

15W paging/re-entrant horn with transformer, grille, trim ring  
UL 1480 5th edition listed (U.S.A.)



Model #LUH-15T can be used with or without the (included) press-fit grille and trim ring. See pg. 5-6 for accessories and other models in the Unihorn series.

### features.

- **Description:** Ready-to-install re-entrant horn with weather-resistant housing is engineered for versatile labor-saving installation in brick, concrete block, plaster, drywall, or acoustic tile (indoors or outdoors, recessed or surface-mount). Dual capacitor circuitry and 105dB SPL (1W1M) make this model ideal for standard or supervised paging or signaling in fire alarm emergency warning systems and general voice communications. **Note that this model will not work on school intercom systems.**

- **Features:**

- 15W speaker
- 25/70V transformer (screwdriver-adjustable in front and rear)
- Self-contained aluminum housing with moisture-seal cover
- Contoured cast aluminum trim ring
- Fine perforation press-fit aluminum grille fits snugly for a hardware-free appearance, while helping to protect the front of the horn from nesting birds and insects.
- Network Grey powder epoxy finish.
- Provides clear intelligibility with high SPL output over the extended vocal range.

- **Installation:**

- Recessed or surface-mount (mounts in 4 inch deep spaces)
- Mounting dogs promote quick installation.
- Simple two-wire hookup through rear access cable clamp
- Indoors or outdoors in brick, concrete block, plaster, drywall, or acoustic tile
- Installs with clamps or screws in new or retrofit areas
- Installs with or without the (included) press-fit grille and trim ring
- Also accepts standard screw-mount grille for 8 in. speaker with 4 in. deep backbox (order separately).

- **Third Party Listings:**

- **U.S.:** UL1480 (5th edition) Listed for standard or supervised paging or signaling in fire alarm emergency warning systems and general voice communications in the U.S. Meets or exceeds requirements of UL1480 “Low Temperature Test” and “High Temperature Test.” Capable of operating within ambient temperature range of -40° to 151°F (-40° to 66°C).
- UL2043 suitability for use in return air plenum space
- California State Fire Marshall approved (see notification at left)
- **Canada:** CSA C22.2 No. 205-M1983 Listed for electrical safety only (not fire safety).



**NOTIFICATION:**

Model LUH-15T will no longer be listed with Calif. State Fire Marshall as of June 30, 2020.

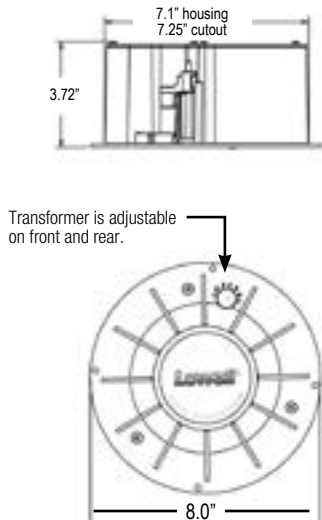
### LUH series overview

Model No.	Speaker Features / Capabilities			Assembly Includes			Applications		
	Driver	Transformer	8 ohm	Mounting Dogs	Trim Ring	Press-fit Grille	General Signaling & Paging	Fire Protective Signaling	Intercom Systems (25V only)
LUH-15T *	15W	25/70V	---	✓	✓	✓	✓	✓	---
LUH-15TA	15W	25/70/100V	✓	✓	✓	✓	✓	---	✓
LUH-15TX	15W	25/70/100V	✓	---	---	---	✓	---	✓

