

ships ready for surface-mount installation  
indoor or protected outdoor use



features . . . . .

- **Description:** For commercial or residential applications, the OS speaker's compact assembly with 100W power rating meets specifications for high quality indoor or protected (covered) outdoor music applications. The two-way speaker provides excellent sound reproduction at 8ohms, 25V, 70V or 100V.
- **Driver:**
  - 6.5" mica coated woofer with rubber surround and 1" silk-domed tweeter for accurate sound reproduction.
  - 100W power rating with frequency response of 97Hz-20kHz ±6dB and average sensitivity of 87.8dB measured 1W/1M.
- **Transformer:**
  - The back of the speaker features an 8ohm/ transformer selector switch.
  - The screwdriver-adjustable switch allows for direct 8ohm or distributed 25V, 70V or 100V tap positions. See pg. 4 for tap selections.
- **Enclosure & Grille:**
  - Molded plastic housing with fine mesh aluminum grille. White.
  - Weather-resistant terminal cover
- **Mounting Aids:**
  - Each speaker features a factory-installed, adjustable U-bracket that allows 90 degree rotation (horizontal or vertical, depending on how it's mounted) for surface installation to a single gang electrical box (not included).
  - The enclosure's 1/4"-20 threaded mounting points on 3" centers allow the use of alternate brackets. See Optional Accessories.
- **Connections:**
  - Connections are made using stranded wire (up to 14-gauge) to a removable 4-conductor Phoenix connector protected by a weather-resistant terminal cover and rubber grommet, which can be removed if larger wire is used.
- **A&E Specifications:**
  - The speaker for indoor or protected (covered) outdoor use shall be Lowell Model #OS-100-TW, which shall have a 6.5" mica coated woofer with 1" silk domed tweeter, 100W power rating, and screwdriver-adjustable selector switch for direct 8ohm or distributed 25V, 70V or 100V applications. The speaker shall have a frequency response of 97Hz-20kHz (±6dB) and sensitivity of 87.8dB measured 1W/1M. Housing shall be molded plastic with fine mesh aluminum grille and white finish. The assembly shall include an adjustable U-bracket for vertical or horizontal installation and slots for mounting to a single gang electrical box. The speaker shall measure 10.83"H x 8.66"W x 6.62"D (without bracket), 11.15"H x 8.66"W x 8.5"D (with included U-bracket) and weigh 7.35 lbs. The housing shall be equipped with 1/4"-20 threaded inserts on 3" centers to accept optional brackets (Lowell omni-directional bracket #OS-BRKT-W or Adaptive Technologies MM-008-BT bracket).
- **Optional Accessories:**
  - Lowell #OS-BRKT-W omni-directional bracket (white).
  - The 1/4"-20 threaded insert mounting bolt pattern on the rear of the speaker matches load-rated commercial speaker mounting brackets made by others, such as Adaptive Technologies Group or Omnimount. Verify the mounting bolt pattern alignment and the weight load rating with the bracket manufacturer before using another bracket to mount this speaker.

