wheelock

273 Branchport AvenueThank you for using our products.Long Branch, NJ 07740Thank you for using our products.(800) 631-2148 (US)INSTALLATION INSTRUCTIONS(800) 397-5777 (CANADA)SERIES NS4-MCW MULTI-CANDELA FOUR WIRE APPLIANCEwww.wheelockinc.com(WALL MOUNT VERSION)

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

Wheelock's Series NS4-MCW Multi-Candela Horn Strobe provides four selectable candela settings (15, 30, 75, 110). The NS4-MCW allows for independent operation of the strobe circuit and the horn circuit. It is the ideal choice for retrofit applications as well as new installations. The NS4-MCW Appliance is UL Listed under Standard 1971 for Signaling Devices for the Hearing Impaired and UL Standard 464 for Audible Signal Appliances. The NS4-MCW is also ULC Listed under Standard CAN/ULC-S526-M87 for Visual Signaling Appliances and Standard CAN/ULC-S525-99 for Audible Signaling Appliances for Fire Alarm Systems. It is listed for *indoor use only* and equipped with an NS Mounting Plate (NSMP) that can be mounted to single-gang, double-gang, 4" backbox, 100mm European backbox or SHBB surface backbox (See Mounting Options). This strobe model is Listed for *wall mounting only*. The NS-MCW Appliance uses a Xenon flashtube with solid state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective visible signaling.

The horn portion of the NS4-MCW Appliance can be field set to provide either Continuous Horn or Code 3 Horn. The sound output can be field set for High (HI) or Low (LO) dBA.

The NS4-MCW Horn Strobe can also be used with a Sync Module (SM), Dual Sync Module (DSM) or Power Supply (PS-12/24-8) to provide synchronized strobe and synchronized Code 3 signal.

This strobe model is designed for use with either filtered DC (VDC) or unfiltered Full-Wave-Rectified (VRMS) input voltage. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a FACP.

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

WARNING: THE NS HORN STROBE IS A "FIRE ALARM DEVICE - DO NOT PAINT."

NOTE: All Canadian Installations should be in accordance with the Canadian Standard for the Installation of Fire Alarm Systems - CAN/ULC-S524-01 and Canadian Electrical Code, Part 1. Final acceptance is subject to Authorities Having Jurisdiction.

A WARNING: READ THESE INSTRUCTIONS CAREFULLY. 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 AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

SPECIFICATIONS:

Table 1: Ratings Per UL and ULC										
	Regulated		Voltage Range Limit		Voltage Range Pe	r	Strobe			
Settings	Voltage		Per UL 1971		AN/ULC-S526-M	87 C	Candela			
	(VDC/VRMS)		(VDC/VRMS)		(VDC/VRMS)		(cd)			
NS4-24MCW	24		16.0-33.0		20.0-33.0	15/3	30/75/110			
Table 2: dBA Sound Output for 24VDC										
Description	Volume	Reve	erberant Per UI	464	Anechoic	Per CAN/UL	AN/ULC-S525-99			
		16.0VDC	24.0VDC	33.0VD	DC 20.0VDC	24.0VDC	31.0VDC			
	Low	77	81	33	87	89	91			
Continuous Horn	High	83	87	90	90	92	94			
	Low	72*	76	79	87	89	91			
Code 3 Horn	High	79	82	86	90	92	94			

ULC Directional Characteristics: Rated output 92dBA (Unit set on high volume and 24VDC) -3dBA: 60 degrees left, 40 degrees right

-6dBA: 70 degrees left, 70 degrees right

NOTES: 1. The Strobe will produce 1 flash per second over the "Regulated Voltage" range. 2. 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 5dBA to anechoic values as shown in Table 2. Reverberant dBA is a minimum UL rating based on sound pressure measurements in a reverberant test room. 3. This model is UL Listed for indoor use with a temperature range of $+32^{\circ}F$ to $+120^{\circ}F$ ($0^{\circ}C$ to $+49^{\circ}C$) and

maximum humidity of 93% RH \pm 2%.

NOTE: THE MAXIMUM WIRE IMPEDANCE BETWEEN STROBES SHALL NOT EXCEED 35 OHMS. THE MAXIMUM NUMBER OR STROBES ON A SINGLE NOTIFICATION APPLIANCE CIRCUIT SHALL NOT EXCEED 47.

Copyright 2001 Wheelock, Inc. All rights reserved.

