

# 12W1300

## Low Frequency Transducer

### KeyFeatures

- 96,5 dB SPL 1W/1m average sensitivity
- 100 mm (4 in) Interleaved Sandwich aluminum Voice coil (ISV)
- 750W AES power handling
- Double Silicon Spider (DSS) for improved excursion control and linearity
- Improved heat dissipation via basket fins design
- Weather protected cone and plates for outdoor usage
- Ideal for high performance two way systems, installation line arrays and horn loaded applications

### Description

The 12W1300 is a low frequency loudspeaker which sets a new industry standard in 12" (300 mm) high performance transducers, whenever the weight is not an issue (if this is the case we recommend to use our 12NLW9300 neo transducer).

The 12W1300 makes an ideal bass reflex driver but is also well suited to bandpass enclosures. It will find application as the low frequency component in high power loudspeaker systems, cinema main and center channels, bass instruments cabinets etc, where the extended bass response is required.

The 12W1300 is fitted with a lightweight, shallow profile, carbon fibre reinforced, straight ribbed cone carried by a triple roll, polycotton suspension and a double silicon spider assembly. The result is a tightly controlled piston assembly with exceptional linearity. These characteristics, coupled with the high continuous power handling capability make the 12W1300 an ideal choice for high SPL, compact professional audio systems.

An inside outside aluminum voice coil, based on Interleaved Sandwich Voice coil (ISV) provides high levels of thermal stability and durability. The ISV technology is based on a high strength fiberglass former with half the coil wound on the outside and half on the inside ensuring uniform thermal dissipation on both sides. It is bonded together using unique high temperature resin adhesive to achieve a balanced and solid linear motor unit.

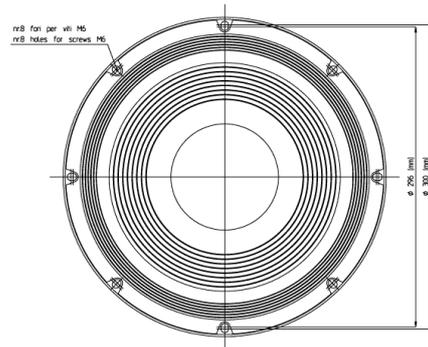
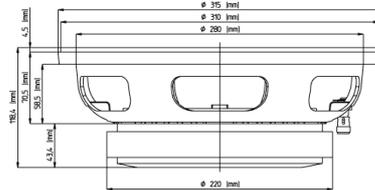
Maximum strength, smooth response and high displacement piston motion are obtained using Double Silicon Spider technology (DSS) and a large excursion surround.

The carbon fiber reinforced cellulose, straight sided ribbed cone assures smooth response and exceptional strength with maximum reliability under high mechanical stress.

Excellent heat dissipation has been achieved by the special basket design which incorporates air channels between the basket and magnetic top plate. Further ventilation is provided by air vents in the back plate to direct air circulation into the lower part of the voice coil gap.

The top plate and back plate design have been optimized for cone excursion and maximum symmetric force factor by the use of in-house FEA Magnetic simulation software.

The 12W1300 in-house cone treatment improves pulp strength and gives water repellent properties to both sides of the cone. In addition, the special coating of both the top and back plates makes them far more resistant to the corrosive effects of salts and oxidization than standard zinc-coated treatment.



### Models

Model	Code	Information
0221284110	0221284110	8 Ohm
		0271284110

# 12W1300

## Low Frequency Transducer

### General Specifications

Nominal Diameter	300 mm (12 in)
Rated Impedance	8 Ohm
AES Power	700W
Program Power	1000 W
Peak Power	5000 W
Sensitivity	96,5 dB
Frequency Range	45 ÷ 2500 Hz
Power Compression @-10dB	0.5 dB
Power Compression @-3dB	1.4 dB
Power Compression @Full Power	2 dB
Max Recomm. Frequency	1800 Hz
Recomm. Enclosure Volume	30 ÷ 100 lt. (1.06 ÷ 3.53 cuft)
Max Peak To Peak Excursion	34 mm (1.34 in)
Voice Coil Diameter	100 mm (4 in)
Voice Coil Winding Material	aluminum
Suspension	Triple roll, Polycotton
Cone	Straight ribbed, carbon fiber cellulose

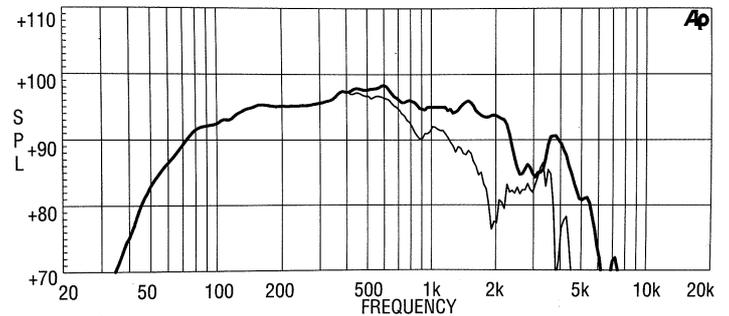
### Thiele Small Parameters

Fs	50 Hz
Re	5,2 Ohm
Sd	0,053 sq.mt. (82,15 sq.in.)
Qms	4,15
Qes	0,28
Qts	0,26
Vas	56 lt. (1.98 cuft)
Mms	72 gr. (0.16 lb)
BL	20 Tm
Linear Mathematical Xmax	± 7,5 mm (± 0.3 in) Le (1kHz)
Le (1kHz)	1,9 mH
Ref. Efficiency 1W@1m (half space)	1,50%

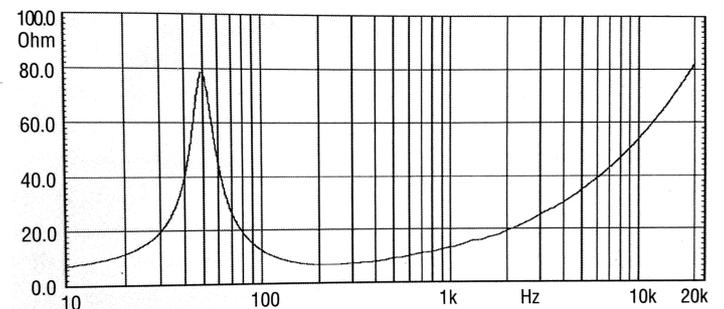
### Mounting information

Overall diameter	315 mm (12.4 in)
N. of mounting holes and bolt	8
Mounting holes diameter	7,15mm (0.28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout ø	282 mm (11.1 in)
Rear mount baffle cutout ø	282 mm (11.1 in)
Total depth	119 mm (4.7 in)
Flange and gasket thickness	16,5 mm (0.65 in)
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Net weight	10 kg (22 lb)
Shipping weight	10.8 kg (23.9 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE OF 12W1300 MADE ON 50 LIT. ENCLOSURE TUNED 60 HZ 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 50 lit enclosure tuned 60Hz using a 40 - 400Hz 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 2,83 V 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 special power, measured from 50-500 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 AES power and represent the expected long term parameters after a short period of use.
- (8) Linear Math. Xmax is calculated as  $(Hvc-Hg)/2Hg/4$  where Hvc is the coil depth and Hg is the gap depth.