

Model: WB8-8A50-T870

UL Listed Assembly: includes 8"/50W Speaker, Transformer & screw-mount Grille

Description:

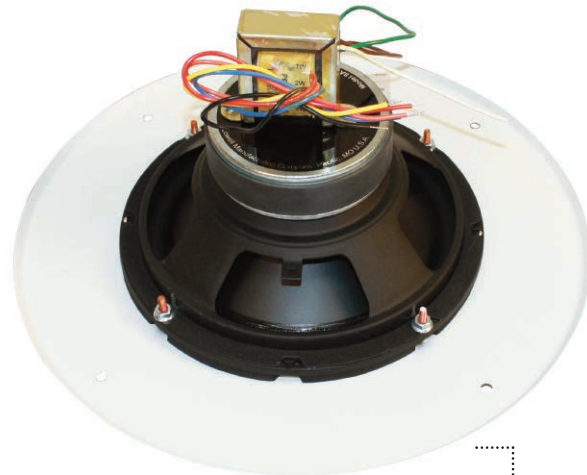
Assembly model WB8-8A50-T870 is listed under UL Standard 1480 – General Signaling, when used in conjunction with Lowell backbox model ULXCP87 (order separately). The assembly includes Lowell's premium coaxial 8" speaker (8A50), high-performance transformer (TLM870), and white screw-mount grille (WB8).

Assembly is UL Listed when used with Lowell backbox model ULXCP87.



Features:

- UL Listed Standard 1480 – General Signaling (when used with Lowell backbox model ULXCP87; order separately).
- UL2043 rated for use in plenum spaces.
- Speaker Model 8A50: From Lowell's premium A-series speaker line (engineered to provide a move up in sound quality and performance over standard commercial coaxial drivers), 8"/50W speaker model 8A50 meets the demand for very high quality music and paging in large/mid-size venues. It provides excellent sound quality for upscale restaurants, lounges, hotel lobbies, department stores and boutiques where a positive listening experience is key to customer satisfaction. The 8A50 provides improved power handling, lower distortion and smoother musical sound than most commercial coaxial drivers. It features a large, 20 oz. magnet coupled with a 1.4" copper voice coil driving a polypropylene cone with half-roll rubber surround for long cone travel and good edge damping. The post-mounted tweeter is a 1" balanced drive dome protected by Ferrofluid and a first order high pass filter. Frequency response is 40Hz-20kHz±6dB with a crossover at 4kHz. The speaker's capacity to deliver a wide angle of sound distribution (110°) over a large area with uniform response and voice clarity ensures complete coverage with minimum units. The frame is stamped 20-ga. steel with black enamel finish and zinc plated backplate.
- Transformer Model TLM870: The transformer has primary taps at 8, 4, 2, 1 watt and frequency response of 50Hz - 15kHz ±1dB. It's securely mounted to the top of the driver.
- Grille Model WB8: The driver/transformer is mounted to an attractive one-piece perforated steel grille with a white powder epoxy finish. The 12.875" dia. grille mounts to the backbox using four white Phillips-head screws (included). Order backbox separately.



Speaker/Grille Assembly Model

WB8-8A50-T870: includes speaker 8A50, transformer TLM870, and grille WB8. Important Note: To maintain UL Listing, this assembly must be used in conjunction with Lowell backbox model ULXCP87 (order separately).



Order Separately:

- Backbox Model ULXCP87: Required to maintain UL Listing on the above referenced assembly, this backbox features a flat grille mounting flange for recessed installation in new drywall construction or tile ceiling applications where plenum space for a large speaker system is limited. The 6.687"D acoustically trated backbox is made of welded, unitized heavy gauge steel, undercoated and lined with 1.5" thick acoustic batting to eliminate acoustic and metallic resonance. It measures 10.063" dia. x 6.687"D. The backbox has four combination 1/2" - 3/4" conduit knockouts, 8-32 screw retaining U-clips on the flange for grille installation, and a durable black powder epoxy finish.
- T-bridge Model LBS8 or LBS8-R1: A tile bridge is recommended to transfer the assembly weight to the ceiling grid for installations in tile ceilings.