A WARNING: OPERATING THE NS AUDIBLE APPLIANCES, SET ON "CODE 3 HORN", LOW dBA AT MINIMUM VOLTAGE (16.0VDC) WILL NOT MEET THE 75dBA MINIMUM UL REVERBERANT SOUND LEVEL REQUIRED FOR PUBLIC MODE FIRE PROTECTION SERVICE (NOTED BY * IN TABLE 2). THIS SETTING IS ACCEPTABLE ONLY FOR GENERAL SIGNALING (NON-FIRE ALARM) USE. USE THE "HIGH" dBA SETTING WITH THIS TONE FOR PUBLIC MODE SERVICE.

A WARNING: FOR ULC VERSIONS THESE APPLIANCES WERE TESTED TO THE OPERATING VOLTAGE OF 20.0-31.0 VOLTS FOR 24V MODELS USING FILTERED (DC) OR UNFILTERED FULL-WAVE-RECTIFIED (FWR). APPLY 80% AND 110% OF THESE VOLTAGE VALUES FOR SYSTEM OPERATIONS.

A WARNING: FOR UL VERSIONS THESE APPLIANCES WERE TESTED TO THE OPERATING VOLTAGE LIMITS OF 16.0-33.0 VOLTS FOR 24V MODELS USING FILTERED (DC) OR UNFILTERED FULL-WAVE-RECTIFIED (FWR). DO NOT APPLY 80% AND 110% OF THESE VOLTAGE VALUES FOR SYSTEM OPERATION.

A WARNING: 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 APPPLIED VOLTAGE TO THE STROBES.

 ${\it I}$ warning: candela setting will determine the current draw of the product.

UL range rating limits are 16.0-33.0VDC; ULC ratings are 20.0-31.0VDC (tested range -20% below 10% above rated voltage range).

Table 3: UL/ULC Current Ratings (AMPS)									
Rated Average Current									
Voltage	Voltage	15cd	30cd	75cd	110cd				
16.0VDC	20.0VDC	0.080	0.128	0.252	0.328				
24.0VDC	24.0VDC	0.054	0.083	0.155	0.187				
33.0VDC	31.0VDC	0.045	0.068	0.115	0.141				
16.0VRMS	20.0VRMS	0.116	0.194	0.361	0.487				
24.0VRMS	24.0VRMS	0.093	0.141	0.231	0.289				
33.0VRMS	31.0VRMS	0.094	0.115	0.188	0.224				
Rated Peak Current									
UL Voltage	ULC Voltage	15cd	30cd	75cd	110cd				
16.0VDC	20.0VDC	0.136	0.186	0.360	0.452				
24.0VDC	24.0VDC	0.091	0.142	0.250	0.307				
33.0VDC	31.0VDC	0.140	0.190	0.306	0.458				
16.0VRMS	20.0VRMS	0.432	0.675	1.415	1.610				
24.0VRMS	24.0VRMS	0.525	0.640	0.930	1.240				
33.0VRMS	31.0VRMS	0.920	1.000	1.130	1.210				

* The time duration for the peak current is 1 millisecond. NOTE: Inrush current is less than rated peak current.

Table 3A: UL/ULC Horn Current Ratings (AMPS)								
UL Voltage	ULC Voltage	High dBA	Low dBA					
16.0VDC	20.0VDC	0.019	0.012					
24.0VDC	24.0VDC	0.028	0.015					
33.0VDC	31.0VDC	0.039	0.018					
16.0VRMS	20.0VRMS	0.029	0.016					
24.0VRMS	24.0VRMS	0.044	0.019					
33.0VRMS	31.0VRMS	0.061	0.022					

A WARNING: MAKE SURE THAT THE TOTAL AVERAGE CURRENT AND TOTAL PEAK REQUIRED BY ALL APPLIANCES THAT ARE CONNECTED TO THE SYSTEM'S PRIMARY AND SECONDARY POWER SOURCES, NAC CIRCUITS, SM, DSM SYNC MODULES AND PS-12/24-8 POWER SUPPLY 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 average or peak currents: Use Table 3 and 3A to determine the highest value of "Rated Average Current" for an individual strobe (across the expected operating voltage range of the strobe), or use Table 3 to determine the highest value of "Rated Peak Current" (whichever is higher) of an individual strobe (across the expected voltage range of the strobe), then multiply the value 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.

