

Overview

The Genesis line of signals are the smallest, most compact audible-visible emergency signaling devices in the world. Protruding no more than one inch from the wall, Genesis speakers and speaker-strobes blend with any decor.

Signals feature textured housings in architecturally neutral white or traditional fire alarm red. An ingenious iconographic symbol indicates the purpose of the device. This universal symbol is code-compliant and is easily recognized by all building occupants regardless of what language they speak.



Speaker-only unit

Thanks to patented breakthrough technology, Genesis strobes do not require bulky specular reflectors. Instead, an exclusive mask-and-cavity design channels and conditions light to produce a highly controllable distribution pattern. Intensive development efforts employing this new technology have given rise to a new benchmark in strobe performance – FullLight™ technology.

Speaker-strobes feature 15, 30, 75 or 110 candela output, selectable with a conveniently-located switch on the bottom of the device. The candela setting remains clearly visible even after final installation. Models are also available that offer fixed 15/75 cd output.

All Genesis speakers include a DC blocking capacitor to allow electrical supervision of the audio distribution circuit. Models for 25 V_{RMS} and 70 V_{RMS} circuits are available. The mylar speaker with its sealed back construction provides extra durability and improved audibility. ¼ W to 2 W operation is selectable with a conveniently-located switch on the bottom of the device. The wattage tap setting remains clearly visible even after final installation.

Genesis Speakers and Strobes

Genesis G4 Series



Standard Features

- **Unique low-profile design**
 - The most compact UL/ULC listed speaker-strobe available
 - Ultra-slim, protrudes a mere one inch from the wall
 - Attractive appearance, no visible mounting screws
- **Field configurable – no need to remove the device!**
 - Select ¼, ½, 1, or 2 watt operation and 15, 30, 75, or 110 candela output with convenient switches that remain visible even after the unit is installed
- **Fixed 15/75 cd models available**
- **Unparalleled performance**
 - loud 90 dBA output ensures clear, crisp audio
 - Exclusive FullLight strobe technology produces the industry's most even light distribution
 - Precision timing electronics meet tough new synchronizing standards for strobes when used with compatible modules
 - Low current draw minimizes system overhead
 - Highly regulated in-rush current allows the maximum number of strobes on a circuit
 - Industry's first temporal strobe output
 - 25 Vrms and 70 Vrms models available, all supplied with a DC blocking capacitor for audio circuit supervision
- **Easy to install**
 - Fits all standard 4" square electrical boxes with plenty of room behind the signal for extra wire – no extension ring or trim plate needed
 - Simple jumper snips set strobe flash rates
 - #18 - #12 AWG terminals – ideal for long runs, existing wiring

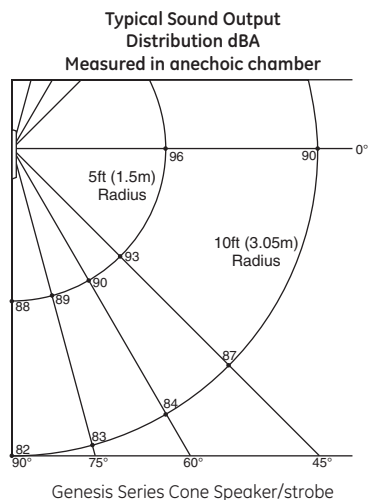


Patents pending

Speaker Application

The suggested sound pressure level for each signaling zone used with alert or alarm signals is a minimum of 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater. This is measured 5 feet (1.5 m) above the floor. The average ambient sound level is the RMS, A-weighted sound pressure measured over a 24-hour period.

Doubling the distance from the signal to the ear will theoretically cause a 6dB reduction in the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. Doubling the power output of a device (e.g.: a speaker from 1W to 2W) will increase the sound pressure level by 3dBA. A 3dBA difference represents a barely noticeable change in volume.



Strobe Application

Genesis strobes are UL 1971-listed for use indoors as wall-mounted public-mode notification appliances for the hearing impaired. Prevailing codes require strobes to be used where ambient noise conditions exceed 105 dBA (87dBA in Canada), where occupants use hearing protection, and in areas of public accommodation as defined in the *Americans with Disabilities Act* (see application notes - USA).

