

LIFE SAFETY \mathscr{G} INCIDENT MANAGEMENT

Ceiling Speakers, Speaker-Strobes

Genesis GC Series



Overview

The Genesis line of ceiling life safety and emergency communications speakers and speaker-strobes combine high performance output with a low profile design to deliver a life safety signal solution that's as versatile as it is effective. While they are designed to mount inconspicuously overhead, these devices are also rated for wall-mounted applications.

Clear-lens speaker-strobes are available in high and low candela models, which feature 15 to 95, or 95 to 177 cd output (see ordering information). Ceiling speakers feature ¼ W to 2 W operation, which allows devices to be easily fine-tuned to achieve maximum benefit in exchange for the lowest possible system overhead.

Light output and wattage tap settings are selectable with conveniently-located switches. Settings remain clearly visible even after final installation, yet they are locked in place to prevent unauthorized movement after installation.

High fidelity models meet the NPFA 520 Hz requirements for newly construced commercial sleeping areas. They also produce crisp, clear voice audio output that is highly intelligible over large areas.

These low-profile appliances feature textured housings in architecturally neutral white or eye-catching life safety red. Optional *ALERT* or *FIRE* markings make them ideal for applications that require differentiation between life safety and mass notification alerts.

Standard Features

High Fidelity 520 Hz speaker models available

Low frequency output meets NFPA standards for newly constructed commercial sleeping areas; increases sound fidelity and audio intelligibility.

- Field configurable no need to remove the device
 - Select ¼, ½, 1, or 2 watt operation
 - 15/30/75/95 cd and 95/115/150/177 cd models available
 - Switch settings remain visible even after the unit is installed
- Ideal for Mass Notification applications

- amber lens models available with optional ALERT markings

Unique low-profile design

- 30 per cent slimmer profile than comparable signals
- Available with white or red housings

Unparalleled performance

- loud 90 dBA output ensures clear, crisp audio
- Precision strobe timing meets UL synchronization standards
- 25 V_{RMS} and 70 V_{RMS} models available

Easy to install

- Fits all standard 4-inch square electrical boxes with plenty of room for extra wire – no extension ring or trim plate needed
- #18 #12 AWG terminals ideal for long runs, existing wiring

· Approved for public and private mode applications

- UL 1971-listed as signaling devices for the hearing impaired
- UL 1638-listed as protective visual signaling appliances
- UL 1480-listed as life safety speaker
- UL/ULC listed for ceiling or wall use

Strobe Application

Genesis strobes are UL 1971 or 1638 listed for indoor use. Prevailing codes require strobes to be used where ambient noise conditions exceed specified levels, where occupants use hearing protection, and in areas of public accommodation. Consult with your Authority Having Jurisdiction for details.

All Genesis strobes exceed UL synchronization requirements (within 10 milliseconds over a two-hour period) when used with a synchronization source. Synchronization for multiple strobe lights in a single field of view is required. See the Specifications table for compatible synchronization sources.

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.

Doubling the distance from the signal to the ear will theoretically cause a 6 dB 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 1 W to 2 W) will increase the sound pressure level by 3 dBA. A 3 dBA difference represents a barely noticeable change in volume.

Combination audible/visual signals must be installed in accordance with guidelines established for strobes.

High Fidelity Models

Genesis G4HF Series High Fidelity appliances provide highly intelligible voice audio output. They are also effective in areas subject to high levels of ambient noise. These appliances are approved for use in sleeping areas under conditions described below.

Sleeping Room Applications

Genesis GCHF Series High Fidelity appliances are ideal for hotels, dormitories, and other residential occupancies where audible output must meet the 520 Hz signaling characteristics required by NFPA 72.

In sleeping areas, always ensure that the wattage tap of the speaker is set sufficiently high so that the sound pressure reaches at least 75 dBA-fast at the pillow.

These appliances are part of an end-to-end audio system approved for use in sleeping areas when used in conjunction with approved audio hardware and a factory-supplied 520 Hz tone. Check the System Compatibility List for other 520 Hz signaling requirements.

NOTE: Speakers driven by third-party audio systems are not UL approved for use in sleeping rooms.

ALERT

Mass Notification Applications

Genesis Mass Notification appliances bring the same high-performance life safety features and unobtrusive design to mass

notification applications. Models are available with optional ALERT housing labels, which make them ideal for applications that require differentiation between life safety and mass notification alerts.

