



Description

Lowell Model 8S100 is a 100W 8" subwoofer driver that features a robust motor structure with a 33oz. magnet and a 1.5-inch voice coil wound on a Kapton former. Frequency response extends from 30Hz to 1000Hz±4dB with a 2nd order low-pass @ 150Hz. The driver is omni directional below 200Hz and is ideal for applications where a subwoofer combined with other speaker systems will enhance the enjoyment of music in the low frequency spectrum. Typical installations include: clubs and sports bars, sporting facilities, airport terminals and concourses, hotel ballrooms, and other large spaces where full audio quality is desired.

Model 8S100 is available factory installed in an *iMount™ Series* system from Lowell or as a driver only for custom design purposes.

The 8S100 subwoofer driver pre-wired in an *iMount™ Series* suspended system from Lowell is engineered for venues with high and mixed-height ceilings. Factory assemblies feature a 2 cu.ft. rectangular acoustic enclosure with mounted eyebolts and externally accessible connections. *iMount™ Series* is a family of high performance suspended speaker systems with power ratings from 250W to 50W. For system information, refer to IM8S Series iMount spec sheet.

For applications where the 8S100 will be used as a driver in custom designed enclosures, Lowell provides Theile-Small parameters. This data will assist in engineering the appropriate size and type of enclosure for the driver. Theile-Small parameters are available on the Lowell website.

The driver's impedance is 8-ohms and features a stamped steel basket with black electrocoat, a paper cone with half-roll rubber surround, spade-lug terminals and a weight of 5.4 lbs.

Model 8S100 is manufactured in the United States of America and meets or exceeds all applicable EIA standards. Lowell also manufactures an extensive selection of architectural ceiling grilles, acoustic, protective, and special application backboxes and baffles to facilitate speaker installation wherever audio communications are desired.