Genesis strobes are synchronized and UL-listed for use in both sleeping and non-sleeping areas. They are intended for indoor wall-mount applications only. Combination speaker-strobe signals must be installed in accordance with guidelines established for strobe devices.

FullLight strobe technology produces a smooth light distribution pattern without the spikes and voids characteristic of specular reflectors. This ensures the entire coverage area receives consistent illumination from the strobe flash.

All Genesis strobes self-synchronize when installed with the Genesis

Signal Master or SIGA-CC1S module. Strobe flashes from devices on the same circuit synchronize to within 10 milliseconds of each other *indefinitely*. This exceeds the revised UL standards in effect as of November, 2000, which specify this level of synchronization over only two hours.

Genesis devices are fully compatible with Enhanced Integrity signals. The two product lines may be mixed on the same circuit.

Strobe Spacing

The following guidelines are based on ANSI/NFPA 72 *National Fire Alarm Code* (1999). When applied and installed in accordance with that code, Genesis strobes meet or exceed the illumination produced by the ADA-specified 75 candela (cd) strobe at 50 feet.*

Non-Sleeping Rooms and Corridors: Genesis strobes rated at less than 110 cd per UL 1971 are intended for use in non-sleeping areas only. Install with the bottom of the device at least 80 inches (2.0 m) and no more than 96 inches (2.4 m) above the finished floor. No point in any space (including corridors) required to have strobes should be more than 50 feet (15.2 m) from the signal (in the horizontal plane).

In large rooms or spaces (such as auditoriums) that exceed 100 feet (30.4 m) across and without obstructions more than 72 inches (1.8 m) above the finished floor, strobes may be placed around the perimeter, spaced a maximum of 100 feet (30.4 m) apart. This is an alternative to suspending strobes from the ceiling.

Non-Sleeping Rooms	Use One Wall Mounted Model:
Up to 20' x 20' (6.1 x 6.1m)	One 15 cd strobe
Up to 30' x 30' (9.1 x 9.1m)	One 30 cd or two 15 cd strobes
Up to 40' x 40' (12.2 m x 12.2 m)	One 75 cd or two 30 cd strobes
Up to 50' x 50' (15.2 x 15.2m)	One 110 cd or two 75 cd strobes

Corridors	Wall Mounted - Model:
Any Length x Max. 20' (6.1m) Wide	15 cd strobes spaced at 100' (30.5 m) max. Strobes must be placed within 15' (4.5m) of each end of the corridor.

* ADA suggests using 75 cd strobes throughout an area, with spacing that never exceeds 50 ft from the strobe to any point in the protected space.

Sleeping rooms: Genesis 110 cd strobes are intended for use in sleeping rooms and should be installed along with a smoke detector. It must be wall mounted at least 80" (2.03m) above floor level, but no closer than 24" (610mm) to the ceiling. The distance from the strobe to the pillow must not exceed 16' (4.8m).

Sleeping Rooms	Use One Wall Mounted Model:
Any Size	110 cd within 16 feet of pillow

Application Notes - USA

Audible signals in the public mode should never have a sound level less than 75 dBA at 10' (3 m) per NFPA 72. Signals cannot exceed 120 dBA per ADA (130 dBA per NFPA 72) at the minimum hearing distance to audible appliance.

Strobe and combination speaker/strobe devices should be installed with the bottom of the device at least 80 inches (2.0 m) and no more than 96 inches (2.4 m) above the finished floor. Speakers should be installed with their tops not less than 6 inches (152 mm) below the ceiling and not less than 90 inches (2.3 m) above the finished floor.

Strobes must be used to supplement audible signals wherever the average ambient sound level exceeds 105 dBA. Combination audible/visual signals must be installed in accordance with NFPA guidelines established for strobes.

ADA requires visible signals in the following areas:

- rest rooms, meeting rooms, and other common use areas.
- sleeping rooms intended for use by persons with hearing impairment (in accordance with Title 1 of ADA).
- work areas used by a person with a hearing impairment (per Title 1 of ADA).