Application Notes - Canada

(Based in part on 1995 Canada National Building Code)

The 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 75 dBA when any intervening doors between the device and the sleeping room are closed.

Installation and Mounting

All models are intended for door ceiling or wall applications only. Speaker-strobes are mounted to a flush North-American 4" square electrical box, 2¹/₈" (54 mm) deep.

Genesis ceiling speakerstrobes simply unlatch and hinge down to open. This gains access to mounting screws and the selectable candela wattage tap switches. 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.

Installation Note:

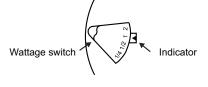
When installed, these devices are not centered on the electrical box. Make

sure boxes are mounted to compensate for this difference. Use the mounting template provided with installation sheet 3100614.

BOX

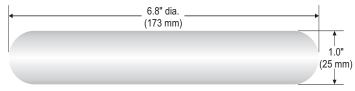
Field Configuration

Genesis ceiling speakerstrobes may be set for ¼, ½, 1, or 2 watt operation. Depending on the model, Genesis ceiling speaker-strobes have multi-candela output (see ordering information).



Output settings are changed by simply opening the device and sliding the switches to the desired settings. The speaker-strobe does not have to be removed to change the output settings. The settings remain visible through small windows on the front of the device after the cover is closed.

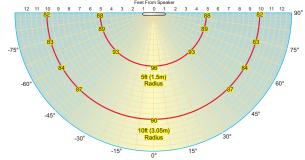
Dimensions



DATA SHEET **E85001-0641** Not to be used for installation purposes. Issue 1

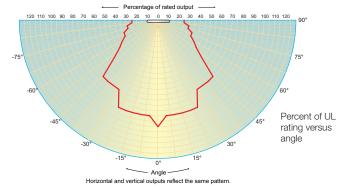
in-

Typical Sound Output (dBA)



Measured at 2 watts setting in anechoic chamber

Light output - (effective cd)



Sound Output	Setting (nominal)	Wattage (actual)	UL 1480 Rating	ULC-S541 Rating	Anechoic (nominal)		
520 Hz High Fidelity models (dBA) output at 3.05 m (10 ft.)							
	1⁄4 W	0.25 W	81.4	81.5	81		
25	1⁄2 W	0.50 W	84.5	84.3	84		
VRMS	1 W	1.00 W	88.2	87.2	87		
	2 W	2.00 W	90.0	90.1	91		
	1⁄4 W	0.25 W	81.5	81.9	81		
70	1⁄2 W	0.50 W	84.1	84.9	84		
VRMS	1 W	1.10 W	87.9	87.9	87		
	2 W	2.30 W	90.8	90.8	91		

Standard Hz models (dBA) at 3.05 m (10 ft.)

	1⁄4 W	0.25 W	81
25	1⁄2 W	0.50 W	84
VRMS	1 W	1.00 W	87
	2 W	2.00 W	90
	1⁄4 W	0.25 W	81
70	1⁄2 W	0.50 W	84
VRMS	1 W	1.00 W	87
	2 W	2.00 W	91

and Current Dra	D	С	В	Α			
Standard cd output models							
Operating	VDC	0.109	0.151	0.281	0.318		
current, RMS (A)	VFWR	0.131	0.194	0.379	0.437		
Light output (od)	Clear Lens	15	30	75	95		
Light output (cd)	Amber Lens	13	26	65	82		
High cd output n	nodels						
Operating	VDC	0.330	0.392	0.502	0.565		
current, RMS (A)	VFWR	0.432	0.518	0.643	0.693		
	Clear Lens	95	115	150	177		
Light output (cd)	Amber Lens	82	100	130	155		

VDC = Volts direct current, regulated and filtered

VFWR = Volts full wave rectified

Strobe Output

Operating currents shown above were measured at 16 VDC and 16 VFWR.

*Sound level output notes: dBA = Decibels, A-weighted. UL1480: Sound level output at 10 ft (3.05 m) measured in a reverberant room using 400 to 4,000 Hz band limited pink noise. ULC-S541: Meets or exceeds 85dBA in an anechoic chamber at 10 ft (3.05 m) on at least one setting per code. Directional characteristics: Within 6 dB of on-axis sound level when measured 90° off-axis (horizontal).