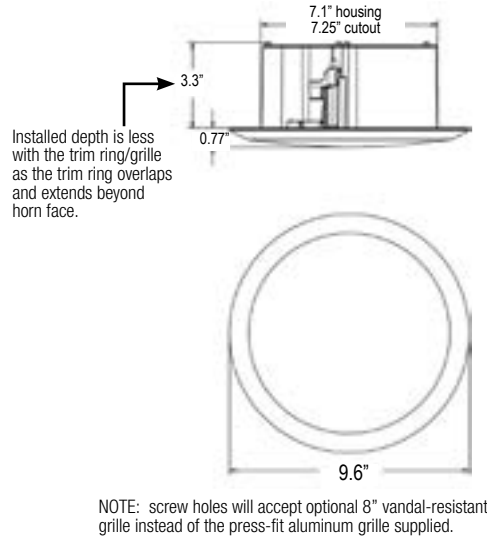
Assemblies that include a trim ring and press-fit grille may be mounted with or without them, depending on application. See page 4-5 for more help with model selection and accessories.  
\*Model LUH-15T has been discontinued.

### assembly

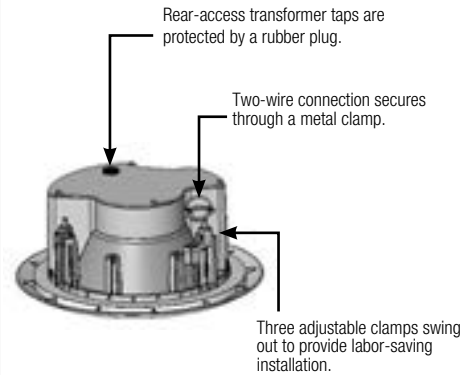
#### Assembly Without Trim Ring or Grille



#### Assembly with Trim Ring and Grille



#### Rear Connection



### Installation methods & accessories (UL approved)

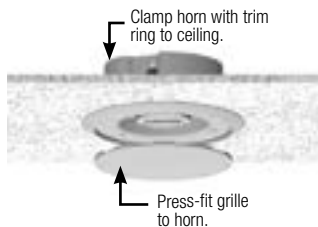
Installation Method	Grille	Backbox / Trim Plate	T-bridge
Open Installation	Press-fit aluminum grille* or no grille	N/A	N/A
Drywall	Press-fit aluminum grille	No backbox	N/A (existing drywall) LUH-RIB***
Lay-in Tile Ceiling	Press-fit aluminum grille	No backbox	#LUH-TBAR**
Masonry	Press-fit aluminum grille	#LUH-BOX (recessed) + #LUH-TP trim plate	N/A
Surface-mount	Press-fit aluminum grille	#LUH-BOX (surface)	N/A

\*Tighten dog ears to hold trim ring in place.

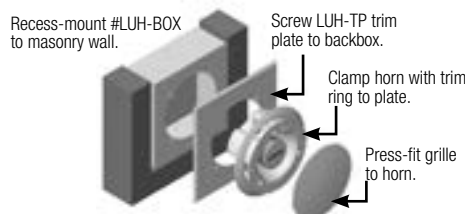
\*\*T-bridge recommended for acoustic tile ceilings.

\*\*\*LUH-RIB to rough-in before drywall is installed (N/A in existing drywall).

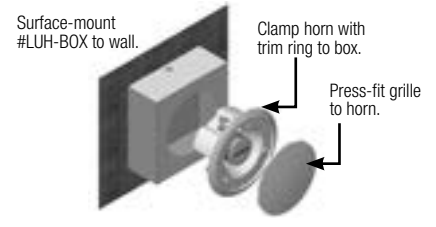
**Lay-in Tile Ceiling or Drywall:** horn with trim ring clamps to ceiling (tile bridge is recommended for acoustic tile). Grille press-fits to horn assembly. No visible screws.



**Masonry:** 10.5" square x 4"D stainless steel backbox mounts into masonry wall. LUH-TP trim plate screws to backbox. Horn with trim ring clamps to trim plate (trim ring covers screws). Grille press-fits to horn assembly.



**Surface-mount:** 10.5" square x 4"D stainless steel backbox surface-mounts to wall. Horn with trim ring clamps to box (ring covers unused screw holes). Grille press-fits to horn assembly.



