

# ND1090

## Key Features

- 110 dB 1W / 1m average sensitivity
- 1 inch exit throat
- 44 mm (1 3/4 in) edgewound aluminum voice coil
- 100 Watt program power handling
- Titanium dome over PEN suspension
- Proprietary phase plug design
- Neodymium ring magnetic structure
- Excellent thermal exchange

## General Description

The ND1090 1 inch exit neodymium high frequency compression driver has been designed for situations where the highest quality is required.

Equipped with unique Phase Plug architecture, 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, showing 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.

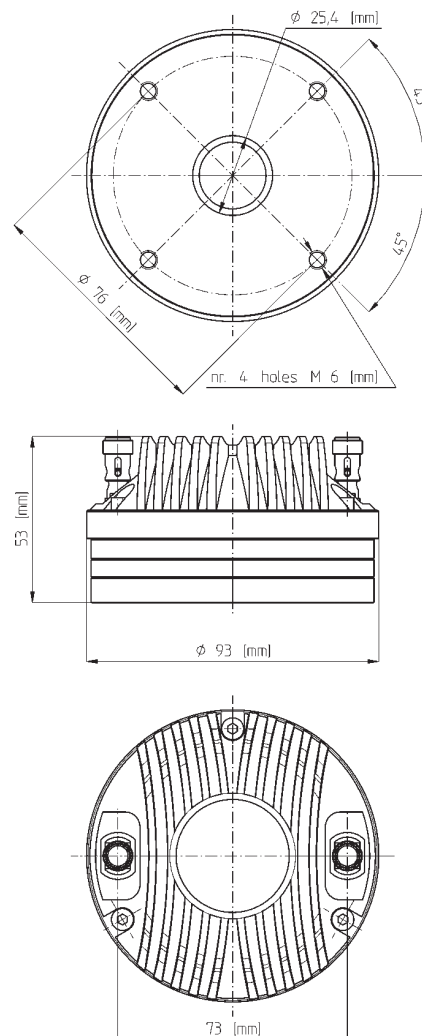
The powerful neodymium magnet assembly has been designed to obtain 20 KGauss in the gap giving major benefits in transient response. A copper ring on the pole piece reduces inductance above 10 kHz, improving phase and impedance linearization. The custom designed O-ring creates a tight seal between the 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.

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 ND1090 driver more resistant to the corrosive effects of salts and oxidization. This treatment is more effective than any other treatment used by other manufacturers.

## Neo High Frequency Driver



0421T8N400 8 Ohm  
0421T6N400 16 Ohm



NEODYMIUM HF DRIVERS

**ND1090**

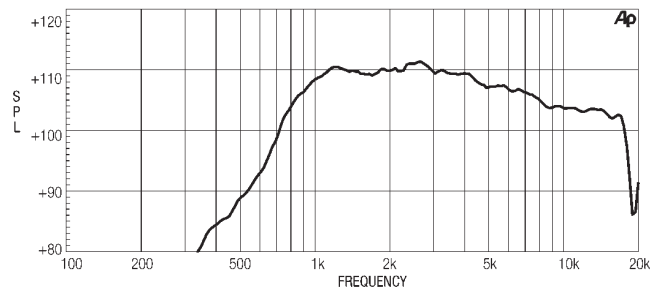
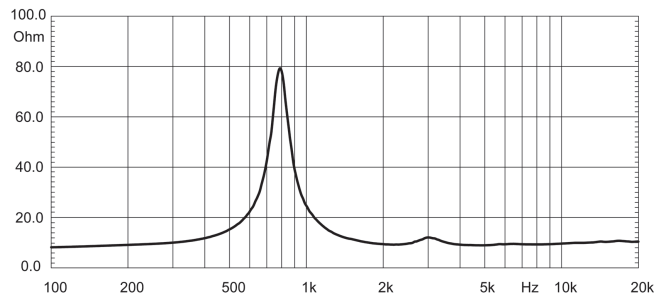
Neo High Frequency Driver

**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
AES POWER (1)	50 W above 1,6 kHz
PROGRAM POWER (2)	100 W above 1,6 kHz
SENSITIVITY (1W@1M) (3)	110 dB
FREQUENCY RANGE	1600Hz ÷ 20kHz
RECOMM. XOVER FREQUENCY	1600Hz (12dB/oct slope)
DIAPHRAGM MATERIAL	Titanium - PEN
VOICE COIL DIAMETER	44,4 mm (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 INFORMATION**

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 XT1086 HORN MOUTH AXIS****FREE AIR IMPEDANCE MAGNITUDE CURVE****NOTES**

- (1) AES power rating is tested with a pink noise input having a 6 dB crest factor for two hours duration within the specified range. Power calculated on minimum impedance.
- (2) Program power rating is defined as 3 dB greater than AES rating, and is a conservative expression of the transducer ability to handle music program material.
- (3) Sensitivity is measured at 1W input on rated impedance at 1m on axis from the mouth of XT1086 horn, 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.