Application Notes - Canada

(Based in part on 1995 Canada National Building Code)

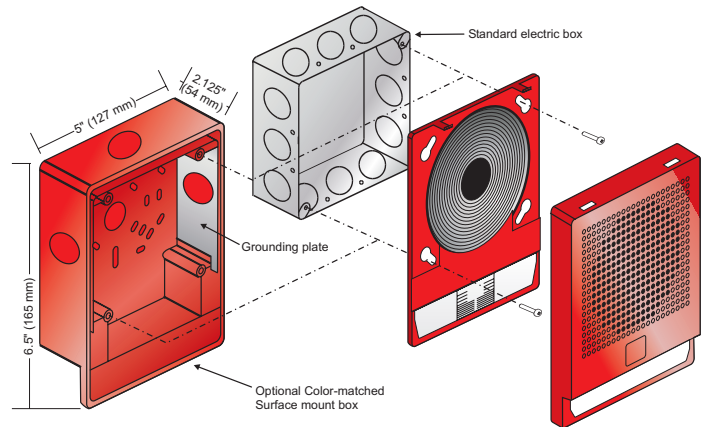
The fire alarm signal sound pressure level shall not exceed 110 dBA in any normally occupied area. The sound pressure level from an audible signal in a floor area used for occupancies other than residential occupancies shall not be less than 10 dBA above ambient levels, and never less than 65 dBA. In sleeping rooms the sound pressure level from an audible signal shall not be less than 75dBA when any intervening doors between the device and the sleeping room are closed. Audible signal devices shall be installed not less than 1.8 m to the center of the device above the floor (per CAN/ULC S524).

The fire alarm audible signal shall be supplemented by fire alarm strobes in any floor area where the ambient noise level exceeds 87 dBA, or where the occupants of the floor area use ear protective devices, are located within an audiometric booth, or are located within sound insulating enclosures. This also applies to assembly occupancies in which music and other sounds associated with performances could exceed 100 dBA. Strobes shall be installed in a building so that the flash from one device is visible throughout the floor area or portion thereof in which they are installed. For maximum safety, GE Security recommends that strobes be installed as per the guidelines shown here under Strobe Spacing.

Installation and Mounting

All models are intended for indoor wall mounted applications only. Speakers and speaker-strobes are flush mounted to a North-American 4" square electrical box, 2 1/8" (54 mm) deep or a European 100 mm square box. Signals may be surface mounted to a Genesis surface-mount box (see ordering information for details).

Two tabs at the top of the signal unlock the cover to facilitate mounting. The shallow depth of Genesis devices leaves ample room behind the signal for extra wiring. Once installed with the cover in place, no mounting screws are visible.



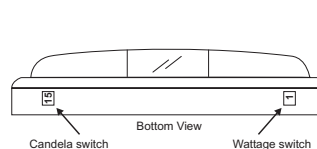
GE Security recommends that these fire alarm speaker-strobes always be installed in accordance with the latest recognized edition of national and local fire alarm codes.

Field Configuration

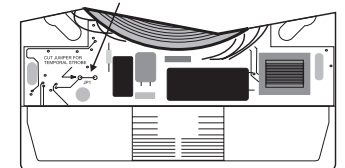
Genesis speakers may be set for 1/4, 1/2, 1, or 2 watt operation. The wattage setting is visible through a small window on the bottom of the device and is changed by simply sliding the switch until the desired setting appears in the window. The speaker does not have to be removed to change the wattage.

Genesis speaker-strobes may be set for 15, 30, 75, or 110 candela output. The output setting is visible through a small window on the bottom of the device and is changed by simply sliding the switch until the desired setting appears in the window. The speaker-strobe does not have to be removed to change the output.

Use the Candela Switch and the Wattage switch to set desired operation.