If the peak current exceeds the power supplies' inrush capacity, the output voltage provided by the power supplies may drop below the listed voltage range of the appliances connected to the supply and the voltage may not recover in some types of power supplies. For example, an auxiliary power supply that lacks filtering at its output stage (either via lack of capacitance and/or lack of battery backup across the output) may exhibit this characteristic.

CAUTION: Strobes are not designed to be used on coded systems in which the applied voltage is cycled on and off.

<u> </u>	Table 4. Howizoutal Plane (UL 1071)										
Table 4: Horizontal Plane (UL 1971)											
Horizontal	1:	5cd	30cd		75cd		110cd				
Angle (in deg.)	UL Min.	Typ. 15cd	UL Min.	Typ. 30cd	UL Min.	Typ. 75cd	UL Min.	Typ. 110cd			
0	15.0	25	30.0	47	75.0	115	110.0	149			
5	13.5	24	27.0	48	67.5	115	99.0	153			
10	13.5	24	27.0	48	67.5	113	99.0	151			
15	13.5	24	27.0	47	67.5	112	99.0	153			
20	13.5	22	27.0	47	67.5	110	99.0	146			
25	13.5	22	27.0	46	67.5	107	99.0	149			
30	11.3	22	22.5	44	56.3	109	82.5	145			
35	11.3	23	22.5	44	56.3	104	82.5	140			
40	11.3	22	22.5	44	56.3	104	82.5	135			
45	11.3	24	22.5	48	56.3	110	82.5	152			
50	8.3	23	16.5	44	41.3	104	60.5	142			
55	6.8	18	13.5	34	33.8	79	49.5	101			
60	6.0	17	12.0	34	30.0	82	44.0	104			
65	5.3	16	10.5	32	26.3	78	38.5	102			
70	5.3	15	10.5	31	26.3	75	38.5	95			
75	4.5	13	9.0	27	22.5	66	33.0	81			
80	4.5	9	9.0	18	22.5	40	33.0	56			
85	3.8	4	7.5	9	18.8	22	27.5	31			
90	3.8	8	7.5	15	18.8	38	27.5	48			

LIGHT DISTRIBUTION PER UL 1971 AND CAN/ULC-S526-M87:

	Table 4A: Vertical Plane (UL 1971)										
Vertical	1:	5cd		Ocd	75cd		110cd				
Angle (in deg.)	UL Min.	Typ. 15cd	UL Min.	Typ. 30cd	UL Min.	Typ. 75cd	UL Min.	Typ. 110cd			
0	15.0	23	30.0	49	75.0	116	110.0	155			
5	13.5	26	27.0	51	67.5	123	99.0	166			
10	13.5	21	27.0	42	67.5	105	99.0	139			
15	13.5	19	27.0	39	67.5	95	99.0	134			
20	13.5	19	27.0	36	67.5	82	99.0	116			
25	13.5	17	27.0	34	67.5	83	99.0	114			
30	13.5	16	27.0	32	67.5	79	99.0	107			
35	9.8	16	19.5	33	48.8	86	71.5	114			
40	6.9	13	13.8	27	34.5	61	50.6	84			
45	5.1	7	10.2	14	25.5	34	37.4	48			
50	4.1	6	8.1	13	20.3	32	29.7	43			
55	3.3	6	6.6	13	16.5	31	24.2	42			
60	2.7	6	5.4	12	13.5	30	19.8	39			
65	2.4	6	4.8	12	12.0	28	17.6	37			
70	2.3	6	4.5	12	11.3	28	16.5	39			
75	2.0	5	3.9	11	9.8	26	14.3	36			
80	1.8	5	3.6	10	9.0	25	13.2	33			
85	1.8	5	3.6	11	9.0	27	13.2	35			
90	1.8	2	3.6	5	9.0	11	13.2	16			

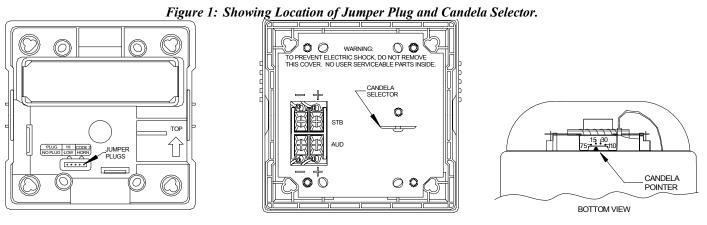
Table 4B: ULC Light Output on Axis Rating									
CAN/ULC-	15cd Setting		30cd Setting		75cd Setting		110cd Setting		
S526-M87	Min.	Тур.	Min.	Тур.	Min.	Тур.	Min.	Тур.	
Min. 2cd	15.0	25.0	30.0	47.0	75.0	115.0	110.0	149.0	