### Installation methods & accessories (not evaluated or approved by UL)

Horn Model #LUH-15T will also accept optional vandal-resistant grille (No. LUH-VRG) or any standard 8" speaker grille; however, these options have not been evaluated by UL. The LUH-VRG grille installs with spanner-head screws and screwdriver. Standard grilles screw-mount to the horn and fit various backboxes (see individual product spec sheets for more information).

Installation Method	Grille	Backbox / Trim Plate	T-bridge
Open Installation	LUH-VRG vandal-resistant grille*	N/A	N/A
Drywall	LUH-VRG vandal-resistant grille	No backbox	N/A (existing drywall) LUH-RIB***
Lay-in Tile Ceiling	LUH-VRG vandal-resistant grille	No backbox	LUH-TBAR**
Masonry	LUH-VRG vandal-resistant grille	LUH-BOX (recessed) + LUH-TP trim plate	N/A
Surface-mount	LUH-VRG vandal-resistant grille	LUH-BOX (surface)	N/A

\*Tighten dog ears to hold trim ring in place.

\*\*T-bridge recommended for acoustic tile ceilings.

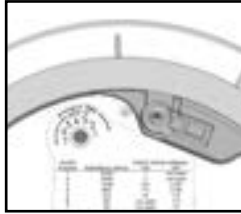
\*\*\*LUH-RIB to rough-in before drywall is installed (N/A in existing drywall).



### transformer settings



Adjustment from front.



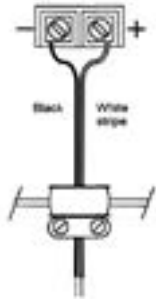
Adjustment from rear (under rubber plug).

Switch Position	Impedance	Watts@ 70V	SPL@10ft. 70V	Watts@ 25V	SPL @10-ft 25V
1	5000	0.9	94dB*	NOT USED	---
2	2500	1.8	97dB*	NOT USED	---
3	1300	3.8	100dB*	0.48	91dB*
4	666	7.5	103dB*	0.94	94dB*
5	333	15	106dB*	1.8	97dB*
6	89	DO NOT USE**	---	7.5	102dB*
7	45	DO NOT USE**	---	15	105dB*

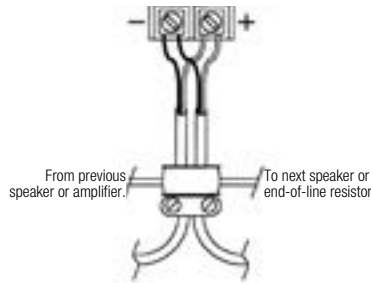
\* 3dB increment rating with a sweep sine-wave signal source 0 flat weight SPL meter.

\*\* **Note switch positions 6 and 7 ARE NOT USED on 70V applications.** They exceed capacity of the driver and transformer and could damage or destroy the driver and/or amplifier.

### connections

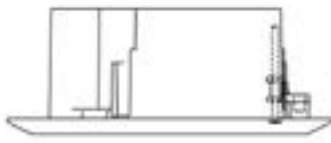


Model LUH-15T ships ready for hookup with a 2-conductor cable exiting through a rear cable clamp.

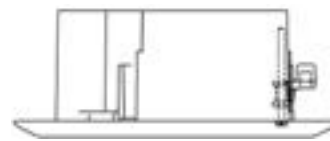


For supervised system applications, the LUH-15T is equipped with an internal series connected 250V DC blocking capacitor (10 uf NP) with maximum supervisory voltage of 100VDC. Connections for supervised systems typically utilize an "in/out" wiring scheme to maintain supervision on all wiring external to the loudspeaker connections. Requires removal of rear cover to access loudspeaker terminals.

### reversible mounting clamps (screwdriver-adjustable).



CLAMPS (as shipped): The out-of-box clamp position will accept depths of 0–1.5" (approx).



CLAMPS (reversed): The clamp position can be reversed by installer to accept depths of 1"–2.125" (approx).

