

INSTALLATION INSTRUCTIONS
WHEELOCK ELUXA MULTI-TONE (ELMT)
WITH PRE-WIRE/PRE-TEST (WALL/CEILING MOUNT)

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

GENERAL:

The Wheelock Eluxa series ELMT Multi-Tone appliances are designed for easy installation with a pre-wire capable mounting plate. Series ELMT Multi-Tone is UL Listed for indoor fire protection service under Standard UL464 for Private Mode Audible Signal Appliances as well as ULC-S525-2016 (Audible Signaling Devices for Fire Alarm and Signaling Systems). These models are listed for indoor use only, and may be wall or ceiling mounted with the backboxes specified in these instructions (see mounting options).

ELMT Multi-Tone appliances 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. ELMT Multi-Tone appliances can be field set for either 12VDC or 24VDC operation, and are designed for use with either filtered or unfiltered Full-Wave-Rectified (FWR) input voltage. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a Fire Alarm Panel (FACP). The horn portion of the ELMT appliance can be field set to provide a synchronized code 3 horn when used in conjunction with the Dual Sync Module (DSM) or Wheelock power supply.

CAUTION: Do not change factory applied finishes. "DO NOT PAINT".

ATTENTION: Ne pas modifier les finitions appliquées en usine. "NE PAS PEINTURER"

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING INSTRUCTIONS 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.

SPECIFICATIONS:

Models	ELMT (Eluxa Multi-Tone)
Agency	UL464, ULC-S525-16
Input Voltage	8.0 – 17.5VDC/VRMS or 16 – 33VDC/VRMS (Selectable via Jumper Plug)
Volume Setting	STD (standard) or HI (high) (selectable via DIP switch SW1 POS1)
Tone Setting	Eight (8) selectable tones (via DIP switch SW1, POS 2,3,4)
Environmental	Indoor/Outdoor: -40°F to +151°F (-40°C to +66°C) 95% RH

Tone	Tone Description	Maximum RMS Current (AMPS)							
		16-33VDC		16-33VFWR		8-17.5VDC		8-17.5VFWR	
		HI	STD	HI	STD	HI	STD	HI	STD
Horn	Broadband Horn (Continuous)	0.108	0.044	0.087	0.045	0.177	0.034	0.172	0.039
Bell	1560 Hz Modulated (0.07 Sec. ON/Repeat)	0.053	0.024	0.067	0.028	0.095	0.020	0.095	0.023
March Time Horn	Horn (0.25 Sec. ON/0.25 Sec. OFF/Repeat)	0.104	0.087	0.087	0.045	0.142	0.034	0.142	0.039
Code 3 Horn	Horn (ANSI S3.41 Temporal Pattern)	0.122	0.035	0.087	0.045	0.200	0.034	0.183	0.039
Code 3 Tone	500 Hz (ANSI S3.41 Temporal Pattern)	0.135	0.035	0.110	0.029	0.152	0.021	0.150	0.023
Slow Whoop	500-1200Hz Swp (4sec ON/0.5sec OFF/Repeat)	0.098	0.037	0.092	0.042	0.142	0.035	0.142	0.038
Siren	600-1200Hz Swp (1.0 Sec. ON/Repeat)	0.104	0.036	0.092	0.040	0.152	0.030	0.152	0.034
HI/LO	1000/800 Hz (0.25 Sec. ON/Alternate)	0.057	0.025	0.063	0.032	0.114	0.026	0.114	0.029

When calculating the total currents: Use Table 2 to determine the highest value of "RMS Current" for an individual appliance, then multiply these values by the total number of appliances; be sure to add the currents for any other appliances powered by the same source and include any required safety factors.

Make sure that the total RMS current required by all appliances that are connected to the system's PRIMARY and SECONDARY power sources, NAC circuits, DSM Sync Modules or Wheelock Power Supplies does not exceed the power sources' rated capacity or the current ratings of any fuses on the circuits to which these appliances are wired.

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 appliance.