A&E Specifications:

The UL Listed Standard 1480 General Signaling speaker assembly shall be Lowell model WB8-8A50-T870, which shall include 8" speaker (model 8A50) and attached 70V 8W transformer (model TLM870) mounted to white ceiling grille (model WB8). The driver shall be of the coaxial type having high and low frequency transducers. The low frequency section shall have an 8" dia. polypropylene cone and the high frequency section

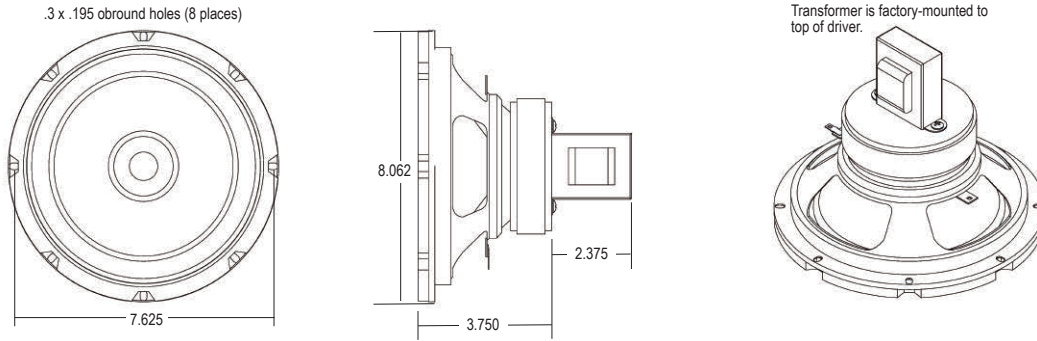
shall have a tweeter with a 1" balanced-drive dome. A built-in electrical crossover network shall be employed to accomplish proper frequency division between the two drivers. The crossover frequency shall be at 4kHz with a 1st order high-pass filter. It shall be capable of producing a uniform audible frequency response over the range of 40Hz-20kHz±6dB with a dispersion angle of 110° @ 2000Hz-6dB. The average sensitivity shall measure 90dB (SPL at 1W/1M). Rated power handling shall be 50 watts RMS. The low frequency voice coil shall have a 1.4" dia. and operate in a magnetic field derived from a ferrite (ceramic) magnet having nominal weight of 3.5 lbs. The high frequency voice coil shall have a 0.57" dia. and operate in a magnetic field derived from a ferrite (ceramic) magnet having a 2 oz. nominal weight. Voice coil impedance shall be 8 ohms. The frame shall be structurally reinforced stamped 20-ga. steel with an overall diameter of 8.08" with eight obround holes equally spaced at 45° on a 7.7" diameter mounting bolt circle. All external metal parts shall be finished in black enamel coating or zinc plating to resist rust and corrosion. The transformer shall have primary taps at 8, 4, 2 and 1 watt and frequency response of 50Hz - 15kHz ±1dB. It shall be factory-mounted to top of driver. The driver/transformer shall be mounted to a one-piece perforated steel grille model WB8. The 12.875" dia. grille shall be finished in white powder epoxy and mount with four 8-32 x 1.5" white screws. The assembly shall be used in conjunction with Lowell backbox model ULXCP87 (ordered separately) to maintain UL Listing.

Model No.	Description	Driver No.	Transformer No.	Grille No.
WB8-8A50-T870	UL Listed speaker/grille assembly with transformer	8A50	TLM870	WB8

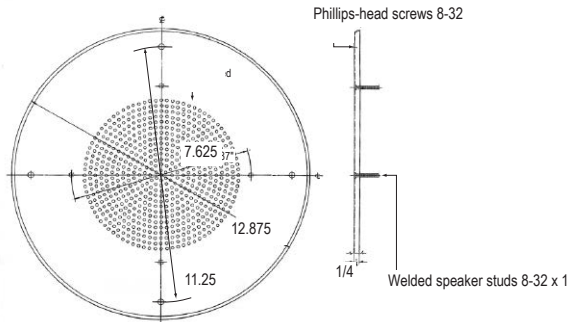
NOTE: To maintain UL Listing, assembly must be used with Lowell backbox model no. ULXCP87 (order separately)

Assembly Model: WB8-8A50-T870

Speaker/Transformer:



Screw-mount Grille:



Transformer:

Mounted Xfmr	Xfmr Power Rating	Xfmr Primary (Pri)	Xfmr Taps (Pri)	Xfmr Response	Xfmr Insertion Loss
TLM870	8W	70V	1, 2, 4, 8W	50Hz - 15kHz \pm 1dB	0.8dB

PERFORMANCE

Power Handling	50 watts RMS (nominal) measured per EIA Standard RS-426A (70W in a 1/2 cu.ft. backbox)
Sensitivity	90dB log average SPL (1W/1M) 107dB maximum SPL (calculated based on power rating and measured sensitivity)
Impedance	8 ohms (nominal), 8 ohms @180Hz (minimum)
Frequency Response	40Hz-20kHz (nominal), 40Hz-20kHz (\pm 6dB)
Crossover Frequency	4000Hz, 1st order high-pass filter
Dispersion Angle	110° @ 2000Hz octave (-6dB)

