Introduction

Ceiling mount addressable speaker visible (S/V) notification appliances

Use the fire alarm control unit (FACU) IDNAC signaling line circuit (SLC) to individually power, address and control ceiling mount addressable S/V notification appliances. A separate compatible Simplex FACU audio NAC supplies audio. The electronic monitoring of wiring supervision means you can T-tap audio and IDNAC wiring for Class B wiring, which reduces wiring costs and wiring distances.

Install ceiling mount addressable S/V notification appliances on a standard 4 in. (101.6 mm) square 2 1/8 in. (53.97 mm) deep electrical box, provided by others, for flush installations. Install on a surface or weatherproof backbox, see Table 8 for surface or weatherproof (WP) installations.

Appliances are available in 400 Hz to 4000 Hz and 200 Hz to 10000 Hz high fidelity models. Select the appliance and cover separately to simplify the ordering and installation process. Model numbers ending in –BA are assembled in the USA.

Figure 1: Ceiling mount addressable S/V notification appliance



Features

General

- Separate appliances, covers, back boxes, and wire guards provide complete flexibility for meeting customers installation requirements.
- The TrueAlert device reports provide important appliance information details including point ID, custom label, type, and candela setting.
- Rugged, high impact flame retardant thermoplastic housings.
- The covers can be easily removed without disturbing the connected housing.
- Terminals for wiring sizes 18 AWG to 12 AWG.
- The appliance LED can be selected to display during each polling cycle indicating appliance supervision.
- Magnet test diagnostics to assist checkout and testing of appliances.
- Compatible with the Americans with Disabilities Act (ADA) requirements

IDNAC Signalling Line Circuit (SLC)

- Advanced addressable notification controlled by IDNAC SLCs provides regulated 29 VDC for low current operation even during battery backup conditions.
- The wiring supervision is electronically monitored and allows IDNAC SLC wiring to be T-tapped for Class B wiring, which provides flexibility in reducing wiring sizes and or distance, and which reduces costs for wiring installation.
- The strobe intensity can be selected within programming from the FACU.

Audio (speaker)

- The wiring supervision is electronically monitored and allows audio (speaker) wiring to be T-tapped for Class B wiring, which provides flexibility in reducing wiring sizes and or distance, and which reduces costs for wiring installation.
- High quality voice and tone reproduction with taps for 1/4 W, 1/2 W, 1 W, or 2 W at 25 VRMS or 70.7 VRMS.
- The audio (speaker) circuits are wired separately from IDNAC SLCs.
- High fidelity models (200 Hz to 10,000 Hz) are also available.
- Compliant with NFPA 72, 520 Hz Low frequency signal requirements for sleeping areas.
- Listed to UL 1480 and ULC S541*
- UL 1480 Reverberant dBA measurements (10 ft or 3 m)
- ULC S541 Anechoic dBA measurements (10 ft or 3 m)

Ceiling mount addressable speaker product selection

Table 1: Ceiling mount addressable speaker S/V appliances

Model	Description	Installation instructions
49SV-APPLC 49SV-APPLC-BA	S/V appliance only. If required, select a cover and surface or WP box separately.	579-1203

Table 2: High fidelity appliances

Model	Description	Installation instructions
49HFV-APPLC 49HFV-APPLC-BA	High fidelity S/V appliance only. If required, select a cover and surface or WP box separately.	579-1203

Table 3: High candela appliances

Model	Description	Installation instructions
49SVH-APPLC-BA 49SVH-APPLC	High candela S/V appliance only. If required, select a cover and weatherproof box separately.	579-1203

* Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co.

Table 4: High fidelity high candela appliances

Model	Description	Installation instructions
49HFVH-APPLC 49HFVH-APPLC-BA	High fidelity high candela S/V appliance only. If required, select a cover and surface/WP box separately.	579-1203
49HFVH-APLCA-BA	High fidelity high candela S/V appliance with amber colored lens. If required, select a cover and surface or WP box separately.	

Table 5: S/V covers, required when ordering APPLC models

Model	Color	Wording
49SVC-CRALT	Red	ALERT
49SVC-CWALT	White	
49SVC-CRBF	Red	FEU/FIRE
49SVC-CWBF	White	
49SVC-CRFEU	Red	FEU
49SVC-CWFEU	White	
49SVC-CRFBL	Red	FUEGO/FOGO
49SVC-CRFIRE	Red	FIRE
49SVC-CWFIRE	White	
49SVC-CRS	Red	Simplex logo only
49SVC-CWS	White	
49SVC-CK	Black	No logo or lettering

Weatherproof product selection

Table 6: Weatherproof ceiling mount addressable S/V appliances

Model	Description	Installation instructions
49SVH-APPLC-O 49SVH-APPLC-CO (Canada only)	S/V Appliance Only. Select a cover and surface or WP box separately	579-1241

