12NCX750

High Output Neo Coaxial Transducer

Key Features

- 97dB LF / 106.5dB HF SPL 1W/1m average sensitivity
- Single magnet neodymium motor
- 800W LF - 240W HF maximum program power handling
- 75 mm (3") LF Interleaved Sandwich Voice coil (ISV)
- Aluminum demodulating ring (SDR) for minimum LF distortion
- 60 mm (2.4") HF Titanium diaphragm
- Edge-wound Aluminum ribbon HF voice coil (EWAL)
- HF copper sleeve for reduced distortion and higher output
- 80 degrees nominal conical dispersion
- Suitable for very compact enclosures and stage monitor

Description

The 12NCX750 is a 12" neodymium coaxial transducer designed for use in compact reflex enclosures and stage monitors as small as 40 lt with a nominal dispersion of 80 degrees. The curvilinear profile LF cone provides smooth response within its intended frequency range thanks to its high damping pulp composition.

The 75mm (3") LF copper voice coil employs Interleaved Sandwich Voice coil (ISV) technology, in which a high strength former carries windings on both the outer and inner surfaces. This results in a balanced coil with a uniform distribution of mass and motive energy and an extremely linear motor assembly.

The low distortion and sound quality are further improved by an aluminum demodulating ring (SDR technology) that flatten LF impedance and phase with constant power transfer. Equipped with proprietary hybrid radial tangerine phase plug, the integrated HF compression driver has been designed to give smooth coherent wavefront in the horn entrance in all working frequency range with a high level of 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. A copper sleeve reduces inductance value above 10 kHz, improving phase and impedance lineartisation.

The 2.4" diameter HF diaphragm assembly uses a high strength, high temperature treated Nomex voice coil former joined directly to the titanium diaphragm on its upper bend edge, assuring extended frequency energy transfer. This improves linearity and shows unparalleled reliability when compared with a straight former joint.

A specific HF exit profile design has been chosen in order to maximize the cone's profile coupling. The high force neodymium single magnet structure makes the 12NCX750 a lightweight speaker for its performance class - only 4.7 kg (10.36 lb).

The XO12NCX dedicated passive crossover filter is offered, making this neo coaxial speaker a ready-to-use transducer system. Due to the widespread use of high power audio systems at outdoor events, the ability to perform in adverse weather conditions is an additional key feature of the 12NCX750. This has been achieved using exclusive core and magnet plate treatment processes which increase resistance against corrosion and make the cone water repellent.

Models

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<td>0212BN750</td>
<td>8 + 8 Ohm</td>
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<td>0371XCR00</td>
<td>Passive Crossover</td>
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High Output Neo Coaxial Transducer

**General Specifications**

- **Nominal Diameter**: 300 mm (12 in)
- **Rated Impedance**: 8 Ohm
- **AES Power**: 400 W
- **Program Power**: 800 W
- **Peak Power**: 1600 W
- **Sensitivity**: 97 dB
- **Frequency Range**: 60 ÷ 5000 Hz
- **Power Compression @-10dB**: 0.9 dB
- **Power Compression @-3dB**: 2.8 dB
- **Power Compression @0dB**: 4.2 dB
- **Max Recom. Frequency**: 1800 Hz
- **Recomm. Enclosure Volume**: 40 ÷ 90 lt. (1,41 ÷ 3,18 cuft)
- **Minimum Impedance**: 6.4 Ohm at 25°C
- **Max Peak To Peak Excursion**: 27 mm (1.06 in)
- **Voice Coil Diameter**: 75 mm (3 in)
- **Voice Coil Winding Material**: copper
- **Suspension**: M roll, polycotton
- **Cone**: Curvilinear, Water repellent, High damping pulp

**Thiele Small Parameters**

- **Fs**: 58 Hz
- **Re**: 5.4 Ohm
- **Sd**: 0.0531 sq.mt. (82.31 sq.in.)
- **Qms**: 6.42
- **Qes**: 0.31
- **Qts**: 0.29
- **Vas**: 63 lt. (2.23 cuft)
- **Mms**: 48 gr. (0.10 lb)
- **BL**: 17.5 Tm
- **Le (1kHz)**: 0.62 mH
- **Half space efficiency**: 4.8%

**Mounting information**

- Overall diameter: 310 mm (12.20 in)
- N. of mounting holes and bolt: 8
- Bolt circle diameter: 295 mm (11.61 in)
- Front mount baffle cutout ø: 280 mm (11 in)
- Rear mount baffle cutout ø: 280 mm (11 in)
- Total depth: 148 mm (5.85 in)
- Flange and gasket thickness: 14 mm (0.55 in)
- Net weight: 4.7 kg (10.36 lb)
- Shipping weight: 5.2 kg (11.46 lb)
- CardBoard Packaging dimensions: 332 x 332 x 184 mm (13.07 x 13.07 x 7.24 in)

**HF General Specifications**

- **D.C. Resistance**: 6.1 Ohm
- **Continuous Power**: 120W above 1.1 kHz
- **Max. program power**: 240W above 1.1 kHz
- **Sensitivity**: 107 dB
- **Frequency Range**: 0.9 + 18 kHz
- **Min Xover Frequency**: 1.1 kHz
- **Voice Coil Diameter**: 60 mm (2.4 in)

**FREQUENCY RESPONSE CURVE FOR THE SPEAKER LOADED IN A 50 LT ENCLOSURE TUNED 60 HZ IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THIN LINE REPRESENTS HIGH FREQUENCY RESPONSE**

**FREE AIR IMPEDANCE MAGNITUDE CURVE**

**Notes**

1) AES power is determined according to AES2-1984 (2003) standard Program power rating is measured in 50 lit. enclosure tuned at 60 Hz using a 60-500Hz band limited pink noise test signal applied for 3 hours and with 50% duty cycle. Power measured on minimum impedance.
2) 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.
3) Sensitivity represents the averaged value of acoustic output as measured on the front 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.
4) 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.
5) Power compression represents the loss of sensitivity for the specified power, measured from 50-500 Hz, after a 5 min pink noise preconditioning test at the specified power.
6) Continuous Power is defined as a level that is 3 dB greater than the one measured with the new AES2-2012 standard, using continuous pink noise having a 12 dB crest factor for 2 hours.
7) Program power is defined as 3 dB greater than continuous power rating.
8) Sensitivity represent the averaged value of acoustic output as measured on speaker axis at a distance 1 m distance, when connected to a 2.83 V sine wave sweep between 1000-4000 Hz.
9) Minimum crossover frequency requires at least 12 dB/oct slope high pass filter, preferred 24dB/oct slope high pass filter.
10) Small parameters are measured after the test specimen has been conditioned by 1 hour 20 Hz sine and represent the expected long term parameters after a short period of use.
11) Linear Math. Xmax is calculated as (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.