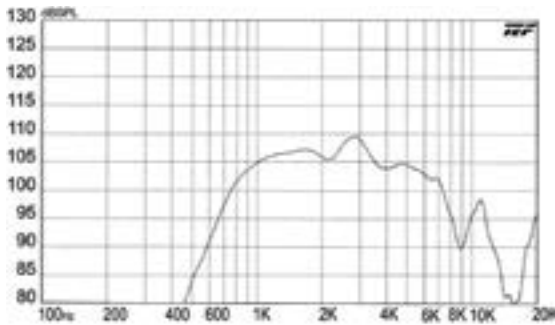
### physical.

Outside Size (horn housing)	7.1" (180mm) Dia. housing with 8" (203mm) Dia. face x 3.72" (94mm)D
Outside Size (horn with trim ring/grille)	7.1" (180mm) Dia. housing with 9.6" (244mm) Dia. trim ring/grille x 3.3" (84mm) D x .772" (19mm) Projection
Housing Material	Cast aluminum with gasketed rear cover
Trim Ring / Grille Material	Cast aluminum / perforated aluminum
Mounting Bolt Circle	7.625" (194mm) with 4 holes spaced to mount an E.I.A. 8" speaker grille.
Cutout Diameter	7.25" (184mm)
Net Weight	6 lbs (2.72kg)

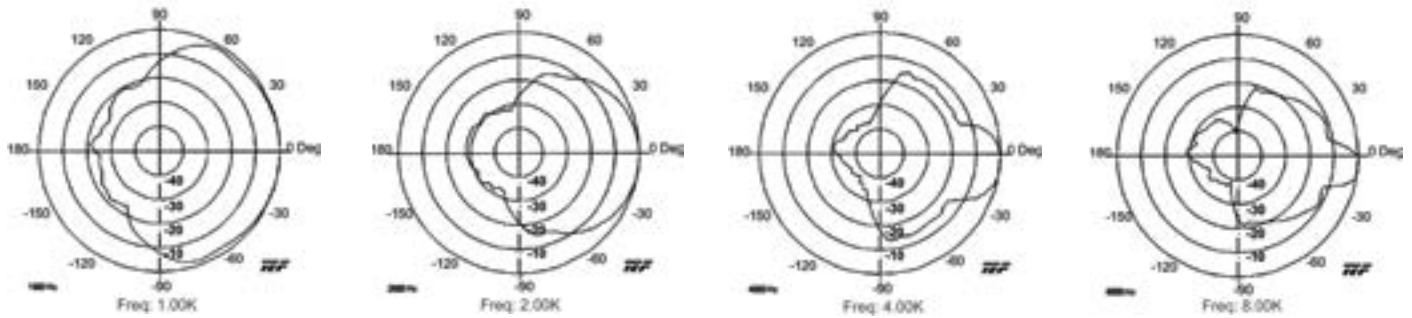
### performance

Power Handling, Nominal	15 watts RMS (nominal) measured per EIA Standard RS 426-B
Sensitivity	105dB SPL (avg) 1W/1M, 116.8dB SPL (max) 15W/1M calculation based on power rating and measured sensitivity.
Frequency Response	600Hz-12kHz (nominal), 740Hz-7.4kHz (±6dB)
Conical Dispersion Angle	80° @2000Hz octave (-6dB). Important: See Conical vs. Linear Dispersion Angles, pg. 4.
Impedance	5000, 2500, 1300, 666, 333, 89, 45 ohms
Transformer Taps	25V @ .48, .94, 1.8, 7.5, 15W; 70V @ .9, 1.8, 3.8, 7.5, 15W (adjustable front and rear. Rear features a rubber plug)
Capacitor	DC blocking series connected (10 uf NP)
Speaker Spacing	To determine speaker spacing, see the technical paper "Distributed System Speaker Spacing for the Integrator" available for free download at LowellMfg.com. An online spacing calculator is also available.

### spl vs frequency (1W/1M)



### polar data



### scope of performance & power tests

Lowell drivers and loudspeaker systems are tested to provide specifiers and contractors with data that reflects the performance of production products. Testing equipment includes the GoldLine TEF-20 analyzer (for performance measurements) and the LinearX LMS measurement system (for Thiele-Small Parameters).

