



Quality Features

- Industry standard 15W 4" (EIA 5") speaker provides clear and accurate reproduction of music and voice communications.
- Engineered for wide response and wide dispersion to provide even coverage with fewer drivers.
- Available with a factory-wired transformer for fast installation using color-coded leads.
- Compatible with Lowell's extensive selection of 4" architectural grilles, backboxes, and surface baffles (see page 4).

Description

Lowell high compliance Model JR410 is a commercial industry standard 4" (EIA 5") speaker. Model JR410 features a 10oz magnet for high power handling and sensitivity. It also includes a 1" copper voice coil, plated steel basket, and high compliance treated cloth surround. It is specifically engineered to provide wide frequency response and wide dispersion for solid performance in both paging and background music systems. The driver's small size and broad beamwidth of 170 degrees make it especially useful in rooms with low ceilings. For versatile application, the speaker is available with a selection of factory wired 70V or dual voltage 70/25V transformers and will fit all standard 4" ceiling grilles and backboxes.

Lowell Model JR410 provides wide and even coverage for paging and background music with the advantage of using smaller and fewer speakers. It is often specified for reliable performance in commercial, industrial, and institutional applications including offices, public buildings, airport corridors, educational and medical facilities.

The loudspeaker frame is stamped 20 gauge steel with a zinc plated finish to prevent corrosion. Models with factory-wired transformer feature the transformer mounted directly to the top of the magnet. See speaker/transformer assemblies on page 2.

Model JR410 is manufactured in the United States of America and meets or exceeds all applicable EIA standards. Lowell also manufactures a complete selection of architectural ceiling grilles, acoustic, protective, and special application backboxes and baffles to facilitate speaker installation wherever audio communications are desired.



JR410

15-Watt 4" High Compliance Driver with 10oz. Magnet

A
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12"/10"
Speakers &
Accessories