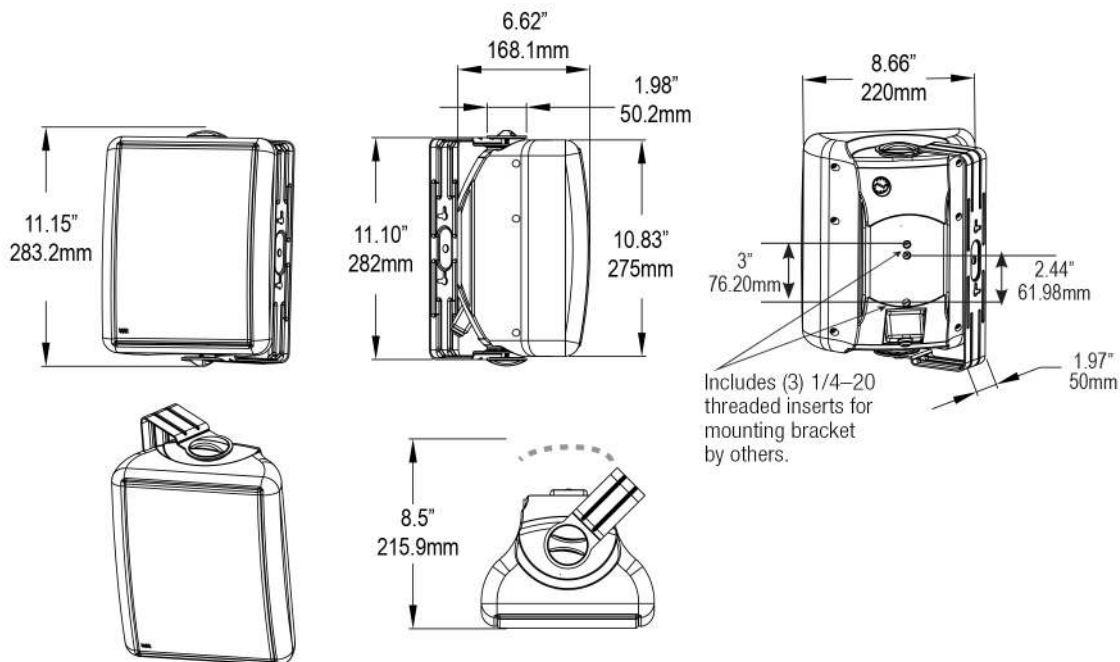
**OS Speaker Series Summary**

Model No.	Description	8 ohms	Maximum 70V Tap	Ideal for	Dimensions* (H x W x D)	Color	Optional: Omni-Directional Bracket (order separately)
OS-150-TB	150W two-way speaker—8" woofer	✓	60W	Pattern control (longer throws or live mic)	16" x 9" x 8"	Black	----
OS-150-TW	150W two-way speaker—8" woofer	✓	60W	Pattern control (longer throws or live mic)	16" x 9" x 8"	White	----
OS-100-TB	100W two-way speaker—6.5" woofer	✓	60W	Wide dispersion, near-field, hi-quality music	11" x 9" x 7"	Black	OS-BRKT-B (black)
▶ OS-100-TW	100W two-way speaker—6.5" woofer	✓	60W	Wide dispersion, near-field, hi-quality music	11" x 9" x 7"	White	OS-BRKT-W (white)
OS-50-TB	50W two-way speaker—5.25" woofer	✓	15W	Wide dispersion, voice & music	9" x 7" x 5"	Black	OS-BRKT-B (black)
OS-50-TW	50W two-way speaker—5.25" woofer	✓	15W	Wide dispersion, voice & music	9" x 7" x 5"	White	OS-BRKT-W (white)

\*Approximate dimensions without U-bracket (see technical specifications).



### technical drawings



### technical specifications

#### Performance

- Power Handling . . . . . 100 watts RMS measured per EIA Standard RS-426B at 8 ohms
- Sensitivity . . . . . 87.8dB SPL (avg) measured 1 Watt at 1 Meter  
107.8dB SPL (max) calculated 100 Watts at 1 Meter
- Frequency Response . . . . . 97Hz–20kHz (±6dB)
- Impedance . . . . . 8 ohms (nominal), 7.3ohms @ 244Hz (minimum)  
Impedance readings expected from typical 1kHz impedance meter:  
  - Switch setting A: 105 ohms
  - Switch setting B: 210 ohms
  - Switch setting C: 420 ohms
  - Switch setting D: 840 ohms
  - 8 ohm setting: 12.8 ohms
- Conical Dispersion . . . . . 120 degrees conical @ 2000Hz octave (-6dB)
- 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.

#### Driver

- Woofer . . . . . 6.5" mica coated with rubber surround
- Tweeter . . . . . 1" silk-domed

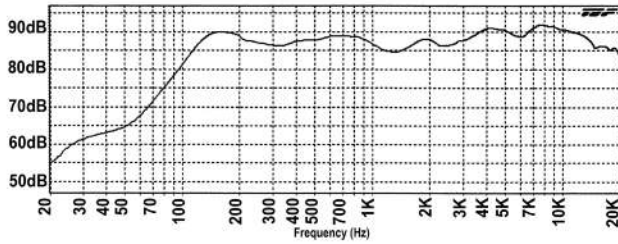
#### Transformer:

- Taps . . . . . See page 4

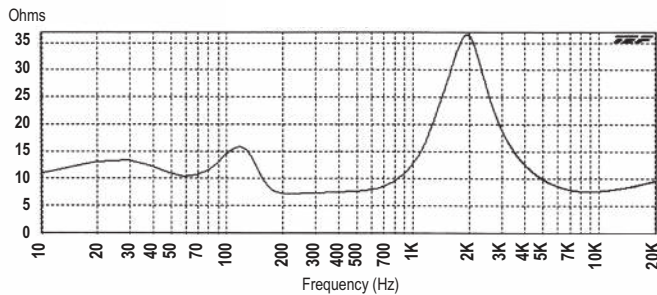
#### Mechanical

- Cabinet Housing . . . . . Molded plastic, white
- Cabinet Grille . . . . . Fine mesh aluminum, white
- U-Bracket . . . . . Aluminum, white
- Input Terminals . . . . . Phoenix type connector with weather protective boot. (14AWG stranded wire max.)
- Dimensions (not including bracket) . . . . . 10.83"H x 8.66"W x 6.62"D (275 x 220 x 168.1mm)
- Dimensions (including bracket) . . . . . 11.15"H x 8.66"W x 8.5"D (283.2 x 220 x 215.9mm)
- Weight (each) . . . . . Net Weight: 7.35 lbs. (3.33kg); Shipping Weight: 8.6 lbs.(3.9kg)
- Carton Qty . . . . . 1 per carton

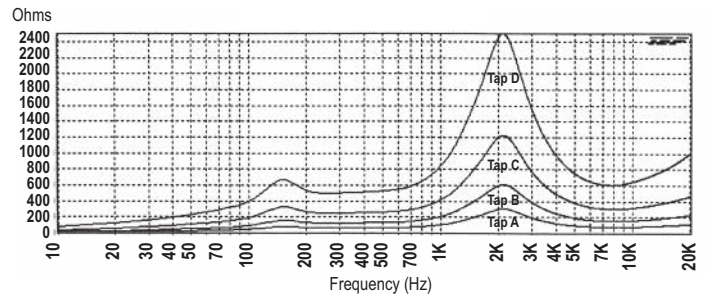
### SPL vs. Frequency (1W/1M)



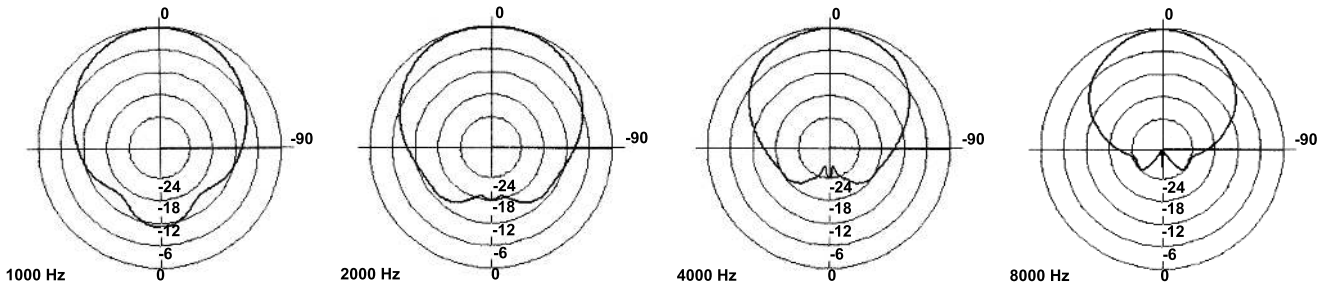
### Impedance (8ohm)



### Impedance (switch settings A-D)



### Polar Data



### Test Methodologies

Lowell speaker systems are thoroughly tested to provide specifiers and contractors with accurate data. Test equipment includes the GoldLine 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  $\text{Maximum SPL} = (\text{Sensitivity @ 1W1M}) + 10 \log (\text{Power Handling})$ .
- **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.

### installation

#### Installation with U-bracket (included).

The U-bracket has mounting slots that line up with a single gang outlet box. It's made to accommodate vertical or horizontal mounting.



#### Installation with alternate bracket (optional).

Threaded 1/4"-20 inserts in back allow other types of brackets to be used for mounting, such as Lowell's omni-directional bracket #OS-BRKT-W (order separately).



### connections

#### Weather-resistant 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.*



#### Labor-saving Phoenix connector.

Wiring connects to the 4-conductor removable Phoenix-type connector. Parallel dual terminals (+ / -) are provided to terminate incoming and outgoing wiring.



### tap selector switch

#### 8ohm & transformer selector switch.

When the selector switch is in the 8 ohm position, the transformer is disconnected internally and the speaker power rating is 100W. When the switch is in position A-D, the speaker power is determined by the driving voltage as shown in the table on the rear of the speaker and the chart below.



Tap	25V line	70V line	100V line
A	7.5W	60W	Do Not Use
B	3.8W	30W	60W
C	1.9W	15W	30W
D	0.94W	7.5W	15W