

# 18W1001

High Output Low Frequency Transducer

## KeyFeatures

- 99 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich Voice coil (ISV)
- 1000 W AES power handling
- Double Silicon Spider (DSS)
- Weather protected cone and plates for outdoor usage
- Improved heat dissipation via unique basket design
- Suitable for high SPL subwoofer designs

## Description

The 18W1001 is the updated version of the classic 18W1000, a low frequency woofer which has set a benchmark in 18" (460 mm) high output transducers.

It represents a further development of the Eighteen Sound 18LW1250 but has a lighter mass and increased sensitivity.

The 18W1001 can be used as a low bass or sub-woofer component in either a reflex, bandpass or horn loaded configuration, in high power fixed or touring loudspeaker systems. It provides clean, linear, undistorted low frequency reproduction at very high power levels.

The high excursion capabilities of the surround and suspension system, in conjunction with the Double Silicon Spider (DSS), enables the 18W1001 to achieve high levels of linear travel while maintaining full control of the moving mass.

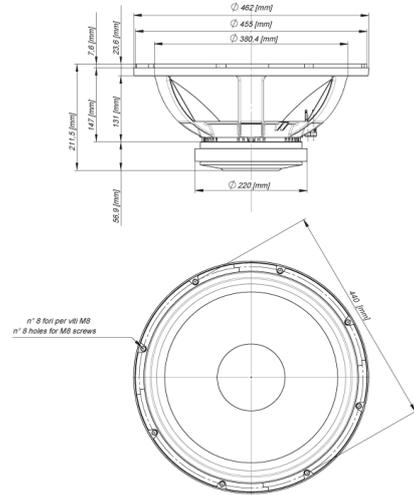
The high quality curvilinear cone assures smooth response and exceptional strength with maximum reliability under high mechanical stress.

The 100mm copper wire voice coil employs the Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fibreglas former carries windings on both the outer and inner surfaces to achieve a balanced coil with a uniform distribution of mass and motive energy. This results in an extremely linear motor assembly.

Excellent heat dissipation has been achieved by incorporating air channels between the basket and magnetic top plate.

Maximum flux concentration and force factor in the gap is assured by the unique shape and design of the top and back plates, which have been researched and designed using our in-house magnetic flux FEA CAD resource.

Due to the increasing use of audio systems at outdoor events, the ability of the 18W1001 to perform in adverse weather conditions or in areas of high humidity is a key feature. This has been achieved using an exclusive cone treatment and magnetic plate processes which resist corrosion and render the cone water repellent.



## Models

Model	Code	Info
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## General Specifications

Nominal Diameter	460 mm (18 in)
Rated Impedance	8 Ohm
AES Power	1000 W
Program Power	1400 W
Peak Power	7000 W
Sensitivity	99 dB
Frequency Range	37 - 4700 Hz
Power Compression @-10dB	0,6 dB
Power Compression @-3dB	2,1 dB
Power Compression @Full Power	3,1 dB
Max Recomm. Frequency	500 Hz
Recomm. Enclosure Volume	120 - 250 lt. (4,24 - 8,83 cuft)
Minimum Impedance	
Max Peak To Peak Excursion	36 mm (1,42 in)
Voice Coil Diameter	100 mm (4 in)
Voice Coil winding material	copper
Suspension	M-roll, Polycotton
Cone	Curvilinear, Paper

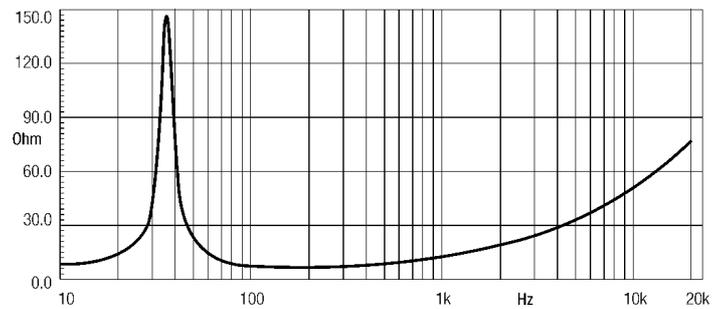
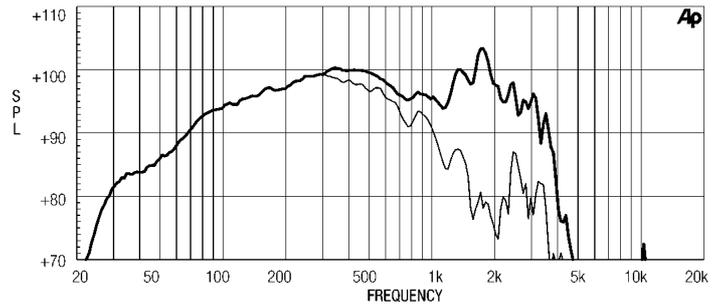
## Thiele Small Parameters

Fs	35 Hz
Re	5,8 Ohm
Sd	0,1134 sq.mt. (175,7 sq.in.)
Qms	7,1
Qes	0,24
Qts	0,23
Vas	268 lt. (9,47 cuft)
Mms	139 gr. (0,31 lb)
BL	27,6 Tm
Linear Mathematical Xmax	± 7 mm (±0,28 in)
Le (1kHz)	2,45 mH
Ref. Efficiency 1W@1m (half space)	98,9 dB

## Mounting information

Overall diameter	462 mm (18,18 in)
N. of mounting holes and bolt	8
Mounting holes diameter	8,5 mm (0,33 in)
Bolt circle diameter	438-440 mm (17,24-17,32 in)
Front mount baffle cutout ø	416 mm (16,38 in)
Rear mount baffle cutout ø	412 mm (16,22 in)
Total depth	205,9 mm (8,1 in)
Flange and gasket thickness	19 mm (0,75 in)
Net weight	12,9 kg (28,48 lb)
Shipping weight	14,4 kg (31,74 lb)
Packaging Dimensions	482 x 482 x 257 mm (19 x 19 x 10,1 in)

## FREQUENCY RESPONSE CURVE MADE ON 180 LIT. ENCLOSURE TUNED 35HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE



## FREE AIR IMPEDANCE MAGNITUDE CURVE

## Notes

- (1) AES power is determined according to AES2-1984 (r2003) standard.
- (2) Program power rating is measured in 180 lit enclosure tuned 35Hz using a 40 - 400 Hz band.
- (3) The peak power rating represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker without damage.
- (4) Sensitivity represents the averaged value of acoustic output as measured on the forward central axis of cone, at distance 1m from the baffle panel, when connected to 2,83V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for (1) above.
- (5) Frequency range is given as the band of frequencies delineated by the lower and upper limits where the output level drops by 10 dB below the rated sensitivity in half space environment.
- (6) Power compression represents the loss of sensitivity for the specified power, measured from 50 to 500 Hz, after a 5 min pink noise preconditioning test at the specified power.
- (7) Thiele - Small parameters are measured after the test specimen has been conditioned by 1000 W AES power and represent the expected long term parameters after a short period of use.
- (8) Linear Math. Xmax is calculated as  $(Hvc-Hg)/2 + Hg/4$  where Hvc is the coil depth and Hg is the gap depth.