**Power rating** is tested based on EIA Standard RS-426B.

**Frequency response data** is provided which is the measured frequency response range (defined by +6dB) which is useful in predictive engineering calculations.

**Sensitivity (SPL) data is presented in two ways:** Log Average SPL is a computer calculated log average of the SPL measured at 1 meter with 1 watt input over the stated frequency response range. Maximum SPL is calculated based on the measured log average SPL and the power rating of the speaker.

Thiele-Small Parameters for raw drivers are measured using the LinearX LMS measurement system. These parameters are useful in determining the optimum type and size of enclosure for a specific driver.

**Impedance data is presented in three ways:** Nominal Impedance is the generally accepted impedance for use in making comparisons with competitive products; the Impedance Curve is a graphical representation of the impedance that is measured in the lab and gives the impedance of the device over the audio frequency range; Minimum Impedance is the lowest impedance measurement at a frequency within the specified frequency response range of the speaker.

**Polar data** is presented for the averaged one octave band surrounding the center frequencies of 1000Hz, 2000Hz, 4000Hz, and 8000Hz. Radial polar response curves show the relative change in sound pressure level as one moves from directly on-axis to an increasingly off-axis listening position. Since coaxial speaker drivers are symmetrical in the vertical and horizontal directions, only one set of polar plots will be presented for coaxial drivers and speaker systems incorporating coaxial drivers.

**Dispersion Angles:** For more information on dispersion angles visit [lowellmfg.com](http://lowellmfg.com) to download the white paper "Distributed System Speaker Spacing for the Integrator" or try the online Speaker Spacer app for quick calculations.

- Conical Dispersion is the angle of coverage where the SPL at an equal distance from the speaker is no more than 6dB down from the on-axis value over the 2000Hz octave band. Conical Dispersion can be used to compare two speakers, if the conical dispersion is provided for each.
- Linear Dispersion is the angle of coverage where the SPL at the average listening height (where listeners' ears would be) is no more than 6dB down from the on-axis value over the 2000Hz octave band. Linear Dispersion is used to determine the proper speaker spacing in distributed speaker systems.

### a&e specifications . . . . .

The re-entrant horn loudspeaker shall be Lowell Model LUH-15T. It shall be a self-contained compression driver within an aluminum weather-resistant housing that can be installed into 4 in. deep spaces. Power rating shall be 15 watts continuous. Frequency response shall be 740Hz–7.4kHz (+/-6dB). Sound pressure level shall be 105dB (1W1M) average, 116.8dB SPL (max) 15W/1M calculation based on power rating and measured sensitivity. Dispersion shall be 80 degrees conical @2000Hz (-6dB). Unit shall include a 70/25V transformer with taps selectable on front and rear of horn. Horn shall include a connected DC blocking capacitor (10 uf NP) for supervised system applications and will ship ready for standard two-wire connection with cable exiting through a rear cable clamp. The housing shall be 7.1" dia. at its widest measure with an 8" dia. flat face. The assembly shall include an aluminum trim ring/grille that is 9.6" dia. with no visible hardware and neutral grey finish. The assembly shall mount using (3) screwdriver activated clamps that are adjustable for depths of 0-1.5" or 1-2.125" or can be mounted using screws (not included).

#### Optional Accessories:

- Using the supplied trim ring/grille, the horn shall clamp mount to recess/surface backbox Model LUH-BOX.
- Using vandal-resistant grille Model LUH-VRG, the horn shall clamp mount to recess/surface backbox Model LUH-BOX.
- For recessed applications trim plate Model LUH-TP shall also be specified.
- For acoustic tile applications tile bridge Model LUH-TBAR shall be specified.

### accessories (order separately). . . . .

NOTE: Unihorn Models LUH-15TA and LUH-15TX may be mounted to most industry standard 8" speaker grilles. That will not void the UL Listing.