Table 7: S/V covers, required when ordering APPLC-O models

SKU	Color	Wording
49SVC-CRALT-O	Red	ALERT
49SVC-CWALT-O	White	
49SVC-CRBA-O	Red	حريق/FIRE
49SVC-CRBF-O	Red	FEU/FIRE
49SVC-CWBF-O	White	
49SVC-CRFEU-O	Red	FEU
49SVC-CWFEU-O	White	
49SVC-CRFIRE-O	Red	FIRE
49SVC-CWFIRE-O	White	
49SVC-CRS-O	Red	Simplex logo only
49SVC-CWS-O	White	Simplex logo only

Table 8: Surface or WP back boxes

SKU	Color	Description	Installation instructions
49WPBB-SVCR	Red	Surface or WP back box in red	579-1240
49WPBB-SVCW	White	Surface or WP back box in white	

Table 9: Wire guards and wire guard back boxes

SKU	Description
49WGBB-SVCR-O	Wire guard back box, ceiling, red, WP
49WG-SVWCR	Wire guard, ceiling, red

Ceiling mount S/V specifications

Table 10: Non-weatherproof appliance general specifications

Specification	Rating
Dimensions	8 1/8 in. x 7 1/8 in. x 3in. (206 mm x 180 mm x 76 mm) (H x W x D)
Environmental	32°F to 120°F (0°C to 49°C); 10% to 93%, non-condensing at 104°F (40°C)
Connections	Terminal blocks for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2); two wires for each terminal for in/out wiring. Use unshielded twisted pair (UTP) for IDNAC and audio wiring.

Table 11: Weatherproof appliance general specifications

Specification	Rating
Dimensions	8 1/8 in. x 7 1/8 in. x 3in. (206 mm x 180 mm x 76 mm) (H x W x D)
Environmental	UL/ULC temperature rating, W110 CD/W135 CD/W185 CD: -40°F to 150.8°F (-40°C to 66°C) UL/ULC temperature rating for indoor and uncontrolled wet Public Mode - 110 CD: 32°F to 120°F (0°C to 49°C)
	FM temperature rating: -40°F to 120°F (-40°C to 49°C)
	UL/ULC humidity range: 95 %, non-condensing at 140°F (60°C)
Connections	Terminal blocks for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2); two wires for each terminal for in/out wiring. Use unshielded twisted pair (UTP) for IDNAC and audio wiring.

Table 12: Speaker audio specifications

Specification	Rating	
Input voltage	25 Vrms or 70.7 Vrms	
Power taps	1/4 W, 1/2 W, 1 W, and 2 W	
Frequency response	400 Hz to 4000 Hz (S/V, S/VH), 200 Hz to 10000 Hz (H/F, HF/VH)	General Signaling = 125 Hz to 12 kHz

Table 13: Speaker output ratings

Wattage tap	1/4 W		1/2 W		1 W		2 W	
Model	**S/V**	**H/F**	**S/V**	**H/F**	**S/V**	**H/F**	**S/V**	**H/F**
Reverberant chamber test, in accordance with UL 1480 (dBA)	79	76	83	80	86*	84	89*	87*
Anechoic chamber test, in accordance with ULC-S541 (dBA)*	79	78	83	82	86*	85*	89*	88*
* Select taps as indicated to satisfy the ULC fire alarm applications requirement of 85 dBA minimum								
Polar dispersion reference in accordance with ULC-S541 Anechoic Chamber Testing	**Attenuation**		**Angle**		**Attenuation**		**Angle**	
	-3 dB		70°		-6 dB		80°	

Table 14: Percentage of rated light

Angle	On-axis	Vertical, below axis		Horizontal, left/right of axis	
	0°	**45°**	**90°**	**45°**	**90°**
UL required output	100%	45%	25%	45%	25%
Typical output	327%	134%	83%	129%	47%

Table 15: IDNAC SLC specifications

Specification	Rating
Typical operating voltage range	23 VDC to 30 VDC, Special Application
Appliance voltage design reference	23 VDC (with 6 VDC drop)
Supervisory requirements	1 unit load (= 0.8 mA control unit current)
Flash rate and synchronized SLC loading	1 Hz; with up to 63 synchronized strobes maximum for each powered circuit, max 127 S/V appliances for each IDNAC channel
IDNAC SLC loading	Maximum of 127 addresses for each SLC, 139 unit loads. See device and compatible fire control unit installation instructions for circuit current load limits.
IDNAC SLC wiring specifications refer to the control unit installation instructions for more information	UTP, unshielded twisted pair recommended
	Maximum wire length allowed with T-taps for Class B wiring for each SLC = 10,000 ft (3048 m)
	Maximum wire length to any appliance = 4000 ft (1219 m). This can be doubled to 8000 ft (2438 m) by using a 4009 IDNAC Repeater.

