

**APPLICATION NOTES:**

- ⚠ **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. Mounting hardware for each mounting option is supplied.
- 2. Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product.
- 3. When terminating field wires, do not use more lead length than required. Excess lead length could result in insufficient wiring space for the signaling device.
- 4. 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.
- 5. Do not pass additional wires (used for other than the signaling device) through the backbox. Such additional wires could result in insufficient wiring space for the signaling device.
- 6. All models are UL Listed for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 85% RH.

- ⚠ **WARNING:** STROBES ARE NOT DESIGNED TO BE USED ON CODED SYSTEMS IN WHICH THE APPLIED VOLTAGE IS CYCLED ON AND OFF.
- ⚠ **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.
- ⚠ **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 MIRRORING SURFACE MIGHT ALSO INDUCE SUCH A RESPONSE. TO MINIMIZE THIS POSSIBLE HAZARD, GAMEWELL 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 (SEE TABLE 4). GAMEWELL 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 provide means for determining equivalent illumination using fewer, higher intensity strobes within the same protected area.

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

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, 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.

⚠ **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 signaling circuits and signaling devices.

Some system communication circuits and/or audio circuits, for example, may require special precautions to assure electrical noise immunity (e.g. audio crosstalk).

**Limited Warranty**

These 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), 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). These 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 one year from date of installation or 18 months from date of manufacture (as determined by date code), whichever first occurs. Correction of defects by repair or replacement shall be at manufacturer'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 THE MANUFACTURER IS INSTALLED IN THE PRODUCT. THE FOREGOING LIMITED WARRANTY SPECIFICALLY EXCLUDES ANY SOFTWARE REQUIRED FOR THE OPERATION OF OR INCLUDED IN A PRODUCT. THE MANUFACTURER 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.

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

**Limitation of Liability**

THE MANUFACTURER'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. THE MANUFACTURER'S LIABILITY ON ANY CLAIM OF ANY KIND SHALL CEASE IMMEDIATELY UPON THE INSTALLATION IN THE PRODUCT OF ANY PART NOT FURNISHED BY THE MANUFACTURER. IN NO EVENT SHALL THE MANUFACTURER 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 THE MANUFACTURER 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.

**GAMEWELL**

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**INSTALLATION INSTRUCTIONS  
STROBE SIGNALS**

**GENERAL:**  
The Strobe Signals are UL Listed under Standard 1971 (Emergency Devices for the Hearing Impaired) for indoor fire protection service. 71272, 71273, 71274, 71275 strobes were tested at UL for 75cd on axis. 71268, 71269, 71270, 71271, 71276, 71277, 71278, 71279, 71280, 71281, 71282, 71283 models are listed for ceiling or wall mount and 71272, 71273, 71274, 71276 models are listed for wall mount with the backboxes specified in these instructions (See Mounting Options). The strobes use a xenon flashtube with solid state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective visible signaling. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (F.A.C.P.).

⚠ **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, SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

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

**SPECIFICATIONS:**

Model	RATINGS PER UL 1971				Mounting Options
	Nominal Voltage (VDC)	Rated Input Voltage (VDC)	Strobe Candela (CD)		
71268	24	20-31	15		B
71269	24	20-31	15		C
71270	24	20-31	15		A
71271	24	20-31	15		D,E
71272	24	20-31	15*		B
71273	24	20-31	15*		C
71274	24	20-31	15*		A
71275	24	20-31	15*		D,E
71276	24	20-31	30		B
71277	24	20-31	30		C
71278	24	20-31	30		A
71279	24	20-31	30		D,E
71280	24	20-31	75		B
71281	24	20-31	75		C
71282	24	20-31	75		A
71283	24	20-31	75		D,E

Table 1: \*15cd models are listed at 15cd and meet 75 cd on axis.

Table 1A.

AUDIBLES/SPEAKERS FOR 15cd/30cd/75cd STROBE /PLATE	
PRODUCT	SERIES
Multitone Signals	70921, 70922
Motor Bells	70874, 70875
Speakers	70414, 70379, 70415, 70385, 70386
Chimes	68460-01

71275 is used only with 70922, 70874, 70875 and 70414.

The UL Listed "Rated Input Voltage" is 20-31 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 strobes.

⚠ **WARNING:** ALTHOUGH UL TESTING HAS VERIFIED THAT THESE STROBES FUNCTION EVEN AT 80% OF THEIR MAXIMUM RATING AND 110% OF THEIR MAXIMUM RATING, GAMEWELL STRONGLY RECOMMENDS THAT THE VOLTAGE APPLIED TO THESE PRODUCTS BE WITHIN THEIR RATED INPUT VOLTAGE RANGE. THE APPLICATION OF IMPROPER VOLTAGE MAY RESULT IN DEGRADED OPERATION OR DAMAGE TO THESE PRODUCTS.