A WARNING: THE NS4-MCW APPLIANCE MUST BE FIELD SET TO THE DESIRED TONE AND dBA SOUND OUTPUT LEVEL BEFORE THEY ARE INSTALLED. THIS IS DONE BY PROPERLY INSERTING JUMPER PLUGS IN ACCORDANCE WITH THESE INSTRUCTIONS. INCORRECT SETTINGS WILL RESULT IN IMPROPER PERFORMANCE, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

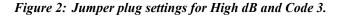
A WARNING: THE CANDELA SELECT SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA INTENSITY BEFORE INSTALLATION. WHEN CHANGING THE SETTING OF THE CANDELA SELECT SWITCH, MAKE CERTAIN THAT IT "CLICKS" IN PLACE. AFTER CHANGING THE CANDELA SETTING, THE APPLIANCE MUST BE RETESTED TO VERIFY PROPER OPERATION (FLASH RATE MUST BE BETWEEN 60-64 FLASHES PER MINUTE). IMPROPER SETTING OF THE CANDELA SELECT SWITCH, WHETHER IT IS ON AN INCORRECT SETTING OR IN BETWEEN TWO CANDELA POSITIONS, MAY RESULT IN DEGRADED OPERATION OR DAMAGE TO THE PRODUCT, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

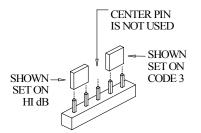
SETTINGS:

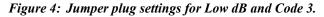
NOTE: The Code 3 Horn incorporates the temporal pattern (1/2 second on, 1/2 second off, 1/2 second off, 1/2 second off, 1/2 second on, 1-1/2 off and repeat) specified by ANSI/NFPA for standard emergency evacuation signaling. <u>The Code 3 Horn should be used</u> only for fire evacuation signaling and not for any other purpose.

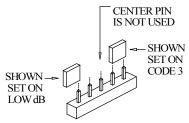


NOTE: Factory setting is on High dB, Code 3 and 15cd.



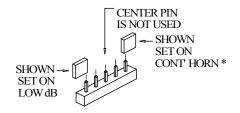




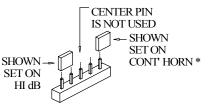


(Use needle nose pliers to pull and properly set the jumper plugs.)

Figure 3: Jumper plug settings for Low dB and Continuous Horn.







No jumper plugs are needed for Continuous Horn and low dB settings. However, it is recommended that the jumper plug be retained in the unit for future use (if needed) as shown in Figure 3, 4 and 5.

NOTE: The NS4-MCW must be set for Code 3 horn when used with the sync module.

* Continuous horn operation without sync module.

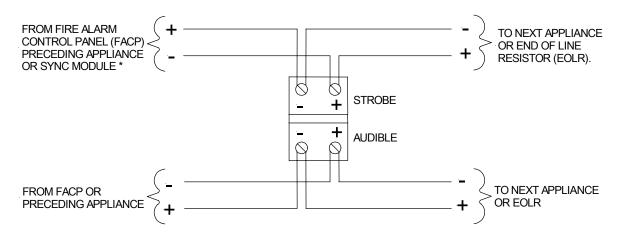
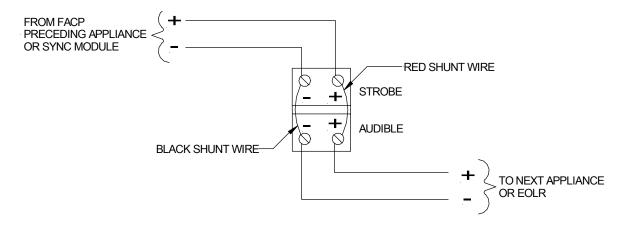


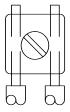
Figure 6: Audible signal and strobe operate independently.

Figure 7: Audible signal and strobe operate in unison. Red and black shunt wires are supplied.



* When the sync module is used, the audible tone will be Code 3 sound only. Refer to Sync Module Installation Instruction sheets SM (P83123), DSM (P83177) or PS-12/24-8 (P83862) for additional information. Audible will operate only with power applied to both strobe and audible.

Figure 8.