PHYSICAL - WOOFER

Cone Material	Polypropylene with rubber half-roll (up) surround
Magnet Weight, Material	20oz. (567g), strontium ferrite ceramic
Voice Coil Diameter, Material	1.4 inch (36mm), copper wire over aluminum former
Terminals	Quick disconnect type - spade lugs

PHYSICAL - TWEETER

Diameter	2.05 inch (52mm) housing with 1 inch (26mm) Dia. balanced-drive dome
Magnet Weight, Material	2oz. (57g), ceramic
Voice Coil Diameter, Material	0.53 inch (13.5mm), copper wire and ferrofluid

MECHANICAL

Basket	20 gauge stamped steel with black enamel finish
Outside Diameter	8.08 inch (205mm)
Mounting Bolt Circle	7.625 inch (195mm) with 8 obround holes equally spaced at 45 degrees.
Cutout Diameter	7.2 inch (182mm)
Mounting Depth-Driver	3.85 inch (94mm)
Mounting Depth-Driver/xfmr	6.25 inch (159mm)
Net Weight-Driver	3.5 lbs. (1.6kg)
Net Weight-Driver/xfmr/grille	4.6 lbs. (2.09kg)

THIELE-SMALL PARAMETERS

Pe50W	Qts0.68	BL7.5Tm	Sd33.2 in ² , 214cm ²
Fs52Hz	Qes0.87	Efficiency, h0.47%	Mms20.6g
Xmax0.21 in., 6mm	Qms3.1	Vas29.2 liters, 1782 cu.in	Cms0.45mm/N
Re7.2W			

Scope of Lowell 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 Handling capability 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 8-ohm power rating of the speaker. Maximum SPL for loudspeakers which do not include an 8 ohm input, is calculated based on the measured log average SPL and the highest transformer power tap.

Dispersion Angle is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2000Hz octave band. Since speech intelligibility is very dependent upon the 2000Hz octave, this specification is quite useful in designing speech reinforcement systems that provide even coverage and speech intelligibility.

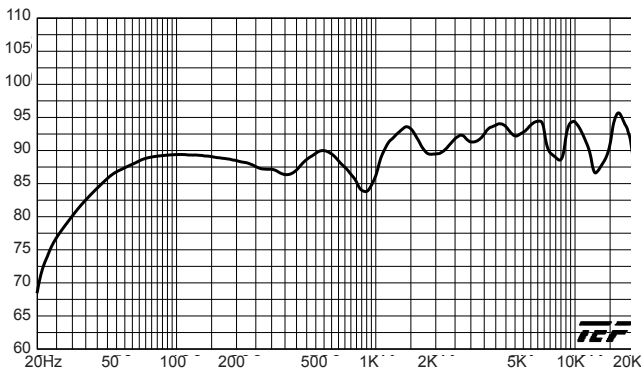
Thiele-Small Parameters for raw drivers are measured using the LinearX LMS measurement system. These parameters are useful in determining the optimum type and size of enclosure for a specific driver.

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. If a line matching transformer is included in the speaker assembly, relative impedance curves of the primary windings of the transformer when loaded by the driver may be shown.

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. Vertical and horizontal polar plots will be presented for two-way speaker systems that incorporate separate low frequency and high frequency drivers.

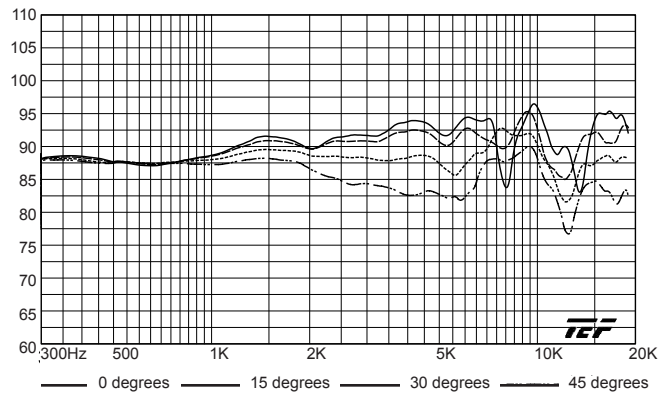
SPL vs. Frequency

1W / 1M, On Axis (half space, driver only)



