

15W paging/re-entrant horn with transformer, grille, trim ring
ideal for school intercom systems (25V)



Model #LUH-15TA can be used with or without the (included) press-fit grille and trim ring. See pg. 4-5 for accessories and help with model selection.



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). For paging and general voice communications (25V, 70V, 100V or 8ohm). Ideal for school intercom systems (25V).
- **Features:**
 - 15W compression driver
 - 25V/70V/100V transformer (screwdriver-adjustable tap selector switch in front and rear)
 - Self-contained cast aluminum housing with moisture-seal cover
 - Contoured 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)
 - Installs with or without the (included) press-fit grille and trim ring
 - Reversible mounting dogs promote quick installation. *Note: Do not over-tighten.*
 - Simple two-wire hookup to the pigtail (in UL approved junction box) or through the waterproof gland-type cable fitting. (See instruction sheet.)
 - Indoors or outdoors in brick, concrete block, plaster, drywall, or acoustic tile
 - For retrofit applications, the horn will also accept a an E.I.A. standard grille for an 8 in. speaker and the UL Listing will remain valid.
- **Third Party Listings:**
 - UL1480A General Signaling (USA)
 - UL2043 suitability for use in return air plenum space (USA)
 - CSA C22.2 No. 205-12 General Signaling (Canada)

LUH series overview

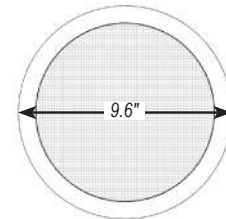
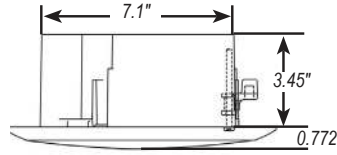
Model No.	Speaker Features / Capabilities			Assembly Includes			Applications		
	Driver	Transformer	8 ohm	Mounting Dogs	Trim Ring	Press-fit Grille	General Signaling & Paging	Fire Protective Signaling	Intercom Systems (25V only)
LUH-15TA	15W	25/70/100V	✓	✓	✓	✓	✓	---	✓
LUH-15TX	15W	25/70/100V	✓	---	---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

Assembly that includes trim ring and grille can be mounted with or without them, depending on application.
See page 4-5 for more help with model selection and accessories.



physical.

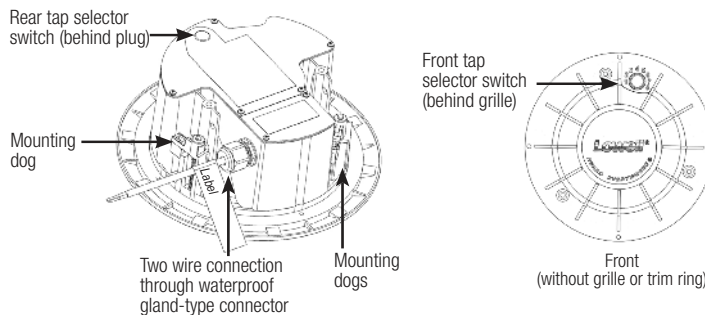
Material.....	Cast aluminum trim ring and housing (gasketed rear cover), perforated aluminum grille
Dimensions	<u>Housing:</u> 7.1" diameter housing with 8" diameter face x 3.72"D (180 x 203 x 94 mm) <u>Horn, trim ring & grille:</u> 7.1" diameter housing with 9.6" diameter trim ring/grille x 3.3" D x .772" projection (180 x 244 x 84 x 19 mm)
Mounting Bolt Circle.....	7.625" (194mm) with 4 holes spaced to mount an E.I.A. 8" speaker grille.
Cutout Diameter.....	7.25" (184mm)
Weight	4.9 lbs. (2.22kg)
Installed Depth.....	3.3"
Mounting Projection	0.772"
Housing Diameter	7.1"
Required Hole Diameter.....	7.25"



Front (with grille & trim ring)

connections

Using a screwdriver, adjust the transformer taps in the front before the grille is mounted, or in the rear by removing the protective rubber plug. Two-wire connection secures through a gland-type cable fitting.



reversible mounting clamps (screwdriver-adjustable).

Dog ear clamps ship positioned for 0-1.5" ceiling depth. Reverse dogs for 1.0"-2.125" ceiling depth.



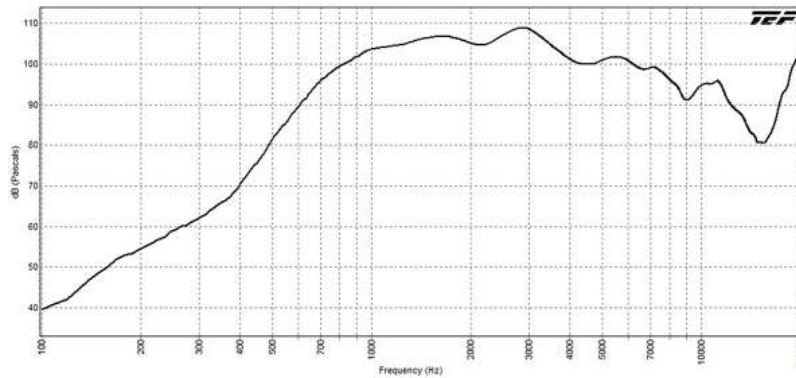
performance

Power Rating	15 watts RMS (measured per EIA Standard RS 426-B)
Frequency Response	740Hz-7.4kHz (+6dB)
Sensitivity	105dB 1W/1M (using 70V inputs)
Calculated Maximum SPL.....	116.8dB 15W/1M (based on power rating and measured sensitivity)
8ohm Input Impedance.....	Nominal 8 ohms, minimum 7.7 ohms @ 2343 Hz (8 ohm input terminals)
Transformer Input Impedance	5000, 2500, 1300, 666, 333, 133, 89, 45 ohms (nominal)
Transformer Power Taps	25V @ .13, .25, .50, 1.0, 1.9, 4.7, 7.5, 15W 70V @ 1.0, 2.0, 3.8, 7.5, 15W 100V @ 2.0, 4.0, 7.5, 15W
Voltage Input.....	25V, 70V, 100V selectable taps
Conical Dispersion Angle	80° conical @2kHz octave (-6dB).
Operating Temperature	The LUH-15TA has met or exceeded the requirements of the UL1480A "Low Temperature Test" and "High Temperature Test" and so is capable of operating within an ambient temperature range of -40°F(-40°C) to 151°F(66°C).

