



Quality Features

- Handles 150W input with 96dB sensitivity.
- Competes on a performance level with professional-grade speakers and provides a superior price-to-value ratio.
- Match with Lowell's architectural grilles and acoustic backboxes (2-6cu.ft.) or specify the 12P150 driver pre-mounted in Lowell's *iMount™ Series* high performance systems for suspended installation (see page 4).
- Also available in a UL1480 General Signaling assembly Model WB12-12P150-TM100 with mounted grille (WB12) and required backbox (ULXCP1210).
- Optional transformer available with 100W or 32W transformer in high performance (TLM Series) or critical use audio (TLS Series) versions (see specs on page 2).

Description

Lowell Model 12P150 is the largest of the P-Series high output, high quality *pro'mercial* speakers. This 150-watt 12-inch assembly features a robust motor structure with a 38oz. magnet and a 2-inch voice coil wound on a Kapton former. The compression driver tweeter is coaxially mounted behind the woofer and provides increased power handling with greater efficiency than a conventional dome tweeter. A built-in crossover network with a third-order high-pass and 2nd-order low pass filter accomplishes proper frequency division between the two drivers. Frequency response extends down to 40Hz, and sensitivity is a highly efficient 96dB at 1watt, 1 meter.

The 12P150 is engineered for high energy and/or high ceiling applications such as clubs and sports bars, airport terminals and concourses, hotel ballrooms, and convention center exhibit floors. For distributed systems, 100W or 32W transformers are available in high performance and critical audio versions.

The loudspeaker frame is stamped 18-gauge steel with a corrosion-resistant black electrocoat finish.

Model 12P150 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.

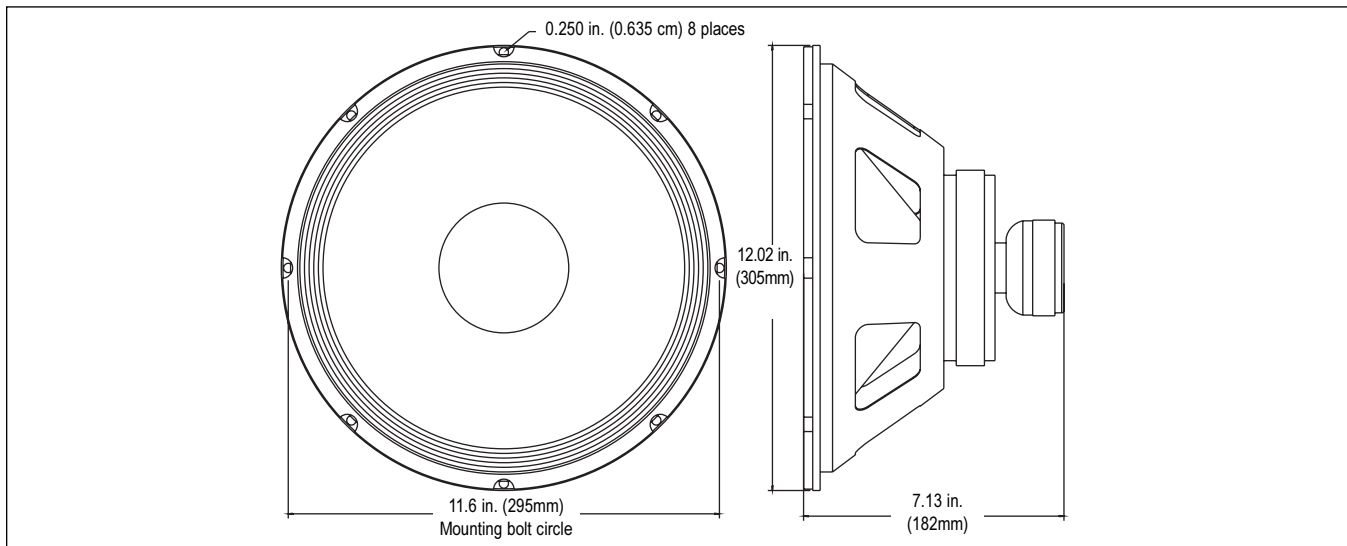




12P150

150-Watt 12" Coaxial Compression Driver

AUDIO



12P150 Driver Specifications

PERFORMANCE

Power Handling	150 watts RMS measured per EIA Standard RS-426A
Sensitivity	101dB SPL (peak), 96dB SPL (avg) measured 2.83V @ 1m
Impedance	8 ohms (nominal), 6.7 ohms @170Hz (minimum)
Frequency Response	40Hz-20kHz (nominal), 30Hz-20kHz (±5dB)
Crossover Frequency	2500Hz, 3rd order high pass filter, 2nd order low pass filter
Dispersion Angle	70° @ 2000Hz octave (-6dB)

