

ND1090

Neodymium High Frequency Driver

Key Features

- 110 dB 1W / 1m average sensitivity
- 1 inch exit throat
- 44 mm (1 3/4 inch) voice coil diameter
- 100 Watt continuous program power handling
- Pure titanium dome
- Patented phase plug design
- Neodymium ring magnetic structure
- Excellent thermal exchange
- Ideal for 2 way systems



General Description

The ND1090 has been designed for situations where the highest quality is required. With a 1-inch exit throat, it has been developed to match the XT1086 constant directivity horn.

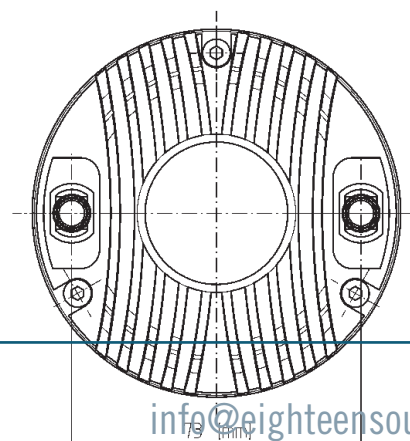
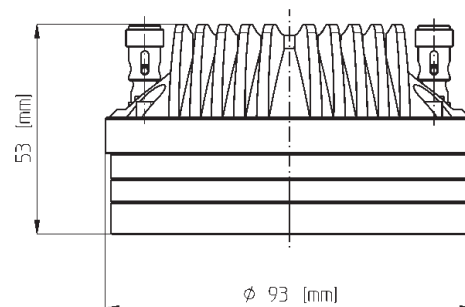
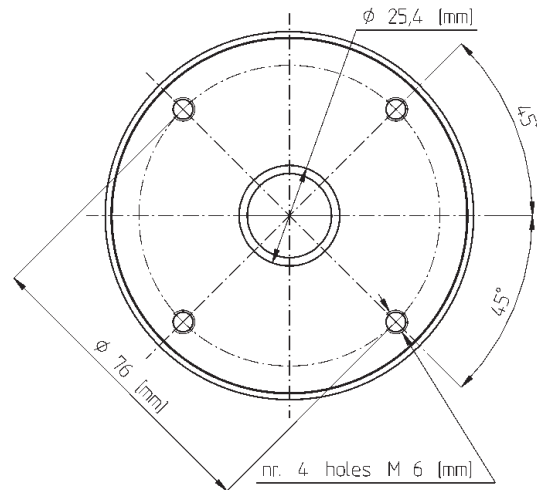
Equipped with unique Phase Plug architecture (Patent n. WO 2004/040942), the ND1090 has been designed to give high level manufacturing consistency and a smooth coherent wavefront at the horn entrance across the whole working frequency range. The phase plug short openings and high flare rate value assure low distortion and overall, the phase plug demonstrates remarkable improvements in mid-high frequency reproduction.

The ND1090 diaphragm assembly is composed of a titanium dome sandwiched to a proprietary treated polyester suspension. This design maintains low resonance and lowers the minimum crossover point value to 1.6kHz. An edge-wound aluminum voice coil, wound on proprietary treated Nomex, completes the diaphragm assembly. Nomex shows a 30% higher value of tensile elongation at a working operative temperature (200°C) when compared to Kapton. Moreover, this proprietary former material is also suitable for use in high moisture content environments.

The ND1090's powerful neodymium magnet assembly has been designed to obtain 20KGauss in the gap giving major benefits in transient response. A copper ring on the pole piece reduces inductance above 10 kHz, improving phase and impedance linearization. The custom designed O-ring creates a tight seal between the plate and the cover assuring air chamber loading. Excellent heat dissipation and thermal exchange are guaranteed by the direct contact between the magnetic structure and the aluminum cover which leads to a lower power compression value.