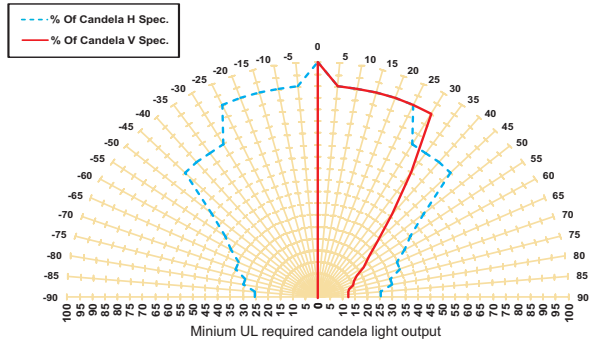
To change strobe to temporal (private mode) cut JP1



Genesis speaker-strobes may also be configured for temporal flash. This battery-saving feature is intended for private mode signaling only. To set the device for temporal flash, snip the circuit board as shown in the Jumper Locations diagram above.

Light output

Per cent of UL rating versus angle



UL name plate maximum operating current (RMS-mA)

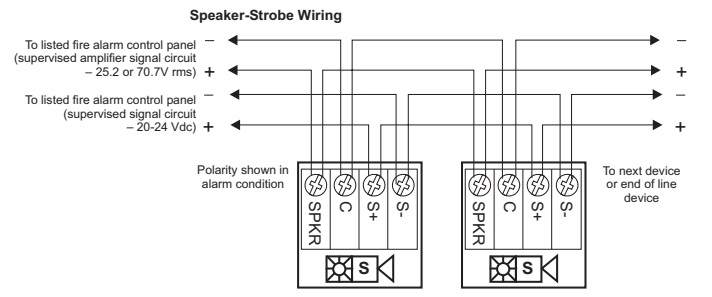
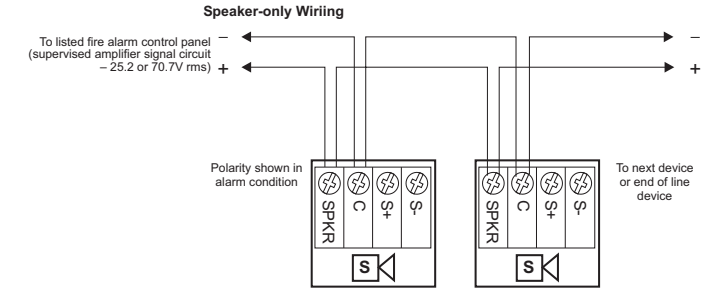
Cd rating	15	30	15/75	75	110
16 Vdc	96	130	106	239	294
16 Vfwr	120	169	170	329	375

Typical current, milliamps - average (RMS)

Cd rating	15	30	15/75	75	110
20 Vdc	65 (78)	93 (101)	114 (123)	182 (188)	238 (245)
24 Vdc	55 (65)	78 (86)	97 (104)	153 (159)	196 (203)
31 Vdc	45 (53)	63 (69)	77 (84)	120 (124)	151 (157)
20 Vfwr	56 (106)	79 (147)	100 (189)	147 (264)	197 (342)
24 Vfwr	50 (95)	68 (130)	85 (169)	121 (225)	155 (283)
27 Vfwr	44 (84)	60 (115)	68 (148)	107 (200)	137 (251)

Wiring

Field wiring is connected to Genesis signals with terminals that accommodate #18 to #12 AWG (0.75 mm² to 2.5 mm²) wiring.



WARNING: These devices will not operate without electrical power. As fires frequently cause power interruptions, we suggest you discuss further safeguards with your local fire protection specialist. Research indicates that the intensity of strobe needed to awaken 90% of sleeping persons is approximately 100 cd. GE Security recommends that strobes in sleeping rooms be set to 110 cd minimum.