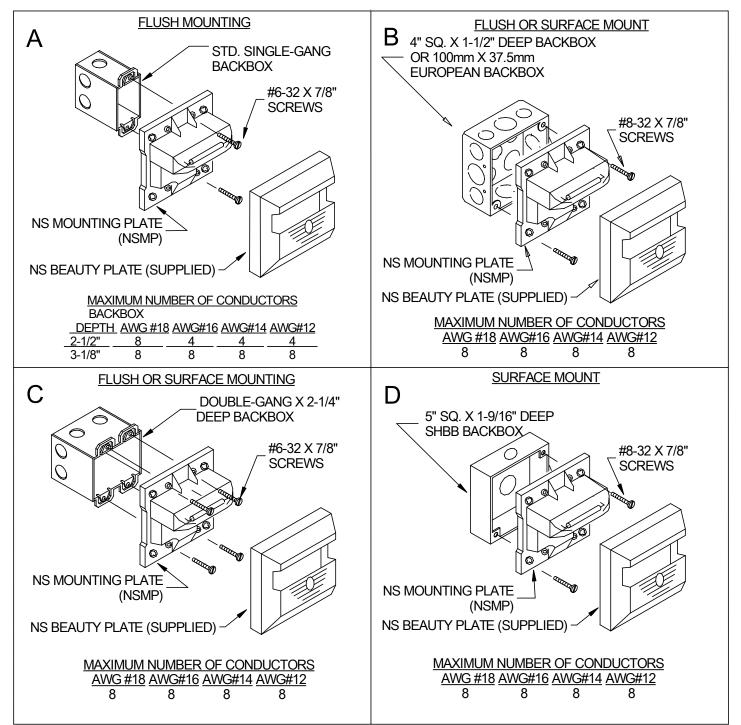


- 1) The NS4-MCW Appliance has in-out wiring terminals that accepts two #12 to 18 American Wire Gauge (AWG) wires at each screw terminal. Strip leads 3/8" inches for connection to screw terminals.
- 2) Break all in-out wire runs on supervised circuit supervision as shown in Figures 6 and 7. The polarity shown in the wiring diagrams is for the operation of the appliances. The polarity is reversed by the FACP during supervision.

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), Wheelock 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.



MOUNTING PROCEDURES:

CAUTION: 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.

- 1. The NS4-MCW model has an integrated NS Mounting Plate (NSMP).
- 2. The NS Mounting Plate (NSMP) must be oriented correctly when it is mounted to the backbox. Turn the NSMP so that the arrow below the word "Top" points to the top side of the NSMP.
- 3. The NS4-MCW model can be flush mounted to a standard single-gang backbox (Figure A), 4" or 100mm backbox (Figure B) or double-gang backbox (Figure C). The NS4-MCW can also be surface mounted to a 4" or 100mm backbox (Figure B), double-gang backbox (Figure C) or the SHBB (Figure D).
- 4. Mount the NSMP first to the backbox. Next slide the Beauty Plate over the NSMP until the 2 side snaps of the NS Beauty Plate engage with the NSMP.
- 5. The NS Beauty Plate can be removed from the strobe assembly once engaged. First, gently insert a screwdriver into one of the slots located on the side edges of the NS Beauty Plate. Second, gently pull away from the wall with the inserted screwdriver to disengage the snap. Third, repeat the first and second steps for the second slot. Finally, gently lift the Beauty Plate away from the NSMP.
- 6. Mounting hardware for each mounting option is supplied.
- 7. Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product.
- 8. 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.
- 9. 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.
- 10. Do not pass additional wires (used for other than the signaling appliances) through the backbox. Such additional wires could result in insufficient wiring space for the signaling appliance.
- 11. The effect of shipping and storage temperatures shall not adversely affect the performance of the appliance when stored in original cartons and are not subjected to misuse or abuse. The NS4-MCW strobe is listed for indoor use.

A WARNING: WHEN INSTALLING STROBES IN AN OPEN OFFICE OR OTHER AREAS CONTAINING PARTITIONS OR OTHER VIEWING OBSTRUCTIONS, SPECIAL ATTENTION SHOULD BE GIVEN TO THE LOCATION OF THE STROBES SO THAT THEIR OPERATING EFFECT CAN BE SEEN BY ALL INTENDED VIEWERS, WITH THE INTENSITY, NUMBER, AND TYPE OF STROBES BEING SUFFICIENT TO MAKE SURE THAT THE INTENDED VIEWER IS ALERTED BY PROPER ILLUMINATION, REGARDLESS OF THE VIEWER'S ORIENTATION. FAILURE TO DO SO COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS. CAUTION: If these appliances are operated within 15 inches of a person's ear, they can produce a sound pressure level that exceeds the maximum 120dBA permitted by ADA and OSHA rules. Exposure to such sound levels can result in damage to a person's hearing.