8"
Speakers &
Accessories

6"
Speakers &
Accessories

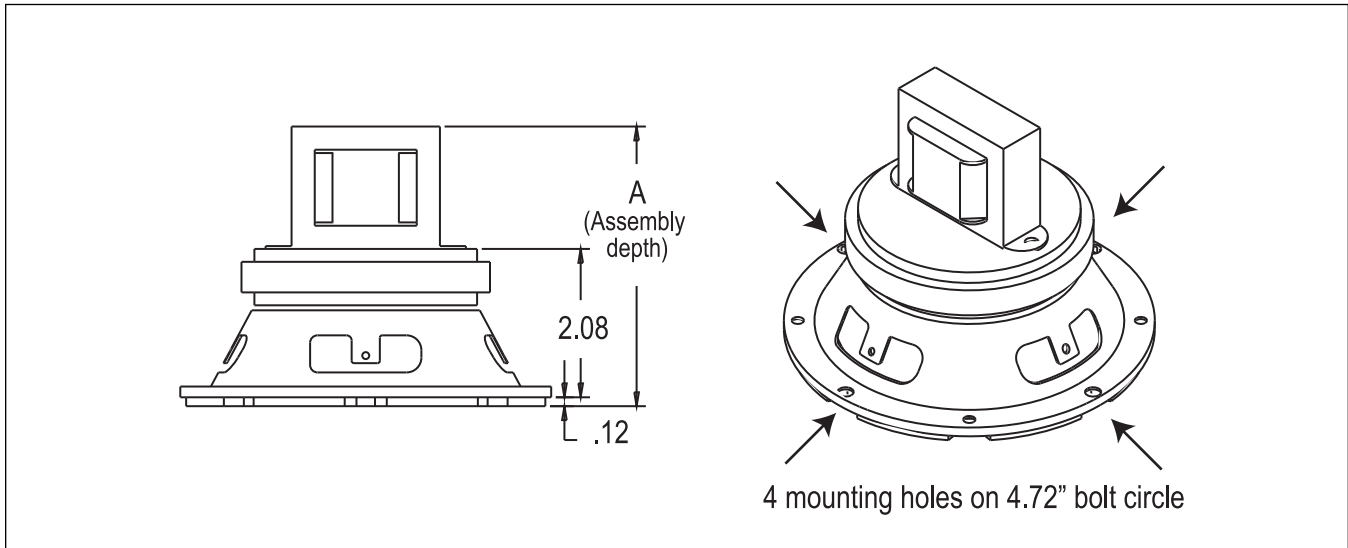
4"
Speakers &
Accessories

Horn
Speakers &
Accessories

Masking
Speakers &
Generators

Control
Accessories
& Electronics

Drivers



Specifications: Lowell Model JR410 High Compliance Driver

PERFORMANCE

Power Handling	15 watts RMS (nominal) measured per EIA Standard RS-426B
Sensitivity	97dB SPL (peak), 91dB SPL (avg) measured 2.83V @ 1m
Impedance	8 ohms (nominal), 8.4 ohms @480Hz (minimum)
Frequency Response	100Hz-16kHz (nominal), 100Hz-14kHz (±6dB)
Dispersion Angle	170° @ 2000Hz octave (-6dB)

PHYSICAL - WOOFER

Magnet Weight, Material	10oz. (264g), strontium ferrite ceramic
Voice Coil Diameter, Material	1 inch (26mm), copper wire
Cone Material	Paper with treated cloth surround
Terminals	Quick disconnect type - spade lugs

MECHANICAL

Basket	20 gauge stamped steel with zinc plating
Outside Diameter	5.03 inch (128mm)
Mounting Bolt Circle	4.72 inch (120mm) with 4 round holes equally spaced at 90 degrees.
Cutout Diameter	4.125 inch (105mm)
Mounting Depth	2.08 inch (53mm)
Net Weight	1.7 lbs. (0.76kg)

THIELE-SMALL PARAMETERS

Pe.....15W	Qts.....0.59	BL.....4.7Tm	Sd.....10.2 in ² , 65.8cm ²
Fs.....109Hz	Qes.....0.69	Efficiency, η.....0.8%	Mms.....3.1g
Xmax.....0.04 in., 1mm	Qms.....3.9	Vas.....4.2 liters, 255 cu.in.	Cms.....0.68mm/N
Re.....7.2Ω			

JR410 Factory-Wired Loudspeaker / Transformer Assemblies

Assembly Model	Mounted Xfmr	'A' Assembly Depth*	Assembly Weight	Xfmr Power Rating	Xfmr Primary Voltage	Xfmr Primary Taps	Xfmr Response	Xfmr Insertion Loss
JR410-T72	TLM572	3.52"	2.1 lb	5 Watts	70/25V	0.25, 0.5, 1, 2, 5W	40Hz - 20kHz +1dB	< 0.5dB
JR410-T470	TLM470	3.71"	2.4 lb	4 Watts	70V	0.5, 1, 2, 4W	60Hz - 15kHz +1dB	0.8dB
JR410-T870	TLM870	4.45"	2.8 lb	8 Watts	70V	1, 2, 4, 8W	50Hz - 15kHz +1dB	0.8dB

* Minimum depth required for the speaker transformer assembly to be rear mounted in an enclosure.



JR410

15-Watt 4" High Compliance Driver with 10oz. Magnet

Scope of Lowell Model JR410 performance and power tests

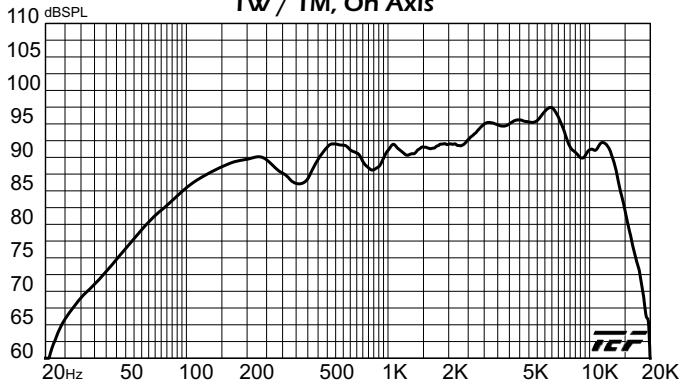
Lowell loudspeakers are thoroughly tested to provide specifiers and contractors with solid data that accurately reflects the performance of production drivers. Performance tests are conducted on randomly selected final production assemblies. Testing equipment includes the GoldLine TEF-20 analyzer and 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: *Peak* - used by many manufacturers (and presented here for comparison purposes) is a rating based on a narrow portion of the frequency response curve, and *Average* - which is a computer calculation of the octave-weighted average over the entire engineering bandwidth as shown in the frequency response (\pm dB). Dispersion Angle is defined as the angle of coverage