Specifications

Genesis Speakers and Speaker-Strobes

Housing	Red or white textured UV stabilized, color impregnated engineered plastic. Exceeds 94V-0 UL flammability rating.
Dimensions	Height: 6.5" (165 mm). Width: 5" (127 mm). Depth to wall: 1" (25 mm).
Mounting (indoor wall mount only)	Flush: North-American 4" square box, 2 1/8" (54 mm) deep. Surface: model G4B (white) or G4RB (red) surface mount box.
Wire Connections	Screw terminals: separate polarized inputs for speaker and strobe, #18 to #12 AWG (0.75 mm ² to 2.5 mm ²) wire size
Operating environment	32-120° F (0-49° C) ambient temperature; 0-93% relative humidity.
Agency Listings	UL 1971, UL 1638, UL 1480, ULC S526, ULC S541, CSFM, MEA (FM pending) (All models comply with ADA Code of Federal Regulation Chapter 28 Part 36 Final Rule.)

Speakers

Input/Operating Volts	25 VRMS or 70 VRMS. See ordering information.
Speaker Taps/Output*	2 W = 89 dBA; 1 W = 86 dBA; ½ W = 83 dBA; ¼ W = 80 dBA
Speaker Cone	Speaker frequency response: 250 to 5,000 Hz. Optimized for voice intelligibility. 4-inch (102mm) mylar cone, sealed back construction, rated for 8 watts, 8 ohm voice coil.

Strobes

Strobe Output Rating	UL 1971, UL 1638, ULC S526: selectable 15 cd, 30 cd, 75 cd, or 110 cd output UL 1971: 15 cd (fixed 15/75 cd models) UL 1638, ULCS526: 75 cd (fixed 15/75 cd models)
Strobe Operating Voltage	16 - 33 Vdc Regulated, 16-33 V Full wave rectified (UL Voltage Designations "Regulated 24" and "24 fwr")
Strobe Flash Rate	One flash per second.
Strobe Flash Synchronization	All strobes: one flash per second (fps) within 200 milliseconds over 30 minutes on common circuit. With optional synchronization module: one fps within 10 milliseconds indefinitely (exceeds UL 1971). Temporal setting (private mode only): synchronized to temporal output on the same circuit.
Compatible Synchronization Modules	G1M-RM, SIGA-CC1S, SIGA-MCC1S

Ordering Information

Catalog Number		Description	Ship Wt., lbs (kg)
White	Red		

Speakers and Speaker-Strobes

White	Red	Description	Ship Wt., lbs (kg)
G4-S2	G4R-S2	25 Volt Speaker	1.5 (0.68)
G4-S2VM	G4R-S2VM	25 Volt Speaker-strobe with selectable 15, 30, 75, or 110 cd output	
G4F-S2V1575	G4RF-S2V1575	25 Volt Speaker-strobe with 15/75 cd output. Available with FIRE marking only.	
G4-S7	G4R-S7	70 Volt Speaker	
G4-S7VM	G4R-S7VM	70 Volt Speaker with selectable 15, 30, 75, or 110 cd output	
G4F-S7V1575	G4RF-S7V1575	70 Volt Speaker-strobe with 15/75 cd output. Available with FIRE marking only.	

Accessories

White	Red	Description	Ship Wt., lbs (kg)
G1M-RM		Synchronization Output Module (1-gang)	0.2 (0.1)
SIGA-CC1S		Intelligent Synchronization Output Module (2-gang)	0.5 (0.23)
SIGA-MCC1S		Synchronization Output Module (Plug-in UIO)	0.18 (0.08)
G4B	G4RB	Surface mount box	0.7 (0.32)



Housings available with "FIRE" markings

To specify housings with "FIRE" markings, insert an "F" before the hyphen in the model number.

Add an "F" here

G4 **F**-S2
G4R **F**-S7VM

Note: 15/75 cd models provide fixed output and are not multi-candela devices. The 15 cd output component complies with UL1971, while the 75 cd output component complies with UL 1638. These models are available with FIRE marking only.

GE Security

U.S.
T 888-378-2329
F 866-503-3996

Canada
T 519 376 2430
F 519 376 7258

Asia
T 852 2907 8108
F 852 2142 5063

Australia
T 61 3 9259 4700
F 61 3 9259 4799

Europe
T 32 2 725 11 20
F 32 2 721 86 13

Latin America
T 305 593 4301
F 305 593 4300

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