The 110 candela strobe model is Listed for use in sleeping or non-sleeping areas when installed in accordance with appropriate NFPA Standards and the Authority Having Jurisdiction.

A WARNING: INSTALLATION OF WHEELOCK 110 CANDELA STROBE PRODUCTS IN SLEEPING AREAS SHOULD BE WALL MOUNTED AT LEAST 24" BELOW THE CEILING AS FOLLOWS: (1) THE ON AXIS (DIRECTLY IN FRONT OF LENS) LIGHT OUTPUT SHOULD BE DIRECTED AT THE EYE-LIDS OF THE SLEEPING PERSON, E.G. PILLOW END OF BED, BED HEAD; (2) NO PART OF THE BED SHALL BE MORE THAN SIXTEEN (16) FEET FROM THE STROBE NOTIFICATION APPLIANCE. INSTALLERS MUST ADVISE OWNERS AND OPERATORS OF BUILDINGS WITH SLEEPING OCCUPANTS, E.G. HOTELS AND MOTELS, TO WARN GUESTS, RESIDENTS AND EMPLOYEES TO NOT MOVE THE BED LOCATION TO A POSITION VIOLATING POINTS (1) AND (2) ABOVE OR SERIOUS INJURY AND/OR LOSS OF LIFE MAY OCCUR DURING A FIRE EMERGENCY.

A WARNING: A SMALL 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, WHEELOCK STRONGLY RECOMMENDS THAT THE STROBES INSTALLED SHOULD NOT PRESENT A COMPOSITE FLASH RATE IN THE FIELD OF VIEW WHICH EXCEEDS FIVE (5) Hz AT THE OPERATING VOLTAGE OF THE STROBES. WHEELOCK ALSO STRONGLY RECOMMENDS THAT THE INTENSITY AND COMPOSITE FLASH RATE OF INSTALLED STROBES COMPLY WITH LEVELS ESTABLISHED BY APPLICABLE LAWS, STANDARDS, REGULATIONS, CODES AND GUIDELINES.

NOTE: NFPA 72/ANSI 117.1 conform to ADAAG Equivalent Facilitation Guidelines in using fewer, higher intensity strobes within the same protected area.

These appliances can produce a distinctive three pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72, 1999 Edition.

CAUTION: 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 electrical noise immunity (e.g. audio crosstalk).

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital appliance, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) Reorient or relocate the receiving antenna, 2) Increase the separation between the equipment and receiver, 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected, and 4) Consult the dealer or an experienced radio/TV technician for help.

The Series NS4-MCW products and these instructions are copyrighted by Wheelock and the Series NS4-MCW products contain proprietary, confidential and trade secrets of Wheelock. No part of the Series NS4-MCW 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 Wheelock. No part of the Series NS4-MCW products shall be decomposed, disassembled or reverse engineered.

ANY MATERIAL EXTRAPOLATED FROM THIS DOCUMENT OR FROM WHEELOCK 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 WHEELOCK WILL NOT HAVE ANY LIABILITY FOR SUCH USE.

IMPORTANT: READ SEPARATE "GENERAL INFORMATION" SHEET FOR INFORMATION ON THE PLACEMENT, LIMITATIONS, INSTALLATION, FINAL CHECKOUT, AND PERIODIC TESTING OF NOTIFICATION APPLIANCES.

Limited Warranty

Wheelock products must be used within their published specifications and must be PROPERLY specified, applied, installed, operated, maintained and operationally tested in accordance with these 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), Underwriters' Laboratories of Canada (ULC), 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). Wheelock products when properly specified, applied, installed, operated, maintained and operationally tested as provided above are warranted against mechanical and electrical defects for a period of three years from date of manufacture (as determined by date code). Correction of defects by repair or replacement shall be at Wheelock's sole discretion and shall constitute fulfillment of all obligations under this warranty. THE FOREGOING LIMITED WARRANTY SHALL IMMEDIATELY TERMINATE IN THE EVENT ANY PART NOT FURNISHED BY WHEELOCK IS INSTALLED IN THE PRODUCT. THE FOREGOING LIMITED WARRANTY SPECIFICALLY EXCLUDES ANY SOFTWARE REQUIRED FOR THE OPERATION OF OR INCLUDED IN A PRODUCT. WHEELOCK MAKES NO REPRESENTATION OR WARRANTY OF ANY OTHER KIND, EXPRESS, IMPLIED OR STATUTORY WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER MATTER.