Table 2: Strobe Current Requirement (AMPS)

Voltage	Rated Average Current				Rated Peak Current				Rated Inrush Current			
	15cd	30cd	15cd*	75cd	15cd	30cd	15cd*	75cd	15cd	30cd	15cd*	75cd
20VDC	.090	.135	.115	.240	.160	.288	.250	.500	.210	.280	.225	.650
24VDC	.090	.135	.115	.225	.190	.296	.260	.450	.250	.280	.270	.660
31VDC	.090	.135	.115	.195	.210	.296	.260	.370	.320	.300	.360	.680
20VFWR	.090	.135	.125	.240	.210	.390	.350	.700	.320	.390	.315	.920
24VFWR	.091	.135	.125	.225	.216	.390	.365	.640	.360	.390	.390	.930
31VFWR	.091	.135	.125	.195	.240	.390	.365	.520	.450	.420	.500	1.25

\*15cd models are listed at 15cd and meet 75 cd on axis.

**NOTE:** All VFWR voltage ratings are measured with DC volt meter. Multiply VFWR voltage by 1.11 to convert to VRMS.

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

When calculating the total current: use Table 2 to determine the highest value of "Rated Average Current" for an individual strobe (across the expected operating voltage range of the strobe); then multiply this value by the total number of strobes; be sure to add the current for any other devices, including audible signaling devices, powered by the same source and include any required safety factors.

**WARNING:** MAKE SURE THAT 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.

When calculating the maximum inrush or peak current: use Table 2 to determine the highest value of "Rated Inrush Current" or "Rated Peak Current" (whichever is higher) for an individual strobe (across the expected operating voltage range of the strobe); then multiply that value by the total number of strobes on the circuit; be sure to add the inrush or peak currents from any other devices, including audible signaling devices, on that circuit and include any required safety factors. The time duration of the maximum strobe inrush or peak current is 2 milliseconds for 15cd, 30cd models and 4 milliseconds for 75cd models.

**LIGHT DISTRIBUTION:**

Table 3: Horizontal Plane

Horizontal Angle (In deg.)	15 cd		15 cd*		30 cd		75 cd	
	UL Min.	Typ. 15	Typ. 15	Typ. 15	UL Min.	Typ. 30	UL Min.	Typ. 75
0	15.0	21	100	100	30.0	42	75.0	90
5	13.5	20	76	76	27.0	40	67.5	82
10	13.5	20	38	38	27.0	40	67.5	89
15	13.5	20	28	28	27.0	40	67.5	86
20	13.5	20	22	22	27.0	40	67.5	86
25	13.5	20	19	19	27.0	40	67.5	83
30	11.3	19	19	19	22.5	38	56.3	77
35	11.3	17	17	17	22.5	34	56.3	70
40	11.3	17	17	17	22.5	34	56.3	65
45	11.3	15	16	16	22.5	30	56.3	58
50	8.3	10	15	15	16.5	20	41.3	42
55	6.8	8	15	15	13.5	18	33.8	35
60	6.0	8	15	15	12.0	16	30.0	33
65	5.3	8	15	15	10.5	18	26.3	31
70	5.3	8	15	15	10.5	18	26.3	31
75	4.5	8	15	15	9.0	16	22.5	31
80	4.5	7	15	15	9.0	14	22.5	30
85	3.8	7	15	15	7.5	14	18.8	27
90	3.8	6	14	14	7.5	13	18.8	26

\*15cd models are Listed at 15cd and meet 75 cd on axis.

Table 3A: Vertical Plane

Vertical Angle (In deg.)	15 cd		15 cd*		30 cd		75 cd	
	UL Min.**	Typ. 15	Typ. 15	Typ. 15	UL Min.**	Typ. 30	UL Min.**	Typ. 75
0	15.0	21	100	100	30.0	42	75.0	90
5	13.5	21	100	100	27.0	42	67.5	88
10	13.5	21	100	100	27.0	42	67.5	87
15	13.5	20	100	100	27.0	40	67.5	83
20	13.5	19	100	100	27.0	38	67.5	79
25	13.5	19	98	98	27.0	38	67.5	74
30	13.5/11.3	18	96	96	27.0/22.5	36	67.5/56.3	70
35	9.8/11.3	18	94	94	19.5/22.5	36	48.8/56.3	68
40	6.9/11.3	16	92	92	13.8/22.5	32	34.3/56.3	66
45	5.1/11.3	14	90	90	10.2/22.5	28	25.5/56.3	63
50	4.0/8.3	12	84	84	8.1/16.5	24	20.0/41.3	59
55	3.3/6.8	12	77	77	6.8/13.5	24	16.3/33.8	54
60	2.7/6.0	9	70	70	5.4/12.0	18	13.5/30.0	52
65	2.4/5.3	8	63	63	4.8/10.5	16	12.0/26.3	40
70	2.3/5.3	8	56	56	4.5/10.5	16	11.3/28.3	31
75	2.0/4.5	8	50	50	4.0/9.0	16	10.0/22.5	29
80	1.8/4.5	8	30	30	3.8/9.0	16	9.0/22.5	29
85	1.8/3.8	8	20	20	3.6/7.5	16	9.0/18.8	28
90	1.8/3.8	8	8	8	3.6/7.5	16	9.0/18.8	24

\*15cd models are Listed at 15cd and meet 75 cd on axis.

