15LW1401 4Ω

LF drivers - 15.0 Inches

- 96 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
- 1000 W AES power handling
- Carbon fiber reinforced cellulose cone
- Double Silicon Spider (DSS) for improved excursion control and linearity
- Double Demodulating Rings (DDR) for lower distortion
- Improved heat dissipation via unique basket design
- Weather protected cone and plates for outdoor usage
- Suitable for low bass or subwoofer applications

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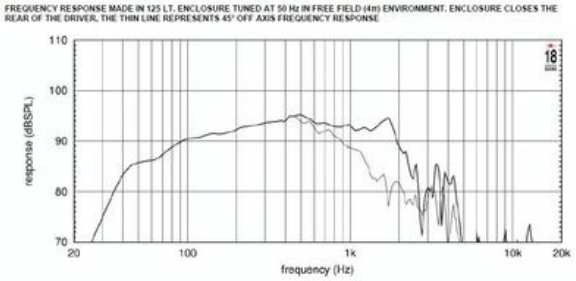
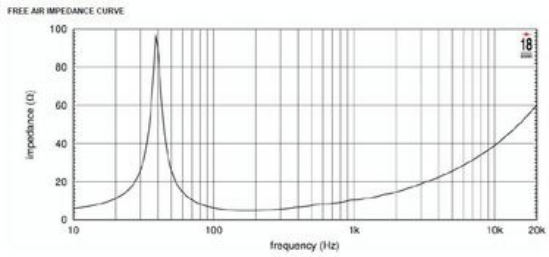
The 15LW1401 is a low frequency loudspeaker which sets a industry standard in 15" (380 mm) high performance transducers. The transducer has been designed for use as a low bass or sub-woofer component in either a more compact reflex, bandpass or horn loaded configuration. It provides clean, linear, undistorted low frequency reproduction at very high power levels, as part of a high power fullrange system. In its reflex configuration, it can be used in extremely compact enclosures, (65 - 130 lt) which is ideal for touring applications, including indoor and outdoor concert reinforcement systems. The high excursion capabilities of the surround and suspension system, in conjunction with the Eighteen Sound Double Silicon Spider (DSS), enable the 15LW1401 to achieve high levels of linear travel and maintain full control of the moving mass. The carbon fiber reinforced, straight-sided ribbed cone assures smooth response and exceptional strength, with maximum reliability under high mechanical stress. The 100 mm Ø copper voice coil employs the Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fiberglas former carries windings on both the outer and inner surfaces to achieve a mass balanced coil. The weight of the windings are evenly distributed, providing a uniform motive drive. This, in conjunction with the use of state-of-the-art high temperature resin adhesives, results in an extremely linear motor assembly. The already low distortion and sound quality of this loudspeaker has been further improved by the Double Demodulation Rings (DDR) designed to dramatically reduce the intermodulation and harmonic distortion whilst improving the transient response. Excellent heat dissipation has been achieved by incorporating air channels between the basket and the top plate of the magnet. Further ventilation is provided using air vents in the back plate that direct air into the lower part of the voice coil gap. Maximum flux concentration and force factor is assured by the unique shape and design of the top and back plates, researched and designed using Magnetic Flux FEA CAD resource. The 15LW1401's ability to perform properly under inclement weather conditions has been achieved using an exclusive cone treatment improving pulp strength, which gives water repellent properties to both sides of the cone. In addition, a special treatment has been applied to both the top and back plates that is far more resistant to the corrosive effects of salts and oxidization than any other in use today.





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SPECIFICATIONS

Nominal Diameter	380 mm (in)
Nominal Impedance	4 Ω
Minimum Impedance	3.8 Ω
Nominal Power Handling[1]	1000 W
Continuous Power Handling[2]	1400 W
Sensitivity[3]	98.0 dB
Frequency Range	40 - 2400 Hz
Voice Coil Diameter	100 mm (4.0 in)

DESIGN

Surround Shape	Triple roll
Cone Shape	Straight
Spider	Double Silicon Spider
Recommended Enclosure	120.0 dm^3 (4.24 ft^3)
Recommended Tuning	45 Hz

PARAMETERS[4]

Resonance Frequency	39 Hz
Re	3.5 Ω
Qes	0.27
Qms	7.21
Qts	0.26
Vas	127.0 dm^3 (4.48 ft^3)
Sd	850.0 cm^2 (131.75 in^2)
Xmax	9.0 mm
Mms	125.0 g
Bl	22.0 Txm
Le	1.02 mH
EBP	144 Hz

MOUNTING AND SHIPPING INFO

Overall Diameter	387 mm (15.24 in)
Bolt Circle Diameter	370 mm (14.57 in)
Baffle Cutout Diameter	353.0 mm (13.9 in)
Depth	163 mm (6.42 in)
Flange and Gasket Thickness	19 mm (0.75 in)
Net Weight	12.9 kg (28.44 lb)
Shipping Weight	13.9 kg (30.64 lb)
Shipping Box	405 x 405 x 214 mm (15.94x15.94x8.43 in)

1. 2 hours test made with continuous pink noise signal within the range Fs-10Fs. Power calculated on rated minimum impedance. Loudspeaker in free air.
2. Power on Continuous Program is defined as 3 dB greater than the Nominal rating.
3. Applied RMS Voltage is set to 2.83 V for 8 ohms Nominal Impedance.
4. Thiele-Small parameters are measured after a high level 20 Hz sine wave preconditioning test.

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