserting a jumper plug and adjusting a four position switch in accordance with these instructions. Incorrect settings will result in improper performance and may damage the product and could result in property damage and serious injury or death to you and/or others.

CAUTION: Not recommended for use at refrigerator/freezer door entrances or other areas with persistent condensations.

SPECIFICATIONS

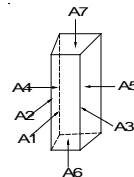
Model	Regulated Voltage (V _{RMS})	Voltage Range (V _{RMS})	Maximum RMS Current (AMPS)	Strobe	
				Candela Per UL 1638	
				-35°C	25°C
MT4-115-WH	120	96-132	.070	7.5cd	15cd

GENERAL NOTES

- Strobes are designed to flash at approximately 1 flash per second with continuous nominal applied voltage. Do not use strobes on coded or interrupted circuits.
- MT4-115-WH is UL-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% RH.

WARNING: For UL applications, these appliances were tested to the operating voltage limits of 96-132 volts. Do not apply 80% and 110% of these voltage values for system operation.

Model	Rated Candela	Candela at Various Angles Per UL 1638					
		A1	A2	A3	A4	A5	A6/A7
MT4-115-WH	15.0cd	15	18	14.6	17.7	8.4	0.8



Tone	Maximum RMS Current (AMPS)		Reverberant dBA At 10 Feet Per UL 464	
	HI	STD	HI	STD
Horn	0.050	0.042	85	82
Bell	0.041	0.039	82	75
March Time Horn	0.050	0.040	85	79
Code-3 Horn	0.050	0.042	82	75
Code-3 Tone	0.042	0.040	79	73
Slow Whoop	0.050	0.042	85	79
Siren	0.045	0.041	85	79
HI/LO	0.042	0.039	82	75

NOTE: If the strobe and audible are wired to operate in unison on a single circuit, add strobe current from Table 1 to audible signal current from Table 3 to obtain total current for each unit.

WARNING: If Multitone Strobe signals are operated within 15 inches of a person's ear, they can produce a sound pressure level that exceeds the maximum 120 dBA permitted by ADA and OSHA rules. Exposure to such sound levels can result in damage to a person's hearing.

WARNING: Ensure the total RMS current required by all appliances that are connected to the system's primary and secondary power sources do not exceed the power sources' rated capacity or the current ratings of any fuses on the circuits to which these appliances are wired. Overloading power sources or exceeding fuse ratings could result in loss of power and failure to alert occupants during an emergency, which could result in property damage and serious injury or death to you and/or others.

When calculating the total currents: Use Table 1 and 3 to determine the highest value of RMS Current for an individual strobe (across the expected operating voltage range of the strobe), then multiply these values by the total number of strobes; be sure to add the currents for any other appliances, including audible signaling appliances, powered by the same source and include any required safety factors.

WARNING: Ensure all fuses used on signaling circuits are rated to handle the maximum inrush or peak current from all devices on those circuits. Failure to do this may result in loss of power to the signaling circuit and the failure of all devices on that circuit to operate, which could result in property damage and serious injury or death to you and/or others.

The Multitone audible signals produce a brief inrush current that lasts for just 50 microseconds but can reach a peak value of 5.0 Amps.

SETTINGS

The Switch (SW1) of the Multitone Signal, shown in Figure 1, is used to set the desired dBA sound output level and alarm tone. The factory settings are shown below. Read these instructions carefully before changing any of these factory settings.

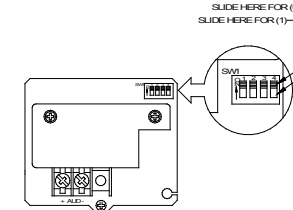


Figure 1: PC Board Layout Showing Location of the Switch (SW1)

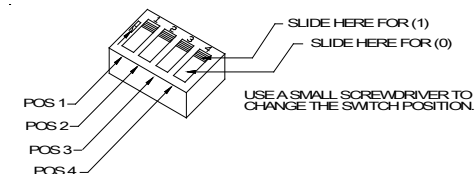


Figure 2: Switch (SW1) Settings

The factory settings are: HIGH dBA SW1 POS 1 set on 1 HORN TONE SW1 POS 2, 3, 4 set on 1, 1, 1.

STEP 1: The 115VAC Multitone Strobe signals cannot be field set for input voltage.

Set desired dBA sound output level as follows (refer to Figure 2 and Table 4).

Table 4: dBA Sound Output Level Settings	
Decibel Level (dBA)	SW1 Switch Settings (POS 1)
High dBA	1 (Factory Setting)
Standard dBA	0

STEP 2: Set desired alarm tone as follows (refer to Figure 2 and Table 5).

MT4-115WH Multitone Signals are field set for any one of eight alarm tones by setting a four-position switch (SW1) as shown in Figure 2 and Table 5. Use SW1 POS 2, 3, 4 to select the desired alarm tone (refer to Table below).

Table 5: Alarm Tones				
Tone	Pattern Description	SW1 Switch Settings		
		POS 2	POS 3	POS 4
Horn	Broadband Horn (Continuous) (Factory Setting)	1	1	1
Bell	1560 Hz Modulated (0.07 Sec. ON/Repeat)	1	0	1
March Time Horn	Horn (0.25 Sec. ON/0.25 Sec. OFF/Repeat)	0	0	1
Code-3 Horn	Horn (ANSI S3.41 Temporal Pattern)	1	1	0
Code-3 Tone	500 Hz (ANSI S3.41 Temporal Pattern)	0	1	1
Slow Whoop	500-1200 Hz Sweep (4.0 Sec. ON/0.5 Sec. OFF/Repeat)	0	1	0
Siren	600-1200 Hz Sweep (1.0 Sec.ON/Repeat)	1	0	0
HI/LO	1000/800 Hz (0.25 Sec. ON/Alternate)	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 of a second. All other tones are recommended for use only on continuous (non-coded) systems.