8S100

100-Watt 8" Subwoofer Driver

**A
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12"/10"
Speakers &
Accessories

8"
Speakers &
Accessories

6"
Speakers &
Accessories

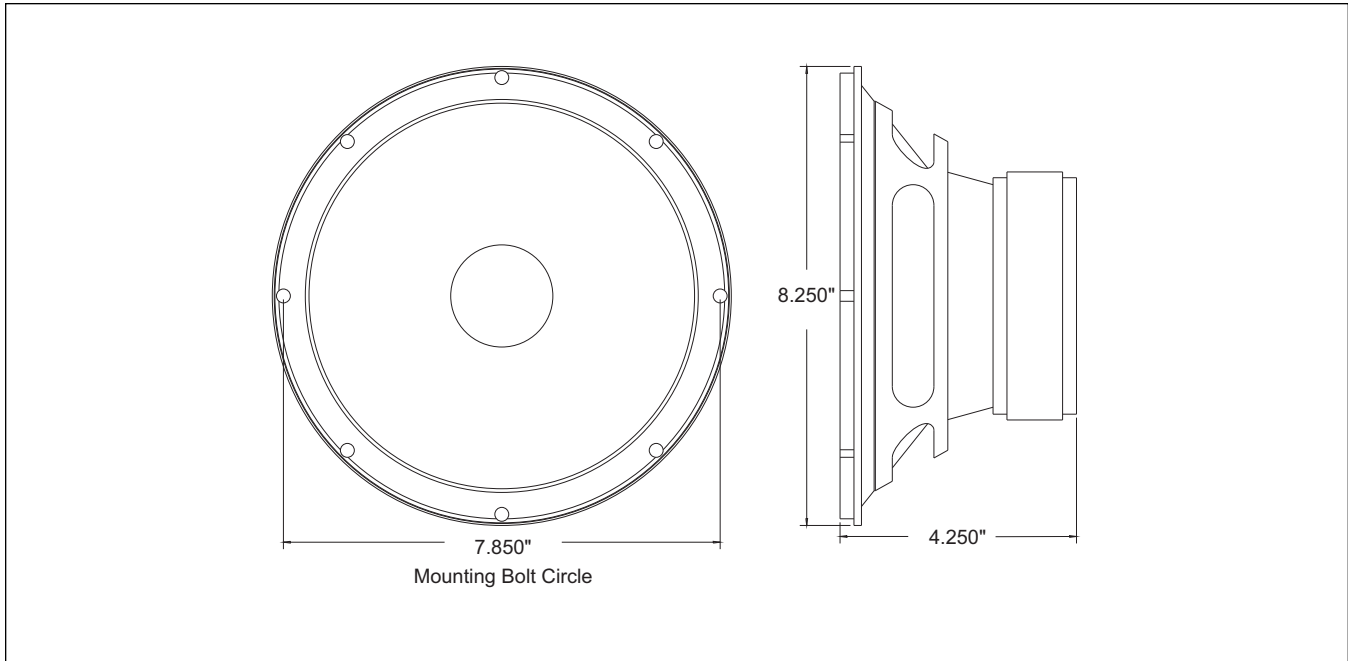
4"
Speakers &
Accessories

Horn
Speakers &
Accessories

Masking
Speakers &
Generators

Control
Accessories
& Electronics

Drivers



8S100 Subwoofer Driver Specifications

PERFORMANCE

Power Handling	100 watts RMS (nominal) measured per EIA Standard RS-426B
Sensitivity	85dB Average SPL (measured 2.83V @ 1m) 105 dB Maximum SPL (calculated based on power rating and measured sensitivity)
Impedance	8 ohms (nominal), 9.1 ohms @110Hz (minimum)
Frequency Response	25Hz-2000Hz (nominal), 30Hz-1000Hz (±4dB)
Sub Filter	2nd order low-pass @ 150Hz
Dispersion Angle	Omni-directional below 200Hz

PHYSICAL - WOOFER

Cone Material	Paper with rubber half roll (up) surround
Magnet Weight, Material	33oz. (936g), ferrite ceramic
Voice Coil Diameter, Material	1.5 inch (38mm), copper wire over Kapton former
Terminals	Quick disconnect type - spade lugs

MECHANICAL

Basket	18 gauge stamped steel with black electrocoat
Outside Diameter	8.25 inch (209mm)
Mounting Bolt Circle	7.85 inch (199mm) with 8 holes equally spaced at 45 degrees.
Cutout Diameter	7.0 inch (178mm)
Mounting Depth	4.25 inch (108mm)
Net Weight	5.4 lbs. (2.5kg)

THIELE-SMALL PARAMETERS

Pe.....100W	Qts.....0.30	BL.....11.7Tm	Sd.....33.2 in ² , 214cm ²
Fs.....29Hz	Qes.....0.31	Efficiency, η.....0.45%	Mms.....33.6g
Xmax.....0.33 in., 8.3mm	Qms.....6.7	Vas.....57 liters, 3484 cu.in.	Cms.....0.88mm/N
Re.....6.9Ω			

Optional Transformer Specifications (order separately)*

Xfmr Model (not mounted)	Xfmr Weight	Xfmr Power Rating	Xfmr Primary Voltage	Xfmr Primary Taps	Xfmr Response	Xfmr Insertion Loss
TLS10070	7.5 lbs.	100 Watts	70V	16, 32, 64, 100W	20Hz - 20kHz ±1dB	0.6dB

* Note: The transformer mounts independently; not to the driver.



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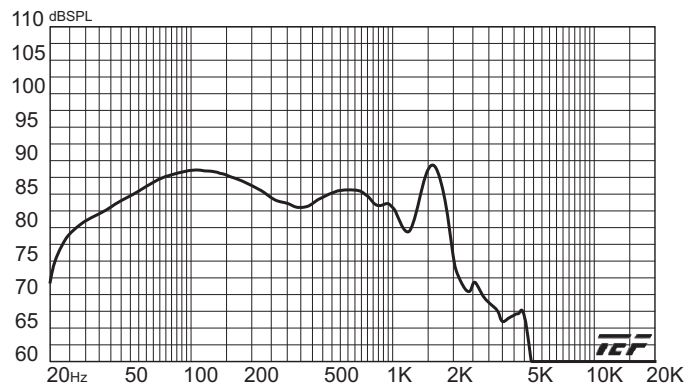
Scope of Lowell Model 8S100 performance and power tests

Lowell loudspeakers are thoroughly tested to provide specifiers and contractors with solid data that accurately reflects the performance of production drivers. Performance tests are conducted on randomly selected final production assemblies. Testing equipment includes the GoldLine TEF-20 analyzer and a LinearX LMS measurement system. The power handling capability is based on EIA Standard RS-426B.