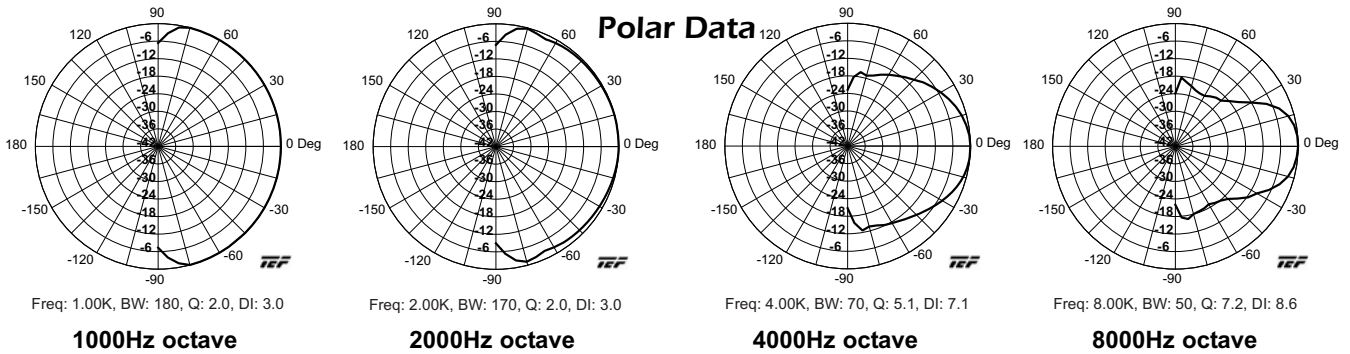
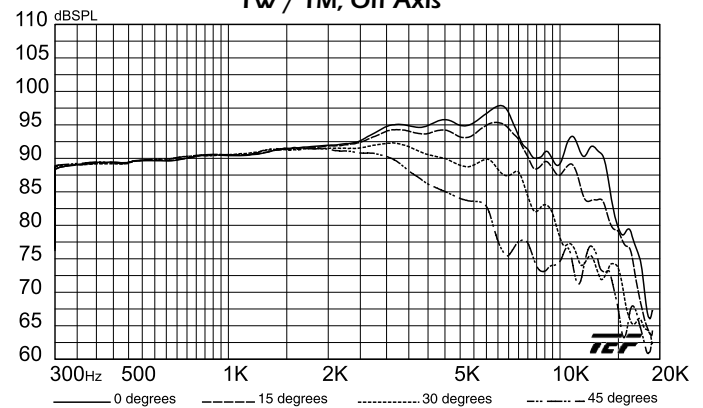
that is no more than 6dB down from the on-axis value averaged over the 2000 Hz octave band. Since speech intelligibility is very dependent upon the 2000 Hz octave, this specification is quite useful in designing paging systems that provide even coverage and intelligibility. Thiele-Small Parameters were 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.

In addition to the standard frequency response (on axis), impedance, and polar curves, off-axis frequency response and impulse curves are presented. Off-axis Response is another way of looking at the polar response of a speaker. It is especially useful in displaying the relative change in the sound of a speaker as one increasingly moves off-axis. Each curve is the average of response over a 15° range. Therefore, the 0° curve is the average of -5°, 0°, and +5°. The 15° curve is the average of -10°, -15°, -20°, +10°, +15°, and +20°. The final graph is an Impulse Curve which displays how well the electro-magnetic motor and the mechanical suspension work together to control the motion of the cone.