USERS ARE SOLELY RESPONSIBLE FOR DETERMINING WHETHER A PRODUCT IS SUITABLE FOR THE USER'S PURPOSES, OR WHETHER IT WILL ACHIEVE THE USER'S INTENDED RESULTS. THERE IS NO WARRANTY AGAINST DAMAGE RESULTING FROM MISAPPLICATION, IMPROPER SPECIFICATION, ABUSE, ACCIDENT OR OTHER OPERATING CONDITIONS BEYOND WHEELOCK'S CONTROL.

SOME WHEELOCK PRODUCTS CONTAIN SOFTWARE. WITH RESPECT TO THOSE PRODUCTS, WHEELOCK DOES NOT WARRANTY THAT THE OPERATION OF THE SOFTWARE WILL BE UNINTERRUPTED OR ERROR-FREE OR THAT THE SOFTWARE WILL MEET ANY OTHER STANDARD OF PERFORMANCE, OR THAT THE FUNCTIONS OR PERFORMANCE OF THE SOFTWARE WILL MEET THE USER'S REQUIREMENTS. WHEELOCK SHALL NOT BE LIABLE FOR ANY DELAYS, BREAKDOWNS, INTERRUPTIONS, LOSS, DESTRUCTION, ALTERATION, OR OTHER PROBLEMS IN THE USE OF A PRODUCT ARISING OUT OF OR CAUSED BY THE SOFTWARE.

THE LIABILITY OF WHEELOCK ARISING OUT OF THE SUPPLYING OF A PRODUCT, OR ITS USE, WHETHER ON WARRANTIES, NEGLIGENCE, OR OTHERWISE, SHALL NOT IN ANY CASE EXCEED THE COST OF CORRECTING DEFECTS AS STATED IN THE LIMITED WARRANTY AND UPON EXPIRATION OF THE WARRANTY PERIOD ALL SUCH LIABILITY SHALL TERMINATE. WHEELOCK IS NOT LIABLE FOR LABOR COSTS INCURRED IN REMOVAL, REINSTALLATION OR REPAIR OF THE PRODUCT BY ANYONE OTHER THAN WHEELOCK OR FOR DAMAGE OF ANY TYPE WHATSOEVER, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFIT OR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THE FOREGOING SHALL CONSTITUTE THE SOLE REMEDY OF THE PURCHASER AND THE EXCLUSIVE LIABILITY OF WHEELOCK.

IN NO CASE WILL WHEELOCK'S LIABILITY EXCEED THE PURCHASE PRICE PAID FOR A PRODUCT.

Limitation of Liability

WHEELOCK'S LIABILITY ON ANY CLAIM OF ANY KIND, INCLUDING NEGLIGENCE AND BREACH OF WARRANTY, FOR ANY LOSS OR DAMAGE RESULTING FROM, ARISING OUT OF, OR CONNECTED WITH THIS CONTRACT, OR FROM THE MANUFACTURE, SALE, DELIVERY, RESALE, REPAIR OR USE OF ANY PRODUCT COVERED BY THIS ORDER SHALL BE LIMITED TO THE PRICE APPLICABLE TO THE PRODUCT OR PART THEREOF WHICH GIVES RISE TO THE CLAIM. WHEELOCK'S LIABILITY ON ANY CLAIM OF ANY KIND SHALL CEASE IMMEDIATELY UPON THE INSTALLATION IN THE PRODUCT OF ANY PART NOT FURNISHED BY WHEELOCK. IN NO EVENT SHALL WHEELOCK BE LIABLE FOR ANY CLAIM OF ANY KIND UNLESS IT IS PROVEN THAT OUR PRODUCT WAS A DIRECT CAUSE OF SUCH CLAIM. FURTHER, IN NO EVENT, INCLUDING IN THE CASE OF A CLAIM OF NEGLIGENCE, SHALL WHEELOCK BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE PRECEDING LIMITATION MAY NOT APPLY TO ALL PURCHASERS.