

# OS Series

Two-Way Loudspeaker  
for indoor or protected outdoor applications

## INCLUDES:

- 5-1/4 inch 50W driver
- 8 ohm / transformer selector switch
- Molded plastic enclosure (black or white)
- Aluminum grille (black or white)
- U-bracket (black or white)



Adjustable  
U-bracket  
allows vertical  
or horizontal  
installation

THIS LOUDSPEAKER is ideal for commercial or residential applications that require indoor or protected (covered) outdoor music. Includes driver, 8 ohm / transformer selector switch, molded plastic enclosure, aluminum grille and U-bracket. Available in black or white.

## FEATURES

**PERFORMANCE:** The two-way speaker provides excellent sound reproduction at 8 ohms, 25V, 70V or 100V for foreground music in indoor or protected outdoor installations.

**DRIVER:** 5-1/4 inch polypropylene coated woofer with rubber surround for weather resistance and 1/2-inch PEI tweeter for accurate sound reproduction.

- 50W power rating with 115° H x 115° V conical dispersion, frequency response of 102Hz-16.5kHz (±6dB) and average sensitivity of 85.4dB measured 1W/1M.

**8 OHM / TRANSFORMER SELECTOR SWITCH:** Back of speaker has a screwdriver-adjustable switch that allows direct 8 ohm or distributed 25V, 70V or 100V tap positions.

- Tap positions for 25V line: 0.23, 0.47, 0.94, 1.9W
- Tap positions for 70V line: 1.9, 3.8, 7.5, 15W
- Tap positions for 100V line: 3.8, 7.5, 15W

**ENCLOSURE:** Molded plastic enclosure.

- 1/4-20 threaded mounting points on three-inch centers allow the use of alternate brackets (see Accessories).

**U-BRACKET:**

- Factory-installed adjustable aluminum bracket allows vertical or horizontal installation.
- 90 degree rotation
- Mounting slots align with single gang outlet box (not included)

**GRILLE:** Fine mesh powder-coated aluminum grille.

**CONNECTIONS:** Connections are made using stranded wire (up to 14-gauge) to a removable four-conductor Phoenix connector that's protected by a weather-resistant terminal cover and rubber grommet, which can be removed if larger wire is used.

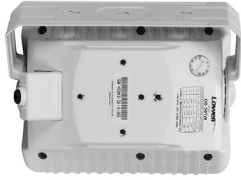
**FINISH:** Black or white

**ACCESSORIES (OPTIONAL):**

- **Brackets (by others):** The mounting bolt pattern on the enclosure matches load-rated mounting brackets made by others, such as Adaptive Technologies Group or Omni-mount. Verify the mounting bolt pattern alignment and weight load rating with the bracket manufacturer before using it with this speaker.

## FEATURES

OS-50-TW



OS-50-TB



**VERSATILE U-BRACKET INSTALLATION:** The factory-mounted U-bracket has mounting slots that line up with a single gang outlet box (not included). The bracket can accommodate vertical or horizontal installation.



**TERMINAL COVER:** Incoming wire enters through the weather-resistant terminal cover and is protected by a rubber grommet. Maximum recommended wire size is 14AWG stranded. *Note: The grommet can be removed if larger wire sizes are used.*



**PHOENIX-TYPE CONNECTOR:** Wire connects to the four-conductor removable Phoenix-type connector. Parallel dual terminals (+/-) are provided to terminate incoming and outgoing wiring.

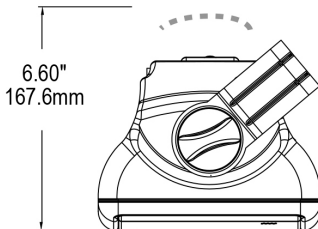
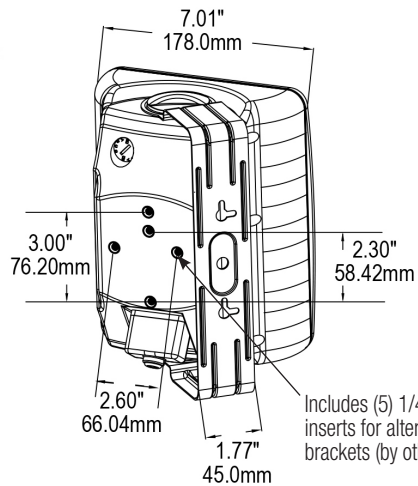
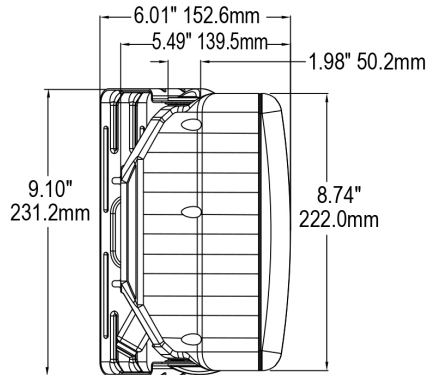
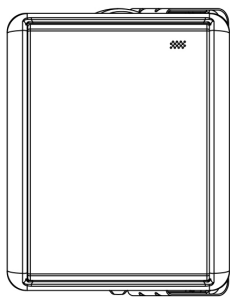