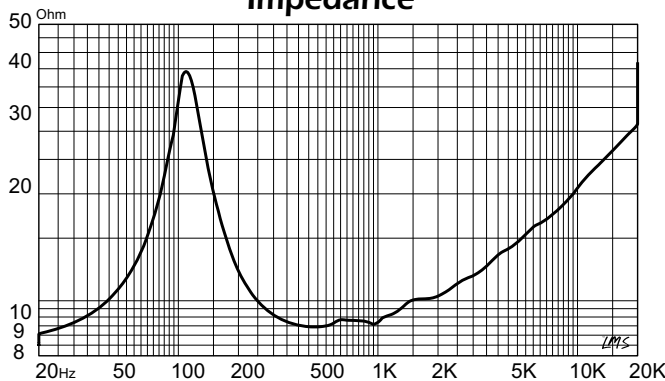
SPL vs. Frequency 1W / 1M, On Axis



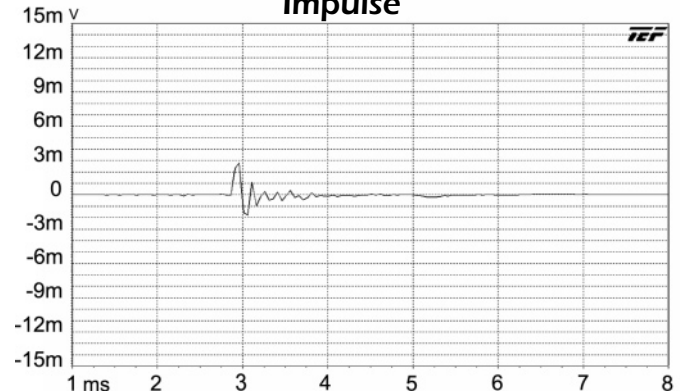
SPL vs. Frequency 1W / 1M, Off Axis



Impedance



Impulse





JR410

15-Watt 4" High Compliance Driver with 10oz. Magnet

A & E Specifications

The high compliance 4inch loudspeaker shall be Lowell Model JR410. Loudspeaker shall be furnished and installed at each designated location on the architectural plans and/or as specified herein. The loudspeaker shall be of the permanent magnet type having a paper cone with a treated cloth surround.

The loudspeaker shall be capable of producing a uniform audible frequency response over the range of 100Hz-16kHz nominal, 100Hz-14kHz±6dB with a dispersion angle of 170 degrees @ 2000Hz-6dB. The average sensitivity shall measure 91dB (SPL at 1W/1M). Rated power handling capacity shall be 15 watts RMS. The voice coil shall have a diameter of 1 inch and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 10oz. The voice coil impedance shall be 8 ohms. The loudspeaker shall have a round, structurally reinforced stamped 20 gauge steel frame to maintain precise mechanical alignment and shall provide facilities for mounting a transformer. The loudspeaker shall have an overall diameter of 5.03 inches with four round holes equally

spaced at 90 degrees on a 4.72 inch diameter mounting bolt circle. The overall depth shall not exceed 2.08 inches (not including transformer - depth is up to 4.45 inches with transformer). All external metal parts shall be zinc plated to resist rust and corrosion. The loudspeaker specified herein shall be Model JR410 as supplied by Lowell Manufacturing Company, Pacific, Missouri, 63069 U.S.A.

For 70.7 or 25 volt distributed systems:

The Model JR410 dual cone loudspeaker shall be equipped with Lowell Model _____ transformer, factory mounted and wired. The transformer's primary voltage shall be _____ (70.7V, 25/70V) and shall provide selectable power taps of _____ watts. The transformer frequency response shall be from _____ to _____ Hz ± _____ dB, with a maximum insertion loss of _____ dB. The loudspeaker and transformer assembly specified herein shall be referred to as the Lowell Model JR410-____ (T72, T470, T870).

Companion Backboxes and Grilles for JR410 Driver

To meet performance, installation, and aesthetic requirements, JR410 drivers may be matched with a variety of backboxes and attractive architectural grilles. Backbox models with batting include 1-1/2" thick acoustic fiberglass. Please refer to the current Lowell catalog or website for complete information.

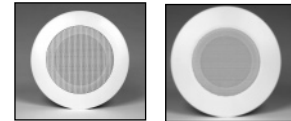


DX104-T DX104-10T

Recessed Backboxes for Torsion-Mount Grilles (shown at right)

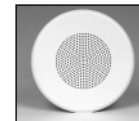
DX104-T CRS 10Dia x 6.75D, fiberglass batting

DX104-10T CRS 10Dia x 10.063D, fiberglass batting



CN-4

CN-4M



WB-4T

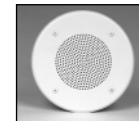


CP-4 DX-104

Recessed Backboxes for Screw-Mount Grille Model WB-4

CP-4 CRS 6.3Dia x 4.063D

DX-104 CRS 10Dia x 6.75D, fiberglass batting



WB-4



P625X

Recessed Backbox for Screw-Mount Grille Model SG-4

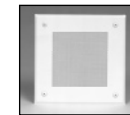
P625X CRS 6.25Sq x 4D



CB44-SG
(shown with SG-4 grille,
order separately)

Surface Backbox for Screw-Mount Grille Model SG-4

CB44-SG CRS 7.125Sq x 4.375D, white finish



SG-4