

# NSD1424BTN

## Neo High Frequency Driver

### Key Features

- 110 dB 1W / 1m average sensitivity
- 140 W program power handling
- 1,4 inches exit throat
- 64mm (2,4 in) edgewound aluminum voice coil
- True Piston Motion TiN coated titanium diaphragm
- Proprietary phase plug design
- High grade neodymium magnetic structure
- Excellent thermal exchange



### General Description

The NSD1424BTN 1.4" exit neodymium high frequency compression driver has been designed for high level sound systems application.

This new HF unit uses our proprietary True Piston Motion - TPM - technology, based on a thin film nitride coating deposit over the titanium diaphragm. The thin film is just several micron thick and is realized in a PVD - Physical Vapour Deposition - vacuum chamber. With its very high value of elasticity modulus (six times higher than titanium and two times higher than beryllium), the Tin coated Titanium diaphragm is capable of doubling the diaphragm overall stiffness with obvious benefits in terms of impulse response and intermodulation distortion reduction. The frequency response is then extended by 25%, showing a predictable, ideal pistonic behaviour, avoiding top-end spurious resonances.

A proprietary treated Nomex bended former edge-wound aluminum 60mm voice coil completes diaphragm assembly. It has been made joining the proprietary treated Nomex former directly to the titanium dome through its upper bend edge. In comparison with usual straight former joint, the driver design assures extended frequency energy transfer for improved response linearity and unparallel reliability. This feature allows to keep proper motion control of the dome in real working conditions. Thanks to its physical properties, the proprietary treated Nomex former shows 30% higher value of tensile elongation at working operative temperature (200°C) when compared to Kapton. Moreover, this material is suitable to work also in higher moisture contents environments.

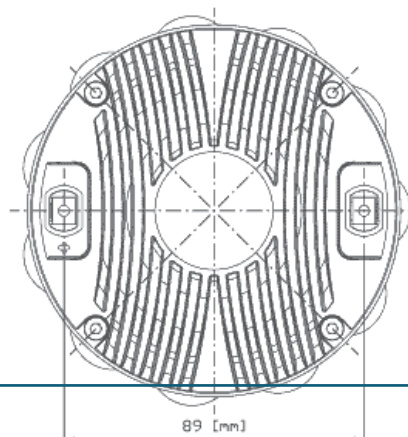
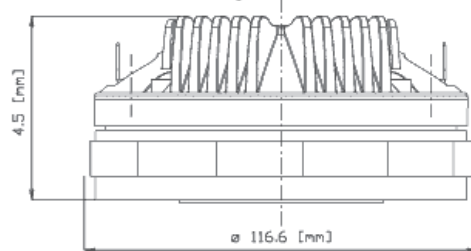
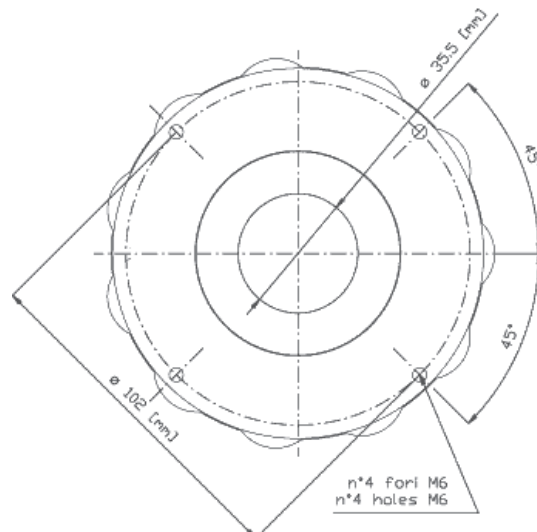
Equipped with Proprietary Phase Plug 3P architecture, the NSD1424BTN has been designed to give smooth coherent wavefront in the horn entrance in all working frequency range and high level manufacturing consistency. The phase plug with its short openings and high flare rate value assures low distortion and remarkable improvements in mid-high frequency reproduction.

Through careful use of elementary pieces of neodymium magnets, Eighteen Sound engineers have developed a powerful neodymium magnet assembly able to reach 19K Gauss in the gap in compact and lightweight structure. The motor structure, throughout the precisely coherent phase plug with 3 circumferential slots and copper ring on the pole piece, reduces inductance effects and distortion.

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 that allows to obtain a lower power compression value.

0422N8M900 8 Ohm  
0422N6M900 16 Ohm



NEODYMIUM HF DRIVERS

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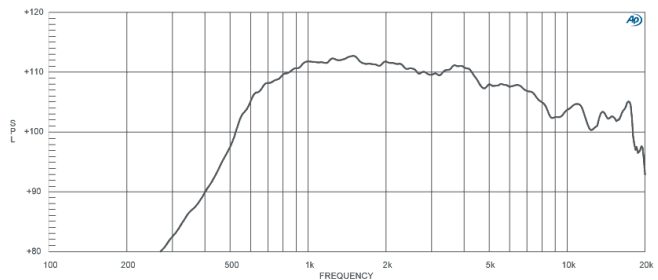
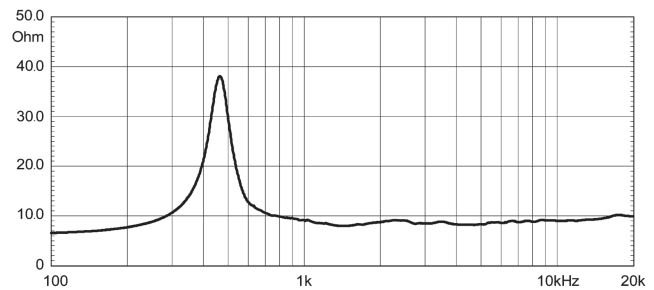
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**GENERAL SPECIFICATIONS**

THROAT DIAMETER	35,5 mm (1,4 in)
RATED IMPEDANCE	8 ohm
DC RESISTANCE	6 ohm
MINIMUM IMPEDANCE	8 ohm at 3000 Hz
AES POWER (1)	70 W above 1,2 kHz
PROGRAM POWER (2)	140 W above 1,2 kHz
SENSITIVITY (1W@1M) (3)	110 dB
FREQUENCY RANGE	800 Hz ÷ 20 kHz
RECOMM. XOVER FREQUENCY	above 1200 Hz (12 dB/octave)
DIAPHRAGM MATERIAL	TiN coated Titanium
VOICE COIL DIAMETER	60 mm (2,4 in)
VOICE COIL WINDING MATERIAL	Edge-wound aluminum
MAGNET MATERIAL	Neodymium
FLUX DENSITY	1,9 T
BL FACTOR	10,5 N/A
POLARITY	Positive voltage on red terminal gives positive pressure in the throat

**MOUNTING INFORMATIONS**

Overall diameter	116,6 mm (4,59 in)
Mounting holes diameter	4 M6 holes 90° at Ø102 mm (4 in)
Bolt circle diameter	102mm (4 in)
Total depth	54,5 mm (2,15 in)
Net weight	1,7 Kg (3,70 lb)
Shipping weight	1,9 Kg (4,20 lb)
CardBoard Packaging dimensions	132x132x68 mm (5,2x5,2x2,7 in)

**NSD1424BTN MEASURED WITH 1W INPUT ON RATED IMPEDANCE AT 1 M DISTANCE ON AXIS FROM THE MOUTH OF XT1464 HORN****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 XT1464 horn, averaged between 1kHz and 4 kHz.

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