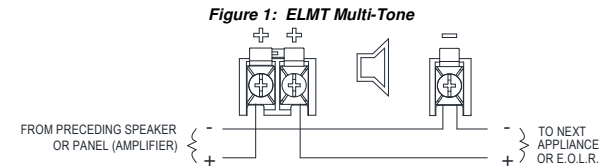
CAUTION: If ELMT Multi-Tone appliances are operated within 15 inches of a person's ear, they can produce a sound pressure level that exceeds the maximum 120 dBA permitted by ADA and OSHA rules. Exposure to such sound levels can result in damage to a person's hearing.

ATTENTION: Si les appareils ELMT Multi-Tone sont utilisés à moins de 15 pouces de l'oreille d'une personne, ils peuvent produire un niveau de pression acoustique supérieur à la vitesse maximale de 120 dBA permise par les règles de l'ADA et de l'OSHA. L'exposition à de tels niveaux sonores peut endommager l'ouïe d'une personne.

Tone	Volume	dBA Reverberant Ratings Per UL 464						dBA Anechoic Ratings Per CAN/ULC S525-16					
		24V Regulated		12V Regulated		17.5V		24V Regulated		12V Regulated		17.5V	
		16V	24V	33V	8V	12V	17.5V	16V	24V	33V	8V	12V	17.5V
Horn	HI	88	91	93	88	91	93	95	99	100	97	99	100
	STD	82	86	88	72	76	80	89	93	94	82	86	88
Bell	HI	80	83	87	78	82	85	85	89	91	84	87	89
	STD	72	76	80	63	67	70	77	81	84	69	73	74
March Time	HI	85	88	90	85	88	90	95	99	100	97	99	100
	STD	79	83	85	69	73	76	89	93	94	81	85	87
Code 3 Horn	HI	84	87	89	84	87	89	95	99	100	97	99	100
	STD	78	82	85	68	72	76	89	93	94	82	86	87
Code 3 Tone	HI	81	85	86	81	85	86	91	95	96	88	91	92
	STD	76	80	82	65	70	73	86	90	91	75	78	79
Slow Whoop	HI	87	90	92	87	89	91	95	99	100	97	99	100
	STD	80	84	87	69	73	77	90	94	95	84	88	90
Siren	HI	86	89	92	86	89	91	94	98	99	96	98	99
	STD	81	84	87	69	74	77	89	93	94	80	84	87
HI/LO	HI	86	88	91	86	88	90	89	93	94	89	92	94
	STD	80	84	86	68	72	75	84	88	89	70	72	73

-3dB	+/- 35 Degrees Horizontal, +/- 35 Degrees Vertical
-6dB	+/- 45 Degrees Horizontal, +/- 45 Degrees Vertical

WIRING DIAGRAMS:



*Refer to Dual Sync Module instruction sheets DSM (P83177) or Wheelock's Power Supplies for additional information.

Figure 2:



1. This model has 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 in Figure 2. The polarity shown in the wiring diagrams is for operation of the appliances. The polarity is reversed by the FACP during supervision.

SETTINGS: To set Voltage, Volume, and Tone, see Figure 3, 4, 5.

NOTE: Set desired input voltage and dBA sound output level as follows (Refer to Figures 4 and 5): ELMT Multi-Tone Appliances are field set for input voltage and dBA sound output level by inserting a 24/12 Jumper Plug and adjusting a four position Switch (SW1) as shown in Table 5 and Figures 4 and 5. Use Jumper Plus to select the desired voltage and SW1 Position 1 to select the dBA sound output level.

IMPORTANT: Do not apply 24VDC input if the 24/12 Jumper Plug is set on 12. This can damage the unit. Verify the Jumper Plug and Switch (SW1) settings to make sure they are correct. Improper settings can damage the unit or result in no sound output or a dBA sound output level that is below code requirements for public mode fire protection. This could result in property damage, serious injury or death to you and/or others.

ELMT Multi-Tone Appliances are field set for any one of eight alarm tones by setting a four-position switch (SW1) as shown in Figure 5 and Table 6. Use SW1 POS 2, 3, 4 to select the desired alarm tone (refer to Table 6 below).