PHYSICAL - WOOFER

Cone Material	Treated paper with cloth surround
Magnet Weight, Material	38oz. (1077g), strontium ferrite ceramic
Voice Coil Diameter, Material	2 inch (51mm), copper wire over Kapton former
Terminals	Quick disconnect type - spade lugs

PHYSICAL - TWEETER

Type	Compression driver
Magnet Weight, Material	7.7oz. (217g), ferrite ceramic
Voice Coil Diameter, Material	1 inch (26mm), copper wire
Ferrofluid	Yes
Diaphragm Material	Phenolic

MECHANICAL

Basket	18 gauge stamped steel with black electrocoat
Outside Diameter	12.02 inch (305mm)
Mounting Bolt Circle	11.6 inch (295mm) with 8 holes equally spaced at 45 degrees.
Cutout Diameter	11 inch (279mm)
Mounting Depth	7.13 inch (182mm)
Net Weight	9.75 lbs. (4.4kg)

THIELE-SMALL PARAMETERS

Pe.....150W	Qts.....0.48	BL.....9.5Tm	Sd.....82.5 in ² , 532cm ²
Fs.....38Hz	Qes.....0.51	Efficiency, η.....2.2%	Mms.....34g
Xmax.....0.12 in., 3mm	Qms.....7.4	Vas.....206 liters, 7.3 cu.ft.	Cms.....0.51mm/N
Re.....5.6Ω			

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 lb	100 Watts	70V	16, 32, 64, 100W	20Hz - 20kHz ±1dB	0.6dB
TLS3270	4.7 lb	32 Watts	70V	8, 16, 32W	20Hz - 20kHz ±1dB	0.6dB
TLM10070	4.5 lb	100 Watts	70V	16, 32, 64, 100W	50Hz - 15kHz ±1dB	0.6dB
TLM3270	3.2 lb	32 Watts	70V	8, 16, 32W	50Hz - 15kHz ±1dB	0.6dB

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

8" Speakers & Accessories

6" Speakers & Accessories

4" Speakers & Accessories

Horn Speakers & Accessories

Masking Speakers & Generators

Control Accessories & Electronics

Drivers



12P150

150-Watt 12" Coaxial Compression Driver

Scope of performance and power tests

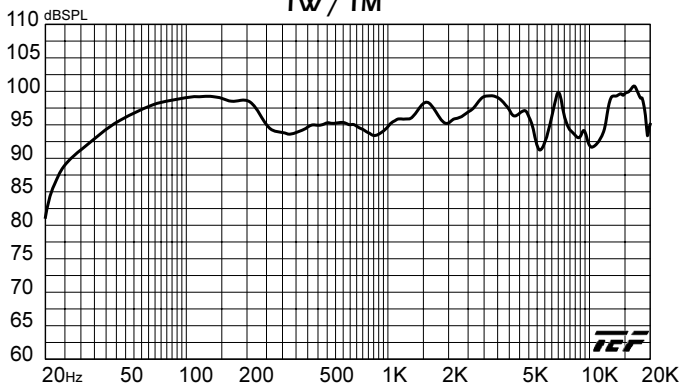
Lowell loudspeakers are thoroughly tested to provide specifiers and contractors with solid data that accurately reflects the performance of production drivers. Performance tests are conducted on randomly selected final production assemblies. Testing equipment includes the GoldLine TEF-20 analyzer and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