**8 OHM / TRANSFORMER SELECTOR SWITCH:** When the selector switch is in the 8 ohm position, the transformer is disconnected internally and the speaker power rating is 50W. When the switch is in position A-D, speaker power is determined by the driving voltage as shown in the table on the rear of the speaker.

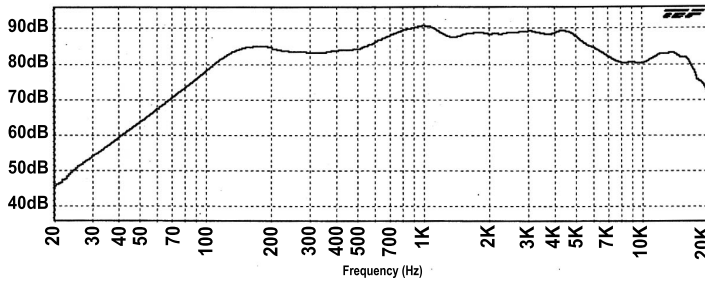
Tap	25V line	70V line	100V line
A	1.9W	15W	Do Not Use
B	0.94W	7.5W	15W
C	0.47W	3.8W	7.5W
D	0.23W	1.9W	3.8W

## TECHNICAL DRAWINGS

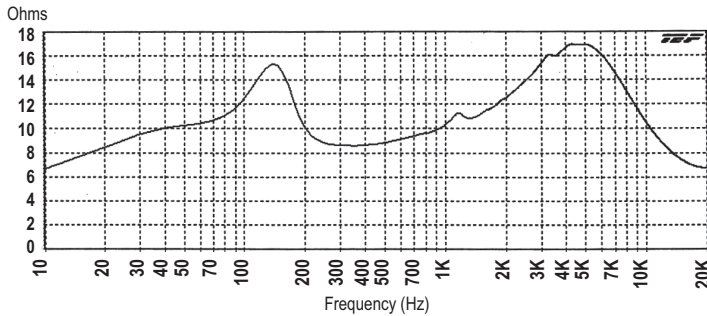
Dimensions are provided in inches and mm.



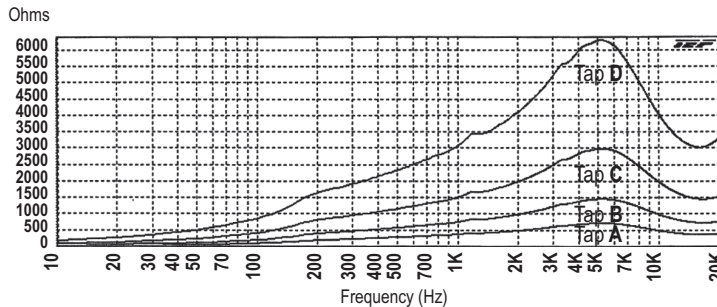
## SPL VS. FREQUENCY (1W/1M)



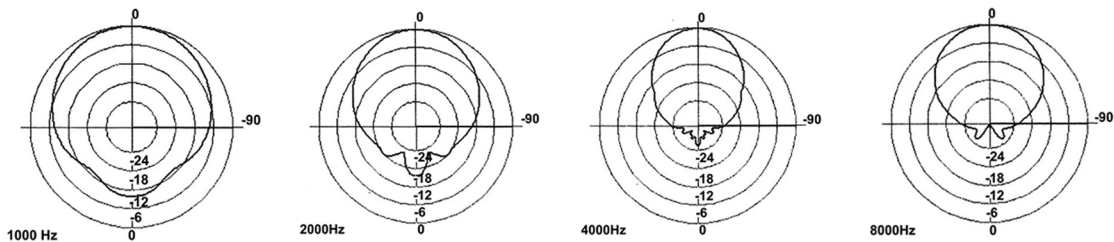
## IMPEDANCE (8 OHM)



## IMPEDANCE (SWITCH A-D)



## POLAR DATA



TEST METHODOLOGIES: Lowell speaker systems are thoroughly tested to provide specifiers and contractors with accurate data. Test equipment includes the Gold Line TEF-20 analyzer.