SETTINGS:

Input Voltage/Sound Output Level	24/12 Jumper Plug and Switch SW1 Settings
24 VDC/HIGH dBA	Set Jumper on 24; set SW1 POS 1 on 1 (Factory Setting)
24 VDC/STD dBA	Set Jumper on 24; set SW1 POS 1 on 0
12 VDC/HIGH dBA	Set Jumper on 12; set SW1 POS 1 on 1
12 VDC/STD dBA	Set Jumper on 12; set SW1 POS 1 on 0

IMPORTANT: Do not apply 24VDC input if the 24/12 Jumper Plug is set on 12. This can damage the unit.

Figure 3:
24/12 Jumper Plug and Switch (SW1) located as shown

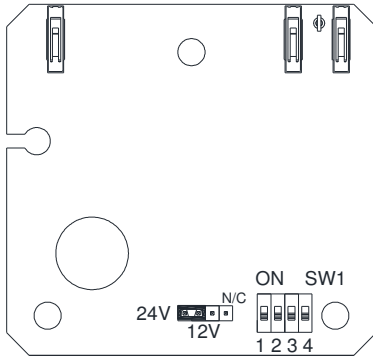


Figure 4: 24/12 Jumper Plug Settings
(Use Needle Nose Pliers to Lift and Properly Insert the Jumper Plug)
SHOWN SET ON 24V

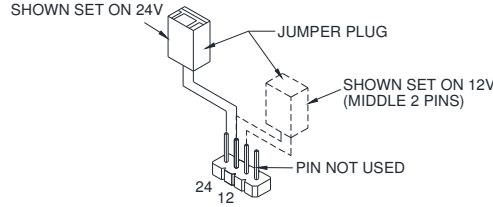
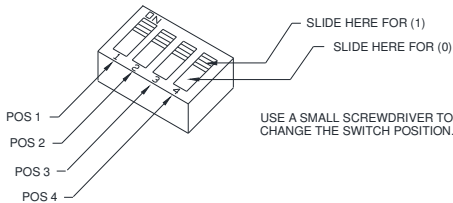


Figure 5: Switch (SW1) Settings



Tone	Pattern Description	Switch (SW1)		
		POS 2	POS 3	POS 4
Horn**	Broadband Horn (Continuous)	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	500-1200Hz Sweep (4 sec ON/0.5 sec OFF/Repeat)	0	1	0
Siren	600-1200Hz Sweep (1.0 Sec. ON/Repeat)	1	0	0
HI/LO	1000/800 Hz (0.25 Sec. ON/Alternate)	0	0	0

** Factory setting is Horn with Switch SW1 POS 2, 3, 4 set on 1, 1, 1.

The Code 3 Horn and Code 3 Tone incorporate the temporal pattern specified by ANSI/NFPA/ISO for standard emergency evacuation signaling. They shall 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. All other tones are recommended for use only on continuous (non-coded) systems.

The MT must be set for Code 3 horn when used with the sync module. Refer to instruction sheets for DSM (P83177) or Wheelock power supplies for additional information.

Figure 6: Grille Removal**

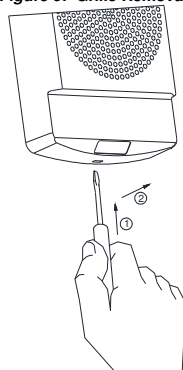
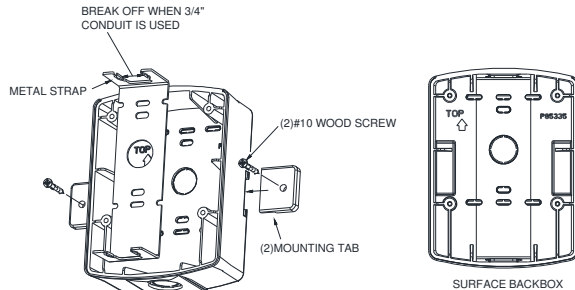