Current Draw

UL Nameplate Rating									
See note 1	"15" or "D"	"30" or "C"	"75" or "B"	"95" or "A"					
	RMS	RMS	RMS	RMS					
16 Vdc	109	151	281	318					
16 Vfwr	131	194	379	437					

Typical Current								
See note 1	"15" or "D"	"30" or "C"	"75" or "B"	"95" or "A"				
	RMS	RMS	RMS	RMS				
16 Vdc	94	140	273	325				
20 Vdc	74	108	205	244				
24 Vdc	63	90	168	194				
33 Vdc	48	70	124	139				
16 Vfwr	126	187	368	403				
20 Vfwr	108	156	281	333				
24 Vfwr	97	139	240	270				
33 Vfwr	89	119	197	214				

UL Nameplate Rating (high cd output models)								
"95" or "115" or "150" or "177" or "C" "B" "A"								
RMS	RMS	RMS	RMS					
330	392	502	565					
432	518	643	693					

Current Draw Notes

 Light output switch settings for UL 1971 listed models are selectable by numeric candela value. ECS/MNS appliances are selectable by A, B, C, or D designations.

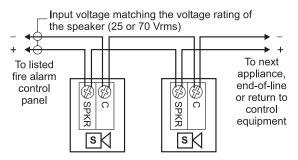
Candela switch setting

2. Current values are shown in mA.

pical Current (high cd output models)							
95 cd	115 cd	150 cd	177 cd				
RMS	RMS	RMS	RMS				
333	392	499	551				
259	303	378	429				
212	245	306	342				
155	180	211	236				
484	570	673	724				
380	438	537	604				
318	361	434	484				
245	269	308	338				

Wiring

Field wiring terminals accommodate #18 to #12 AWG (0.75 $\rm mm^2$ to 2.5 $\rm mm^2)$ wiring.



Specifications

Housing	Textured UV stabilized, color impregnated engineered plastic. Exceeds 94V-0 UL flammability rating. Red and white models available.
Mounting	Flush mount to North American 4-inch square electrical box, 2-1/8 (54 mm) inches deep, or 960A-4RF round flush box. No extension ring required. Suitable for indoor wall or ceiling applications.
Wire connections	Screw terminals: polarized inputs for speaker, #18 to #12 AWG (0.75 mm ² to 2.5 mm ²) wire size.
Operating environment	Indoor only: 32-120° F (0-49° C) ambient temperature; 0-93% relative humidity.
Agency listings and approvals, GC Models	Meets ULC-S541, year 2004 UL requirements for standards UL1638 and UL1971. Complies with UL1480 Fifth Edition. UL/ULC File Number: S2813. FM, MEA, CSFM approved. CSFM File Number: 7320-1657: 0211/0285. Speaker-strobes comply with ADA Code of Federal Regulation Chapter 28 Part 36 Final Rule.
Agency listings and approvals, Low Frequency GCHF Models	UL 464 Listed for low frequency signaling applications. Meets ULC-S541, year 2004 UL requirements for standards UL1638 and UL1971. Complies with UL1480 Fifth Edition. FM, MEA, CSFM pending. Speaker-strobes comply with ADA Code of Federal Regulation Chapter 28 Part 36 Final Rule.
Supervisory voltage	30 V max.
Speaker	
Operating Voltage	25 Vrms or 70 Vrms
Speaker response	400 to 4,000 Hz
Output	See table on previous page.
Strobe	
Light output	Field selectable. See table on previous page.
Operating current	See table on previous page.
Strobe output rating	UL 1971, UL 1638, ULC S526: selectable 15/30/75/95 cd (VM models) and 95/115/150/177 cd (VMH models)
Strobe operating voltage	16 to 33 VDC (24 VDC nominal) or 16 to 33 VFWR (24 VFWR nominal)
Strobe flash rate	One flash per second, default. Temporal setting (private mode only): synchronized to temporal output of Genesis audible signals on same circuit.
Synchronization	Meets or exceeds UL 1971 requirements. Maximum allowed resistance between any two devices is 20 Ohms. Refer to specifications for the synchronization control module, this strobe, and the control panel to determine allowed wire resistance.
Synchronization Sources	SIGA-CC1S, SIGA-MCC1S, SIGA-CC2A, SIGA-MCC2A, G1M-RM, BPS6A, BPS10A, APS6A, APS10A, iO Series, Fireshield Plus 3, 5 and 10 zone.
Lens	Optical grade polycarbonate.