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

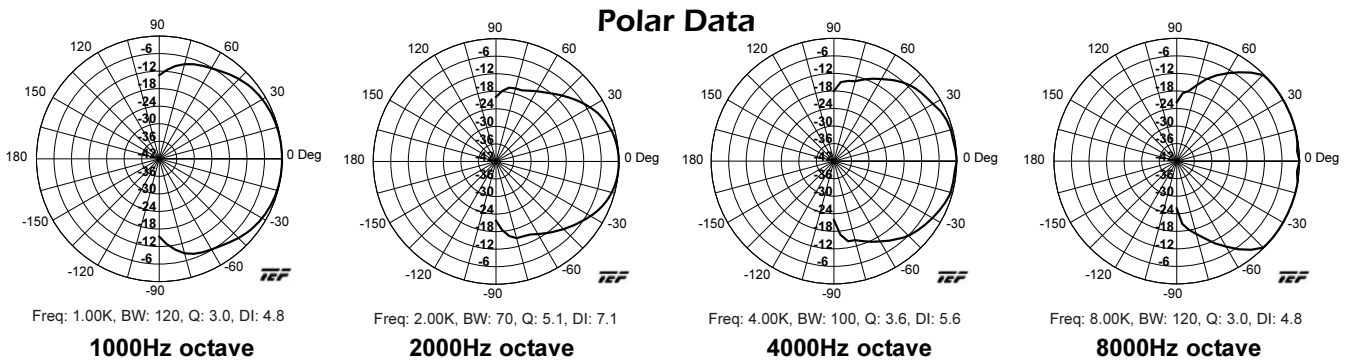
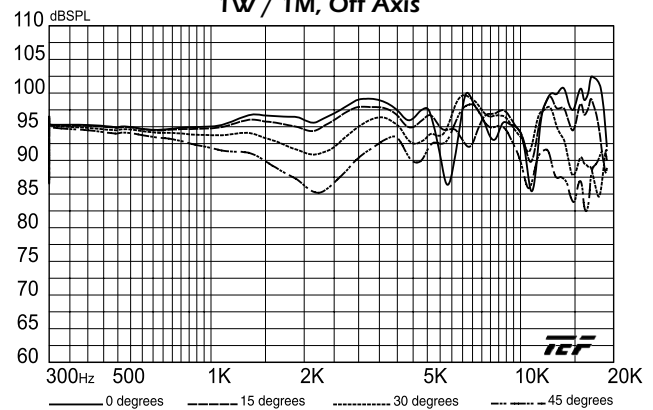
that is no more than 6dB down from the on-axis value averaged over the 2000 Hz octave band. Since speech intelligibility is very dependent upon the 2000 Hz octave, this specification is quite useful in designing paging systems that provide even coverage and intelligibility. **Thiele-Small Parameters**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

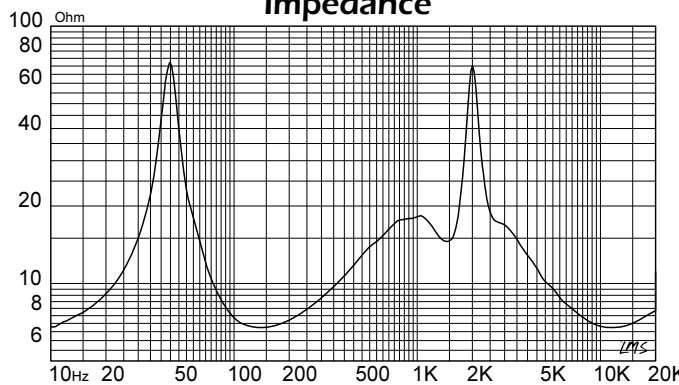
SPL vs. Frequency 1W / 1M



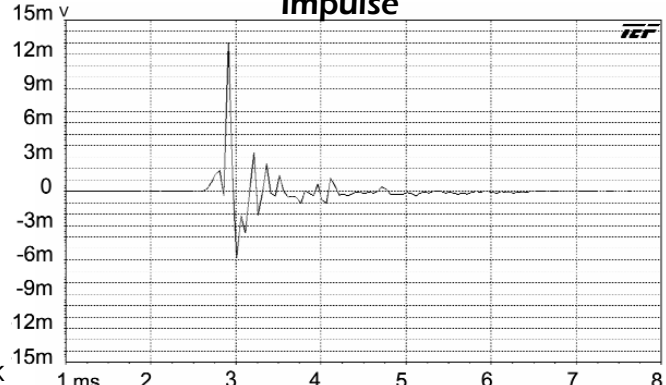
SPL vs. Frequency 1W / 1M, Off Axis



Impedance



Impulse





12P150

150-Watt 12" Coaxial Compression Driver

A & E Specifications

The coaxial 12 inch loudspeaker shall be Lowell Model 12P150. 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 coaxial compression driver type having electrically independent high and low frequency transducers. The low frequency section shall have a 12 inch diameter cone and the high frequency section shall be a compression driver tweeter. A built-in electrical crossover network shall be employed to accomplish the proper frequency division between the two drivers. The crossover shall be at 2500 Hz with a 3rd order high-pass filter and a 2nd order low-pass filter.