Due to the increase in use of high power audio systems at outdoor events or in marine environments, the ability to perform properly under inclement weather conditions is a key feature of the Eighteen Sound philosophy. Hence, in addition, a special treatment has been applied to the magnet and the top and back plates of the magnetic structure making the driver more resistant to the corrosive effects of salts and oxidization. This treatment is more effective than any other treatment used by other manufacturers.

0421T8N400 8 Ohm



NEODYMIUM HF DRIVERS

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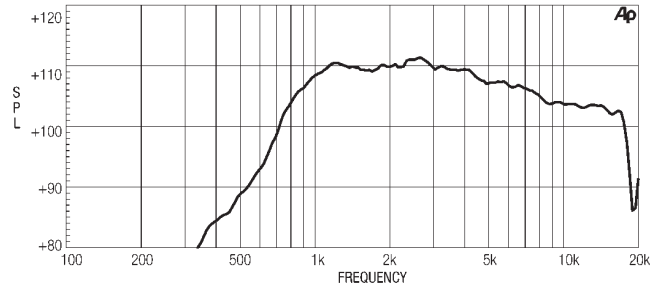
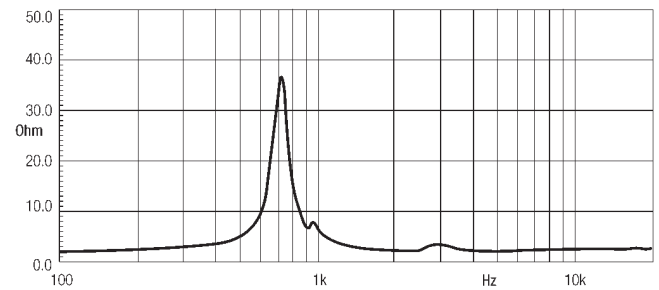
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GENERAL SPECIFICATIONS

THROAT DIAMETER	25,4 mm (1 in)
RATED IMPEDANCE	8 ohm
DC RESISTANCE	5,3 Ohm
MINIMUM IMPEDANCE	7 Ohm at 4000Hz
LE (AT 1KHZ)	120 µH
POWER HANDLING	
CONTINUOUS PINK NOISE (1)	50W above 1,6 kHz
CONTINUOUS PROGRAM (2)	100W above 1,6 kHz
SENSITIVITY(1W@1M) (3)	110 dB
FREQUENCY RANGE	1600Hz ÷ 20kHz
RECOMM. XOVER FREQUENCY	1600Hz (12dB/oct slope)
DIAPHRAGM MATERIAL	Pure Titanium dome
VOICE COIL DIAMETER	44,4mm (1 3/4 in)
VOICE COIL WINDING MATERIAL	Edge-wound aluminum
MAGNET MATERIAL	Neodymium
FLUX DENSITY	2 T
BL FACTOR	9,1 N/A
POLARITY	Positive voltage on "+" terminal gives positive pressure in the throat

MOUNTING INFORMATIONS

Overall diameter	93 mm (3,7 in)
Mounting holes diameter	4 M6 holes 90° at Ø 76 mm (3 in)
Bolt circle diameter	76 mm (3 in)
Total depth	53 mm (2,1 in)
Net weight	1,2 Kg (2,6 lb)
Shipping weight	1,3 Kg (2,9 lb)
CardBoard Packaging dimensions	97x97x58 mm (3,8x3,8x2,3 in)

ND1090 MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1M DISTANCE ON XT1086HORN MOUTH AXIS**FREE AIR IMPEDANCE MAGNITUDE CURVE****NOTES**

- (1) Continuous pink noise power rating is tested with a pink noise input having a 6 dB crestfactor for two hours duration within the specified range. Power calculated on rated impedance.
- (2) Program Power is defined as 3 dB greater than continuous pink noise but with 50% dutycycle.
- (3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 averaged between 1 kHz and 4 kHz.

Eighteen Sound engages in research and product improvement. New materials and design refinements can be introduced into existing products without notice.