Ordering Information

Model	High Fidelity (520 Hz capable)	Housing Color	Text Marking	Strobe Output	Speaker Voltage	Shipping Weight
Life safety Appliances						
GCHFRF-S2VMC	✓	Red				
GCHFWF-S2VMC	✓		FIRE			
GCF-S2VM		White		Selectable		
GC-S2VM				15, 30, 75, or 95 cd		
GCHFRN-S2VMC	✓	Red	None			
GCHFWN-S2VMC	✓	White				
GCHFRF-S2VMCH	✓	Red				
GCHFWF-S2VMCH	✓		FIRE	Selectable 95, 115, 150, 177		
GCF-S2VMH		White			25 Volt	
GCHFRN-S2VMCH	✓	Red			(Selectable	
GCHFWN-S2VMCH	✓		None		1/4, 1/2, 1, or 2 watt)	_ 1.62 lb. (0.73 kg.)
GC-S2VMH		White				
GCHFRF-S2	✓					
GCFR-S2		Red	FIRE			
GCHFWF-S2	✓	White				
GCHFRN-S2	✓	Red		Speaker only models		
GCHFWN-S2	✓			None		
GC-S2		White	None			
GCWN-S2						
GCHFRF-S7VMC	✓	Red				
GCHFWF-S7VMC	✓		FIRE			
GCF-S7VM		White		15, 30, 75, or 95 cd		
GCHFRN-S7VMC	✓	Red				
GCHFWN-S7VMC	✓	White	None			
GCHFRF-S7VMCH	✓	Red				
GCHFWF-S7VMCH	✓		FIRE			
GCF-S7VMH		White				
GCHFRN-S7VMCH	✓	Red		95, 115, 150, 177	70 V	
GCHFWN-S7VMCH	✓		None		(Selectable	
GC-S7VMH		White			1/4, 1/2, 1, or 2 watt)	
GCHFRF-S7	✓	Red				
GCFR-S7		Red				
GCHFWF-S7	✓		FIRE			
GCF-S7		White				
GCHFRN-S7	✓	Red		Speaker only models		
GCHFWN-S7	✓					
GC-S7		White	None			
GCWN-S7						



LIFE SAFETY & INCIDENT MANAGEMENT

Contact us...

Email: edwards.fire@fs.utc.com Web: <u>Edwards-fire.com</u>

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Ordering Information

Model	High Fidelity	Text Marking	Lens Color	Strobe Output	Speaker Voltage	Shipping Weight
	Fidelity	Marking	Color	Output	voitage	weight
Mass Notification Ap	pliances,	white hous	ings			
GCHFWA-S2VMA	✓	ALERT				
GCWA-S2VMA		ALLNI	Amber	13, 26, 65,		
GCHFWN-S2VMA	✓		Amber	or 82 cd		
GCWN-S2VMA		None				
GCWN-S2VMC				45 00 75		
GCHFWA-S2VMC	\checkmark		Clear	15, 30, 75, or 95 cd		
GCWA-S2VMC		ALERT		01 00 00	25 Volt	
GCHFWA-S2VMHA	✓	ALENI			(Selectable	
GCWA-S2VMHA		-	Amber	82, 100, 130,	1⁄4, 1⁄2, 1, or	
GCHFWN-S2VMHA	✓		Amper	or 155 cd	2 watt)	
GCWN-S2VMHA		None				
GCWN-S2VMHC		Clear 95, 115, 150, or 177 cd				
GCHFWA-S2VMCH	✓		Clear			
GCWA-S2VMHC						
GCHFWA-S2	✓	ALERT	Speaker only models			1.62 lb.
GCWA-S2						
GCHFWA-S7VMA	✓			13, 26, 65, or 82 cd		(0.73 kg.)
GCWA-S7VMA		ALERT	Ambor			
GCHFWN-S7VMA	✓		Amber			
GCWN-S7VMA		None				
GCWN-S7VMC						
GCHFWA-S7VMC	~		Clear	15, 30, 75, or 95 cd		
GCWA-S7VMC				01 95 CU	70 V	
GCHFWA-S7VMAH	√	ALERT			(Selectable	
GCWA-S7VMHA		1	Australia	82, 100, 130,	1⁄4, 1⁄2, 1, or	
GCHFWN-S7VMAH	√		Amber	or 155 cd	2 watt)	
GCWN-S7VMHA		None				
GCWN-S7VMHC		1				
GCHFWA-S7VMCH	✓		Clear	95, 115, 150, or 177 cd		
GCWA-S7VMHC						
GCHFWA-S7	✓	ALERT	Orrad			
GCWA-S7		1	Speake	er only models		

Accessories

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)

10-11-16