WIRING INFORMATION

WARNING: Shut off all power before starting the installation. Electric shock can cause death or serious injury.

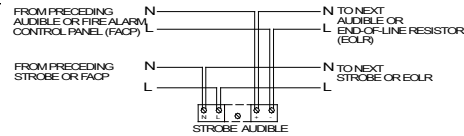


Figure 3: Audible signal and strobe operate independently.

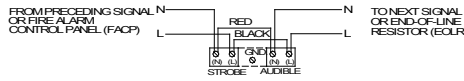


Figure 4: Audible Signal and Strobe operate in unison. Red and Black shunt wires are supplied.

WARNING This wiring arrangement is for use only on continuous (non-coded) systems. The strobe may not flash if used on coded systems, which could result in property damage and serious injury or death to you and/or others.

APPLICATION NOTES

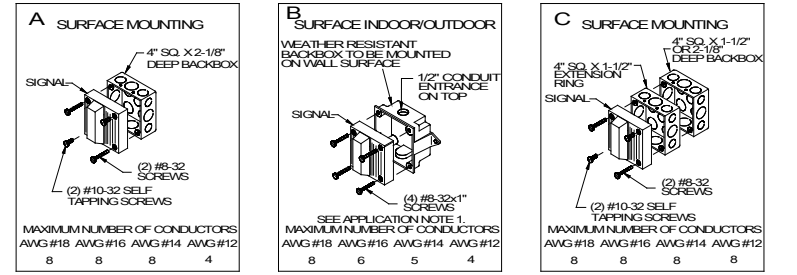
CAUTION: If sheathed multiconductor cable or 3/4-inch conduit fittings are used, verify the installed product has sufficient clearance and wiring room prior to installing backboxes and conduit.

- For weather resistant installation, use outdoor mounting option. Outdoor backbox must be mounted vertically with "TOP" as marked to allow any moisture or condensation to drain properly through drain holes on bottom of backbox.
- The MT4-115-WH can be surface mounted to a standard 4-inch square by 2-1/8-inch deep electrical box (Figure A), weather resistant backbox (WBB) (Figure B) or a 4-inch square by 1-1/2-inch extension ring and a 4-inch square by 2-1/8 inch deep electrical box (Figure C).
- Select largest backbox shown in Mounting Options where possible, to provide additional wiring room for easy installation.
- Conduit entrance to backboxes should be selected to ensure sufficient wiring clearance for installed equipment. When extension rings are required, conduit should enter through backbox, not extension ring. Use Steel City #53151/1-1/2 inches deep or #53171/2-1/8 inches deep extension rings or equal with same area cut out in back.
- Use care and proper techniques to position the field wires in the backbox so they use minimum space and produce minimum stress on the product. This is especially important for stiff, heavy gauge wires with thick insulation or sheathing.
- Do not pass additional wires (used for other than signaling devices) through the backbox. Such additional wires could result in insufficient wiring space for the signaling device.
- The Code-3 Horn and Code-3 Tone incorporate the temporal pattern specified by ANSI/NFPA/ISO 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 of a second. All other tones are recommended for use only on continuous (non-coded) systems.

MOUNTING OPTIONS

CAUTION: The following figures show the maximum number of field wires (conductors) that can enter the backbox used with each mounting option. If these limits are exceeded, there may be insufficient space in the backbox to accommodate the field wires and stresses from the wires could damage the product.

Although the limits shown for each mounting option comply with the National Electrical Code (NEC), Cooper Notification recommends use of the largest backbox option shown and the use of approved stranded field wires, whenever possible, to provide additional wiring room for easy installation and minimum stress on the product from wiring.



WARNING: A possibility exists that the use of multiple strobes within a person's field of view, under certain circumstances, might induce a photo-sensitive response in persons with epilepsy. Strobe reflections in a glass or mirrored surface might also induce such a response. To minimize this possible hazard, Cooper Notification strongly recommends that the number of strobes installed within a single room, hallway or other field of vision not exceed the parameters prescribed by applicable laws, standards, regulations and guidelines. Cooper Notification also strongly recommends that the intensity and flash rates of such strobes not exceed those levels established by applicable laws, standards, regulations and guidelines.

ANY MATERIAL EXTRAPOLATED FROM THIS DOCUMENT OR FROM COOPER NOTIFICATION MANUALS OR OTHER DOCUMENTS DESCRIBING THE PRODUCT FOR USE IN PROMOTIONAL OR ADVERTISING CLAIMS, OR FOR ANY OTHER USE, INCLUDING DESCRIPTION OF THE PRODUCT'S APPLICATION, OPERATION, INSTALLATION AND TESTING IS USED AT THE SOLE RISK OF THE USER AND COOPER NOTIFICATION WILL NOT HAVE ANY LIABILITY FOR SUCH USE.

The Multitone Strobe products and these instructions are copyrighted by Cooper Notification and contain proprietary, confidential and trade secrets of Cooper Notification. No part of the Multitone Strobe products and these instructions may be photocopied, printed or reproduced in any form or modified, adapted, changed or enhanced, or converted to another programming language, or used to create updated, related or derivative works, without the prior written consent of Cooper Notification. No part of the Multitone Strobe shall be decompiled, disassembled or reverse engineered.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.