Frequency Response data is provided in two ways: *Nominal* - which is the generally usable response range and *Limited Bandwidth* - (defined by \pm __dB) which is useful in predictive engineering calculations. Resonance frequency (F_s) is also provided in Thiele-Small parameters as the recommended limit from which to drive a speaker.

Sensitivity (SPL) is presented two ways: *Average* - which is based on a computer measurement and calculation of the log average SPL over the given frequency response bandwidth with 1 watt input measured at 1 meter. *Maximum* - which is calculated based on the average sensitivity and the power rating of the driver. Dispersion Angle is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2000 Hz octave band. Since speech intelligibility is very dependent upon the 2000 Hz octave, this specification is quite useful in designing paging systems that provide even coverage and intelligibility. Thiele-Small Parameters were measured with the LMS system using the delta mass method. These parameters are useful in determining the appropriate type and size of enclosure for a specific driver.

SPL vs. Frequency 1W / 1M





8S100

100-Watt 8" Subwoofer Driver

A & E Specifications

The 8 inch subwoofer driver shall be Lowell Model 8S100. Driver shall be furnished and installed at each designated location on the architectural plans and/or as specified herein. The subwoofer driver shall be of the paper cone type with rubber half roll surround.

The subwoofer shall be capable of producing a uniform audible frequency response over the range of 30Hz - 1000Hz ± 4 dB with omni-directional dispersion. The average sensitivity shall measure 85dB (SPL at 1W/1M). Rated power handling shall be 100-watts RMS. The voice coil shall have a diameter of 1.5 inches and shall operate in a magnetic field derived from a ferrite (ceramic) magnet having a nominal weight of 33 oz. The voice coil impedance shall be 8 ohms.

The subwoofer shall have a round, structurally reinforced stamped 18-gauge steel frame to maintain precise mechanical alignment. The loudspeaker shall have an overall diameter of

8.25 inches with eight holes equally spaced at 45 degrees on a 7.85 inch diameter mounting bolt circle. The mounting depth of the driver (without transformer) shall not exceed 4.25 inches. All external metal woofer parts shall be black electrocoat to resist rust and corrosion. The subwoofer specified herein shall be Model 8S100 as supplied by Lowell Manufacturing Company, Pacific, Missouri, 63069 U.S.A.

For 70.7 volt distributed systems:

The Model 8S100 subwoofer driver shall be used with Lowell Model TLS10070 transformer. The transformers primary voltage shall be 70.7V and shall provide selectable power taps of 100W, 64W, 32W, 16W. The transformer frequency response shall be from 20Hz - 20kHz Hz ± 1 dB, with a maximum insertion loss of 0.6dB. The subwoofer driver and transformer shall be shipped as separate components.

Easy-order System Assemblies with 8S100 Subwoofer



Ready-to-install System Assemblies

iMount™ Systems for suspended installations are factory wired assemblies that are easy to order and install. Complete systems include Model 8S100 subwoofer driver with 100W 70V transformer loaded in to a 2 cu.ft. rectangular enclosure lined with acoustic fiberglass. *iMount™ Systems* are shipped ready-to-install with a grille, mounted 1/4"-20 forged eyebolts, and speaker connections brought to a 4" x 4" plate for time and labor-saving field installation.

2 cu.ft. Rectangular System	System Driver	System Transformer	System Finish	System Hardware Installed
IM8S-2SB	8S100	---	Black enclosure, Square Black grille	4 eyebolts
IM8S-2SW	8S100	---	Black enclosure, Square White grille	4 eyebolts
IM8S-TS100-2SB	8S100	TLS100	Black enclosure, Square Black grille	4 eyebolts
IM8S-TS100-2SW	8S100	TLS100	Black enclosure, Square White grille	4 eyebolts