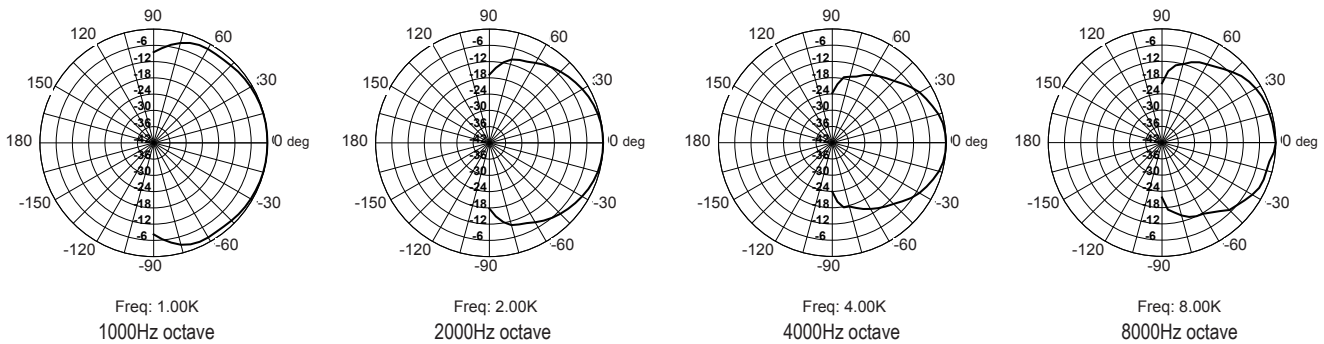
SPL vs. Frequency

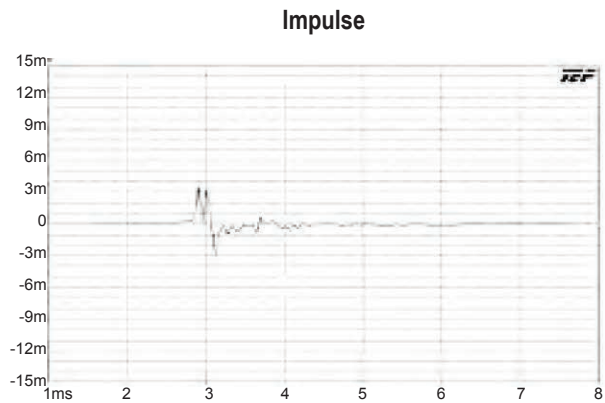
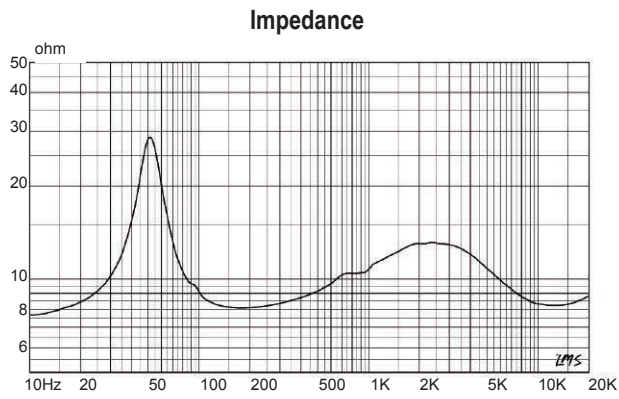
1W / 1M, Off Axis (half space, driver only)



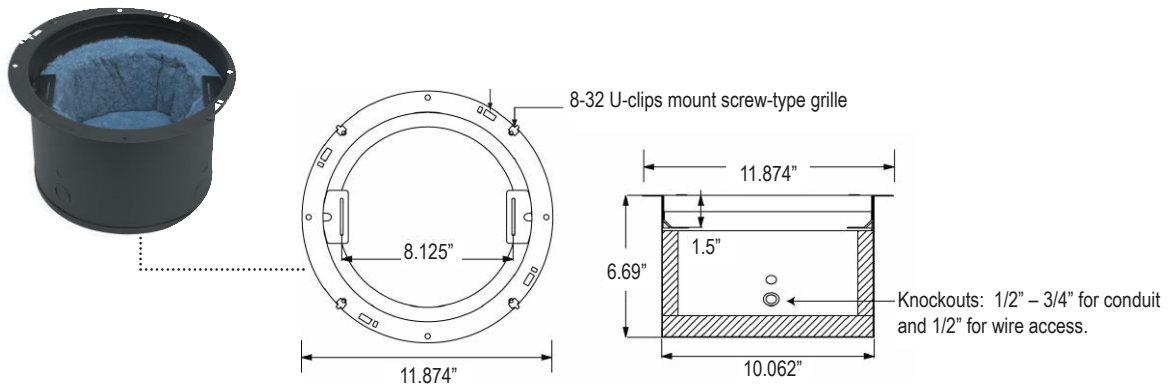
Polar Data

(half space, driver only)





Backbox Model ULXCP87: is required for UL Listing. Order separately.



Optional T-bridge: recommended for tile ceilings. Order separately.



LBS8-R1

Optional T-Bridge:

LBS8-R1 23.75"L with 10.75" diameter round opening for screw-mount