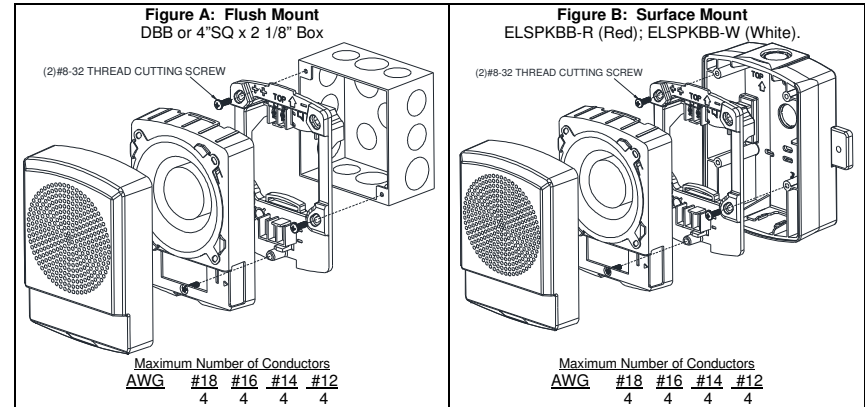
Figure 7: Surface BackBox - ELSPKBB



MOUNTING OPTIONS:

The following figures (A and B) 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.

Check that the installed product will have sufficient clearance and wiring room prior to installing backboxes and conduit, especially if sheathed multiconductor cable or 3/4" conduit fittings are used.



All installations shall be in accordance with:

- 1) In the United States, the National Electrical Code, NFPA 70, and the National Fire Alarm and Signaling Code, NFPA 72.
- 2) In Canada, CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, Section 32; and the Canadian Standard for the Installation of Fire Alarm Systems - CAN/ULC-S524.

MOUNTING PROCEDURES:

1. Select a mounting option and install the backbox. ELSPKBB requires 5 1/8" spacing for surface mounting. Screws are provided. Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product. Do not pass additional wires (used for other than the signaling appliance) through the backbox. Such additional wires could result in insufficient wiring space for the signaling appliance.
2. Install the Mounting Plate on the backbox. Use 8-32 screws for 4" back-box or hi-lo screws for the ELSPKBB.
3. Pre-Wire: Connect field wires to terminals on mounting plate (reference Figure 1 and 2). Use care and proper techniques to position the field wires in the backbox so that they use minimum space and produce minimum stress on the product. This is especially important for stiff, heavy gauge wires and wires with thick insulation or sheathing. When terminating field wires, do not use more lead length than required. Excess lead length could result in insufficient wiring space for the signaling appliance.
4. Pre-Test: Mounting Plate contains a SHUNT between adjacent "+" terminals to facilitate testing before device is attached. Note: Shunt will open permanently when device is installed on mounting plate.
5. Verify appliance settings are correct for your application. Settings are shown in Fig. 3-5. Factory settings are 24V, HIGH dBA, Horn.
6. Place the Eluxa appliance over the mounting plate. Engage TOP hook on mounting plate, then secure with screw at the bottom. Use care to prevent speaker cone damage when driving the screw.
7. Align cover to the Eluxa appliance. Then, snap the cover in place.
8. To remove the appliance, insert a small flat-bladed screwdriver into the bottom opening 1/2" as shown in Figure 6. Then lift off grille.
9. Accessories for Eluxa surface back box (Ceiling): ELSPKBB-R (Red); ELSPKBB-W (White).

Important: Do not fully back out terminal screws. Do not over tighten screws or terminals. Excessive torque may affect operation. When using power tools, ensure the torque is set to the lowest setting available.

NOTE: Final acceptance is subject to Authorities Having Jurisdiction.

Check the installation instructions of the manufacturers of other equipment used in the system for any guidelines or restrictions on wiring and/or locating Notification Appliance Circuits (NAC) and notification appliances. Some system communication circuits and/or audio circuits, for example, may require special precautions to assure immunity from electrical noise (e.g. audio crosstalk).

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.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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** Grille removal: (Figure 6) 1) Insert Screwdriver into slot, and push to release snap. 2) Lift Up to remove the grille.