\*\* Wall/Ceiling

**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.

Table 4: Typical Flashes Per Second Across Rated Voltage Range

Models	Volts	20	22	24	26	28	31
15cd	DC	1.0	1.1	1.3	1.4	1.5	1.7
	FWR	1.0	1.1	1.3	1.4	1.6	1.8
15cd*	DC	1.0	1.2	1.3	1.4	1.5	1.6
	FWR	1.0	1.2	1.3	1.4	1.5	1.7
30cd	DC	1.0	1.1	1.2	1.4	1.5	1.6
	FWR	1.0	1.1	1.2	1.4	1.4	1.6
75cd	DC	1.1	1.2	1.3	1.3	1.4	1.5
	FWR	1.0	1.1	1.2	1.3	1.3	1.4

**WIRING INFORMATION:**

Figure 1: Wiring Diagrams

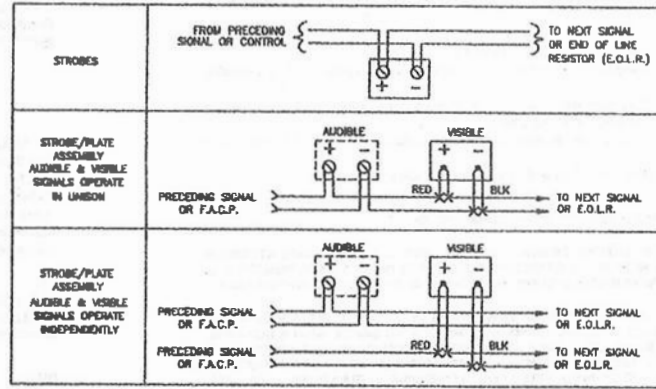
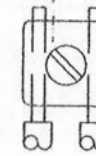


Figure 2.



- 1) All Strobe Signals 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 shown in Figure 2. Strobe/Plate assembly has two red leads and two black leads for in-out wiring. The polarity shown in the wiring diagrams is for the operation of the signals. The polarity is reversed by the F.A.C.P. during supervision.

**GROUNDING:** Connect ground wire to backbox. Install the lockwasher (provided in hardware bag) under head of each mounting screw and mount strobe device to backbox.

**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), Gamewell 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.

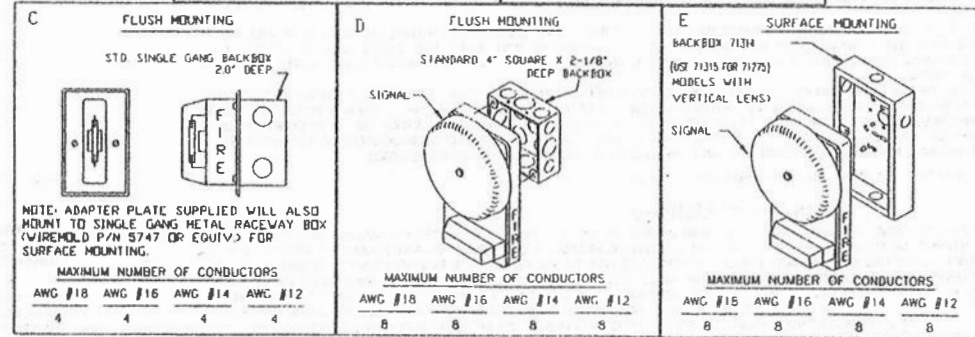
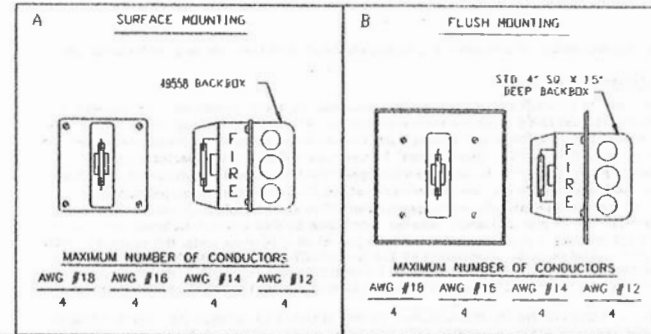


Figure D and E are shown with optional 6" bell. See Table 1A for other possible signal combinations.