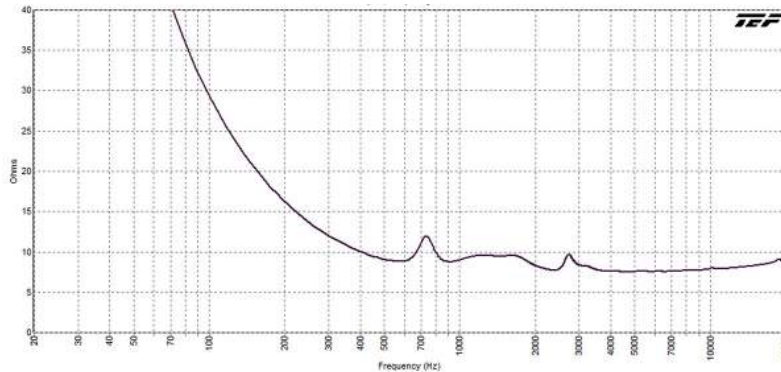
Speaker Spacing : To determine speaker spacing, see the technical paper "Distributed System Speaker Spacing for the Integrator" available for free download at LowellMfg.com. An online spacing calculator is also available.



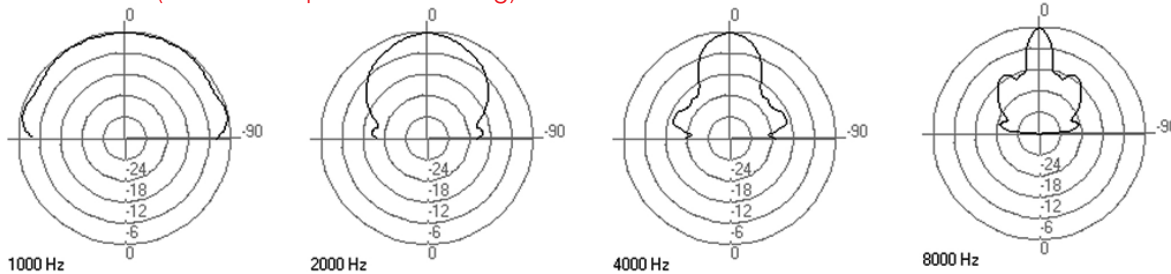
spl vs. frequency 1W/1M (8ohm input)



impedance (8ohm input)



polar data (180° half space mounting)



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 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.



selector switch positions

Switch Position	Nominal Impedance	Watts @25V	Watts @70V	Watts @100V
1	5000	.13	1.0	2.0
2	2500	.25	2.0	4.0
3	1300	.50	3.8	7.5
4	666	1.0	7.5	15
5	333	1.9	15	x
6	133	4.7	x	x
7	89	7.5	x	x
8	45	15	x	x

x = DO NOT USE. Switch positions 6,7,8 (for 70V applications) and 5,6,7,8 (for 100V applications) will exceed the power handling capacity of the driver and transformer and could destroy the driver, transformer, and/or amplifier.

a&e specifications

The re-entrant horn shall be Lowell Model LUH-15TA, which shall include a self-contained compression driver in aluminum weather-resistant housing that can be installed in 4 inch 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 100/70/25V transformer with taps selectable on front and rear of horn, and includes an 8ohm transformer bypass input. The horn will ship ready for standard two-wire connection with cable exiting through a rear waterproof gland-type connector. Housing shall be 7.1 in. diameter at its widest measure with an 8 in. diameter flat face. The assembly shall include an aluminum trim ring/grille (9.6 in. diameter) and have no visible hardware and neutral grey finish. The assembly shall mount using three screwdriver-activated clamps that are adjustable for depths of 0 to 1.5 in. (factory setting) or 1 to 2.125 in. (when dog ear clamps are reversed), or it can be mounted using screws (not included).

accessories (order separately).

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



LUH-VRG
vandal-resistant grille
cast aluminum
indoor / outdoor



LUH-BOX
recessed or surface box
stainless steel
indoor / outdoor



LUH-BOX-INT
recessed or surface box
cold rolled steel
indoor only



SQLK-8L
vandal-resistant security grille
cast aluminum
indoor only



P875X-4
4"D recessed box
cold rolled steel
indoor only



P875X-6
6"D recessed box
cold rolled steel
indoor only



LUH-BRKT
U-bracket
aluminum w/stainless steel
mounting hardware
indoor / outdoor



LUH-TP
trim plate
aluminum
indoor / outdoor



LUH-RIB
rough-in bridge
steel
indoor only



LUH-TBAR
tile bridge
galvanized steel
indoor only



CB84
4"D surface box
cold rolled steel
indoor only

Requires grille
#SQLK-8L



CB86-6
6"D surface box
cold rolled steel
indoor only

Requires grille
#SQLK-8L



model selection — type of install



- 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 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 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)