### model selection — type of install

#### GENERAL SIGNALING:



**LUH-15TA includes:**

- 15W driver with transformer and tap selector
- Cast aluminum housing with mounting dogs
- Press-fit mesh grille with trim ring

- **Model #LUH-15TA** offers the greatest flexibility for 25V, 70V, 100V, or 8 ohm applications, as it includes a press-fit grille and trim ring that can be mounted or not, according to the needs of the project.

Location	Application	Accessories (required)	Accessories (optional)
Indoor	• Exposed	• LUH-BRKT (bracket) or custom rigging hardware	• LUH-VRG (grille)
	• Recessed (existing drywall)	-----	• LUH-VRG (grille)
	• Recessed (before drywall is installed)	• LUH-RIB (rough-in bridge)	• LUH-VRG (grille)
	• Recessed (drop tile ceiling)	• LUH-TBAR (t-bridge)	• LUH-VRG (grille)
	• Recessed (masonry)	• LUH-BOX-INT (backbox) & LUH-TP (trim plate)	• LUH-VRG (grille)
	• Surface-mount	• LUH-BOX-INT (backbox)	• LUH-VRG (grille)
Outdoor	• Exposed	• LUH-BRKT (U-bracket) or custom rigging hardware	• LUH-VRG (grille)
	• Recessed (masonry)	• LUH-BOX (backbox) & LUH-TP (trim plate)	• LUH-VRG (grille)
	• Surface-mount	• LUH-BOX (backbox)	• LUH-VRG (grille)



**LUH-15TX includes:**

- 15W driver with transformer and tap selector
- Cast aluminum housing

- **Model #LUH-15TX** is the economical choice for 25V, 70V, or 100V applications that do not require a press-fit grille, trim ring, or mounting dogs.

Location	Application	Accessories (required)	Accessories (optional)
Indoor	• Exposed	• LUH-BRKT (U-bracket) or custom rigging hardware	• LUH-VRG (grille)
	• Recessed (existing drywall)	• SQLK-8L (grille) & P875X-4 or P875X-6 (backbox)	• SS Series (support rails)
	• Recessed (before drywall is installed)	• SQLK-8L (grille) & P875X-4 or P875X-6 (backbox)	• SS Series (support rails)
	• Recessed (masonry)	• SQLK-8L (grille) & P875X-4 or P875X-6 (backbox)	-----
	• Surface-mount	• SQLK-8L (grille) & CB84 or CB86-6 (backbox)	-----
Outdoor	• Exposed	• LUH-BRKT (bracket) or custom rigging hardware	• LUH-VRG (grille)

#### FIRE PROTECTIVE SIGNALING:



**LUH-15T includes:**

- 15W driver with transformer and tap selector
- Cast aluminum housing with mounting dogs
- Press-fit mesh grille with trim ring

- **Model #LUH-15T** is for 25V or 70V applications that require fire protective signaling. It includes a press-fit grille and trim ring that can be mounted or not, according to the needs of the project.

Location	Application	Accessories (required)	Accessories (optional)
Indoor	• Exposed	• Custom rigging hardware	• LUH-VRG (grille)
	• Recessed (existing drywall)	-----	• LUH-VRG (grille)
	• Recessed (before drywall is installed)	• LUH-RIB (rough-in bridge)	• LUH-VRG (grille)
	• Recessed (drop tile ceiling)	• LUH-TBAR (t-bridge)	• LUH-VRG (grille)
	• Recessed (masonry)	• LUH-BOX-INT (backbox) & LUH-TP (trim plate)	• LUH-VRG (grille)
Outdoor	• Surface-mount	• LUH-BOX-INT (backbox)	• LUH-VRG (grille)
	• Exposed	• LUH-BRKT (U-bracket) or custom rigging hardware	• LUH-VRG (grille)
Outdoor	• Recessed (masonry)	• LUH-BOX (backbox) & LUH-TP (trim plate)	• LUH-VRG (grille)
	• Surface-mount	• LUH-BOX (backbox)	• LUH-VRG (grille)