Table 16: Current consumption**

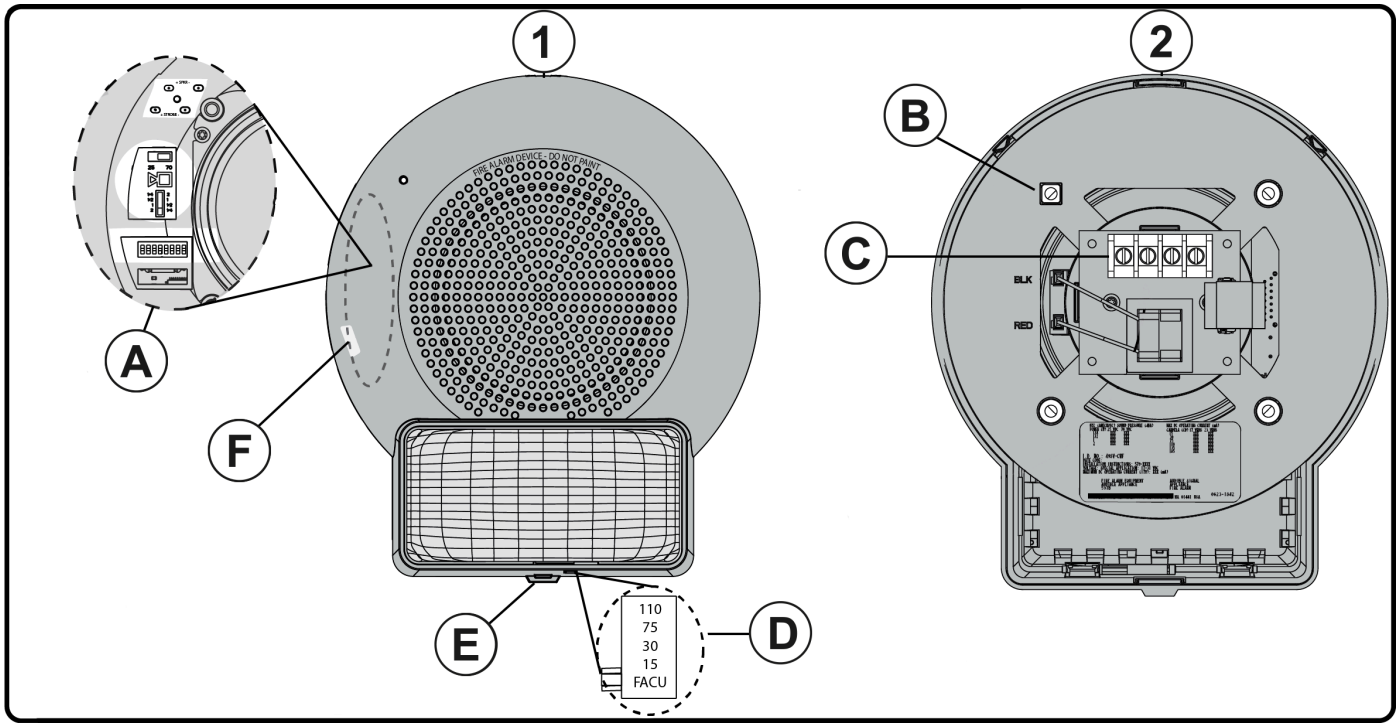
Candela setting	15 cd	30 cd	75 cd	110 cd	135 cd	185 cd
49SV and 49HFV models	59 mA	85 mA	171 mA	223 mA	N/A	N/A
49SVH and 49HFVH models	N/A	N/A	N/A	259 mA	281 mA	325 mA
Weatherproof SV appliances	N/A	N/A	N/A	Inside 110CD = 305 mA Outside 110CD = 308 mA	335 mA	398 mA
** Measured at 23 VDC on IDNAC Addressable SLC						
Speakers are for connection to compatible fire alarm audio circuits. Anechoic speaker output ratings are typically more representative of actual installed sound output.						

Table 17: Equipment compatibility references

Compatible equipment	Data sheet reference
4100ES with EPS+ or EPS Power Supply	S4100-0100
4009 IDNAC Repeater	S4009-0004
4100ES Flex 35 and 50 Watt Amplifiers	S4100-0034
4100ES 100 Watt Amplifiers	
4100ES Constant Supervision and Signal Cards	

Ceiling mount S/V installation reference

Figure 2: Installation reference



Callout	Description	Callout	Description
1	Appliance with cover, front	2	Appliance, rear
A	Appliance test points, audio circuit power taps, and address dip switch Set audio circuit power taps and device address before fixing cover in place.	B	Mount to 4 in. x 4 in. x 2 1/8 in. electrical box using 8-32 screws. Ceiling mount only.
C	Wiring terminals for speaker and strobe connections. These terminals accept two #12-18 AWG wires.	D	Candela flag setting Set flag to FACU to control candela rating from an FACU providing IDNAC notification. To set candela manually, set the flag to the desired candela rating.
E	Use slotted screwdriver here to remove cover.	F	Magnet test location indicated by area that is not textured.

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