- **POWER HANDLING:** specification is based on E.I.A. Standard RS-426B.
- **FREQUENCY RESPONSE:** describes the usable response range defined by a  $\pm 6$ dB window, which is useful in predictive engineering calculations.
- **SENSITIVITY:** is a computer calculation of the log average sound pressure level (SPL) over the entire engineering bandwidth as given in the Frequency Response ( $\pm 6$ dB).
- **MAXIMUM SPL:** is calculated based on the Power Handling and the measured log average Sensitivity where Maximum SPL = (Sensitivity @ 1W/1M) + 10 log (Power Handling).
- **DISPERSION ANGLE:** is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2kHz octave band. Since speech intelligibility is dependent upon the 2kHz octave, this specification is useful in designing voice reinforcement and music systems that provide even coverage and intelligibility. The polar plots illustrate how the system performs when hung in free space (360°) or half-space (180°) in the case of a recessed speaker.

## TECHNICAL DATA

Dimensions without bracket . . . . . 8.74-in. x 7.01-in. x 5.49-in. D

Dimensions with U-bracket . . . . . 9.10-in. x 7.01-in. x 6.01-in. D

Weight . . . . . Net Wt. 4.9 lbs.; Shipping Wt. 5.4 lbs.

Power Handling . . . . . 50 watts RMS measured per EIA Standard RS-426B at 8 ohms

Sensitivity . . . . . 85.4dB SPL (avg) measured 1 Watt at 1 Meter  
102.4dB SPL (max) calculated 50 Watts at 1 Meter

Frequency Response . . . . . 102Hz–16.5kHz (±6dB), 89Hz-20kHz (±7.5dB)

Impedance . . . . . 8 ohms (nominal), 8.3ohms@322Hz (minimum)  
Impedance readings expected from typical 1kHz impedance meter: Setting for 8 ohms = 10.3 ohms,  
Setting A = 400 ohms, Setting B = 800 ohms, Setting C = 1600 ohms, Setting D = 3200 ohms

Dispersion . . . . . 115° H x 115° V conical dispersion @2000Hz octave (-6dB). This measurement is used for comparison  
with other speakers. See the white paper "Distributed System Speaker Spacing for the Integrator" for  
help with speaker spacing (available online at [www.lowellmfg.com](http://www.lowellmfg.com)).

Input Terminals . . . . . Phoenix type connector with weather protective boot (14AWG stranded wire max.)

## A&E SPECIFICATIONS

The speaker for indoor or protected (covered) outdoor foreground music shall be Lowell model OS-50T\_\_\_\_, which shall have a 5-1/4 inch polypropylene coated woofer, 1/2-inch PEI tweeter, 50W power rating, and screwdriver-adjustable switch for direct 8ohm or distributed 25V, 70V or 100V applications. It shall have a frequency response of 102Hz-16.5kHz (±6dB) and sensitivity of 85.4dB measured 1W/1M. Housing shall be molded plastic with fine mesh aluminum grille and \_\_\_\_\_ (black / white) finish. It shall include an adjustable U-bracket for vertical or horizontal installation with slots for mounting to a single gang electrical box (not included). The speaker shall measure 8.74" x 7.01" x 5.49"D without bracket; 9.10" x 7.01" x 6.01"D with U-bracket, and weigh 4.9 lbs. Housing shall be equipped with 1/4"-20 threaded inserts on 3" centers to accommodate alternate brackets (ex. Adaptive Technologies bracket model MM-008-BT).

## OS SERIES OVERVIEW

Model No.	Driver	Selectable Transformer	Enclosure	Grille	Color	Application	Driver Specs (measured half space)		
							Sensitivity*	Frequency Response	Dispersion**
OS-50-TB	5-1/4" 50W two-way	8ohm or 25V, 70V, 100V	plastic	aluminum	black	wide dispersion voice/music	85.4 dB	102Hz–16.5kHz (±6dB)	115°
OS-50-TW	5-1/4" 50W two-way	8ohm or 25V, 70V, 100V	plastic	aluminum	white	wide dispersion voice/music	85.4 dB	102Hz–16.5kHz (±6dB)	115°

\* Average Sensitivity: SPL @ 1W/1M; \*\* Equal horizontal and vertical conical dispersion @ 2kHz octave (-6dB)

**Note on Speaker Spacing:** Conical dispersion measurements are provided for comparison with other speakers. To determine correct speaker spacing, see the technical paper "Distributed System Speaker Spacing for the Integrator" (free download at [www.Lowellmfg.com](http://www.Lowellmfg.com)) which explains the difference between conical and linear dispersion and the measurements to use for best results. For quick calculations, a speaker spacing calculator is also available online under [Resources / Interactive Tools](#).