The loudspeaker shall be capable of producing a uniform audible frequency response over the range of 30Hz - 20kHz \pm 5dB with a dispersion angle of 70 degrees. The average sensitivity shall measure 96dB (SPL at 1W/1M). Rated power handling shall be 150-watts RMS. The low frequency voice coil shall have a diameter of 2 inches and shall operate in a magnetic field derived from a strontium ferrite (ceramic) magnet having a nominal weight of 38 oz. The high frequency voice coil shall have a diameter of 1 inch and shall operate in a magnetic field derived from

a ceramic magnet having a nominal weight of 7.7 oz. The voice coil impedance shall be 8 ohms. The loudspeaker shall have a round, structurally reinforced stamped 18-gauge steel frame to maintain precise mechanical alignment. The loudspeaker shall have an overall diameter of 12 inches with eight holes equally spaced at 45 degrees on a 11.6 inch diameter mounting bolt circle. The overall depth of the driver (without transformer) shall not exceed 7.13 inches. All external metal woofer parts shall be black electrocoat to resist rust and corrosion. The loudspeaker specified herein shall be Model 12P150 as supplied by Lowell Manufacturing Company, Pacific, Missouri, 63069 U.S.A.

For 70.7 volt distributed systems:

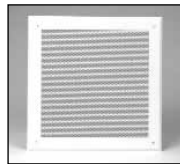
The Model 12P150 coaxial compression driver shall be field wired to a separately mounted Lowell transformer Model _____ (TM3270, TM10070, TS3270, TS10070). The transformers primary voltage shall be _____ (70.7V) and shall provide selectable power taps of _____ watts. The transformer frequency response shall be from _____ to _____ Hz \pm _____ dB, with a maximum insertion loss of _____ dB.

Choose Companion Backbox and Grille for 12P150 or Complete System Assemblies

To meet performance, installation, and aesthetic requirements, 12P150 driver may be matched with a variety of acoustic backboxes and architectural grille Model FW12 or may be specified as a ready-to-install *iMount™ System* for suspended installation. Please refer to the current Lowell catalog or website for complete information.



DX1612



FW12

Recessed Acoustic Backboxes for FW-12 Grille (order separately)

DX1312 CRS 1.9cuft 23L x 18W x 8D, Ext. lip for sheetrock

DX1512 CRS 2.9cuft 23L x 18W x 12D, Ext. lip for sheetrock

DX1612 CRS 4.0cuft 23L x 18W x 16.75D, Ext. lip for sheetrock + eyebolts

DX1712 CRS 5.9cuft 29.5L x 23W x 15D, Ext. lip for sheetrock + eyebolts

FW12 Grille CRS 15.25Sq, 4 screws, white



Ready-to-install System Assemblies

iMount™ Systems for flown or unistrut installations are factory wired assemblies that are easy to order and install. Complete systems include Model 12P150 driver with selected transformer loaded in to a 2.9 or 3.9cu.ft. rectangular or 2.1 cu.ft. cylindrical acoustic lined enclosure with grille and forged eyebolts.

iMount™ Systems are shipped with the eyebolts installed and the speaker connections brought to a flush 4" x 4" cover plate for time and labor-saving field installation. *Flyware is by others.*

2.9 cu.ft. Rectangular System	3.9 cu.ft. Rectangular System	System Driver	System Transformer	System Grille*	System Hardware Installed
IM12P-2SW	IM12P-3SW	12P150	---	Square, White*	4 eyebolts, EO Box
IM12P-TS100-2SW	M12P-TS100-3SW	12P150	TLS10070	Square, White*	4 eyebolts, EO Box
IM12P-TM100-2SW	IM12P-TM100-3SW	12P150	TLM10070A	Square, White*	4 eyebolts, EO Box
IM12P-TS32-2SW	IM12P-TS32-3SW	12P150	TLS3270	Square, White*	4 eyebolts, EO Box
IM12P-TM32-2SW	IM12P-TM32-3SW	12P150	TLM3270A	Square, White*	4 eyebolts, EO Box

2.1 cu.ft. Cylindrical System	System Driver	System Transformer	System Grille**	System Hardware Installed
IMC12P-B	12P150	---	Round, Black**	3 eyebolts, EO Box
IMC12P-TS100B	12P150	TLS10070	Round, Black**	3 eyebolts, EO Box
IMC12P-TM100B	12P150	TLM10070A	Round, Black**	3 eyebolts, EO Box
IMC12P-TS32B	12P150	TLS3270	Round, Black**	3 eyebolts, EO Box
IMC12P-TM32B	12P150	TLM3270A	Round, Black**	3 eyebolts, EO Box

*iMount™ rectangular systems include a square white grille. To order a different grille style, simply change the model suffix from **SW** (Square White) to **SB** (Square Black), or **RW** (Round White).

iMount™ cylinders and grilles are finished in black powder epoxy. To order a white assembly simply change the Model suffix from **B to **W**.