



Code: DR-12-018-8R-B2-C0001

REDCATT 122NPW 12-inch neodymium professional woofer: 800 W AES, 96.9 dB sensitivity, 8 Ω , Fs 35 Hz, 101.6 mm voice coil. Full T/S parameters, datasheet, 2D drawing and STEP CAD file.

KEY FEATURES

- ✓ Carbon fiber filled paper cone
- ✓ Double silicone spider
- ✓ High power handling

QUICK SPECS

Impedance
8 Ω

Sensitivity
96.88 dB

Magnet
Neodymium

Program Power
1600 W

Fs
35.00 Hz

Voice Coil
101.6 mm

 [Datasheet \(PDF\)](#)

 [2D Drawing](#)

 [3D Model \(STEP\)](#)

Design Notes

The 122NPW is a high efficiency, (97 dB 1watt / 1 meter) 12-inch woofer with incredibly linear frequency response characteristics, extreme high power handling capability while generating low harmonic distortion artifacts. The 122NPW uses a lightweight carbon fiber loaded cone assembly along with a high excursion triple roll constant geometry surround. This combination provides remarkable strength, high efficiency and a peak to peak maximum excursion of 19mm. Woofer features REDCATT double silicone sealed spider.

former material capable of withstanding peak temperatures in excess of 350degC, well beyond the thermal requirements of modern professional audio systems.

The woofer cone is also extensively treated to withstand harsh environments and high humidity. Metal parts in the speaker assembly are coated for extreme weatherization protection.

Specifications

GENERAL SPECS

Nominal Diameter	12"
Rated Impedance	8 Ohm
Magnet	Neodymium
Basket Material	Aluminum

POWER HANDLING

AES Power	800 W
Continuous Power	1600 W
Peak Power	3200 W

VOICE COIL

Diameter	101.6 mm
Winding Wire	Copper
Former	Glass Fiber
Winding Height	25.5 mm

Resonant Frequency (Hz)	55.55 Hz
Re	5.50 Ω
Qes	0.170
Qms	6.65
Qts	0.170
Vas	81.90 liters
Sd	551.00 cm ²
Mms	81.90 grams
Rms	2.71
Cms	0.2500
Bl	27.00 T·m
Le	1.270 mH
Sensitivity	96.88 dB

General Material

Table

Cone/Dome Material	Paper CF
Spider	Nomex
T-Plate	14 mm
Xmax (peak)	5.75 mm
Xmech	19.75 mm
Overall Diameter	322.00 mm
Bolt Circle Diameter	302.00 mm
Baffle Cutout Dia.	287.00 mm
Mounting Holes	8
Depth (flange to rear)	154.00 mm
Net Weight	7.60 kg
Packaging Dimensions	370×370×220 mm

ORDERING CODES

Product Code DR-12-018-8R-B2-C0001

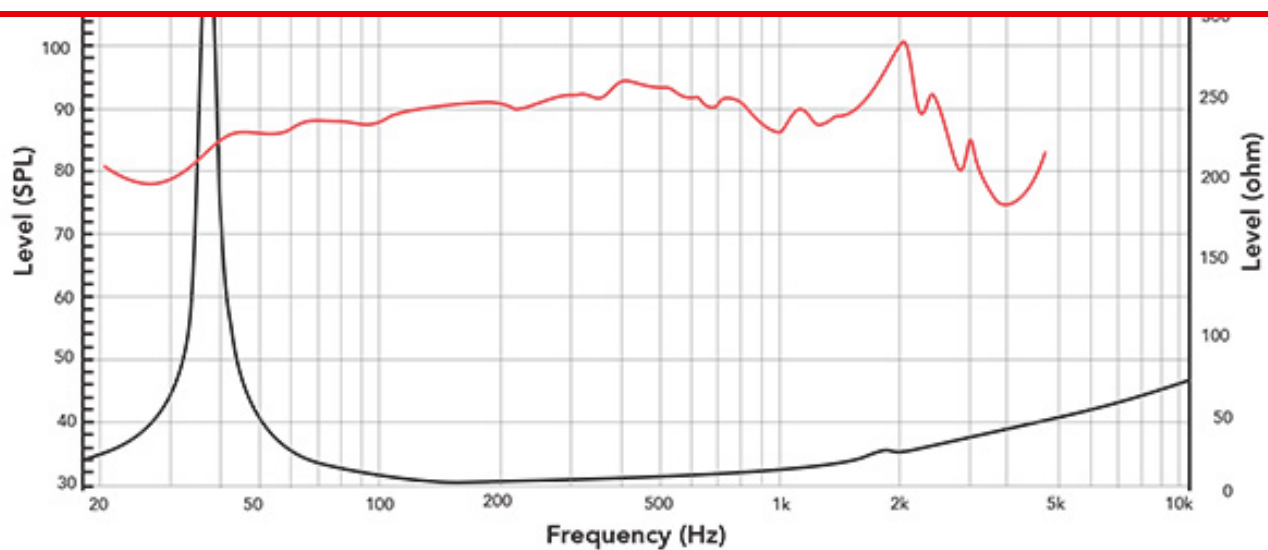
DOWNLOADS

 Datasheet (PDF)
  2D Drawing (PDF)
  3D Model (STEP)

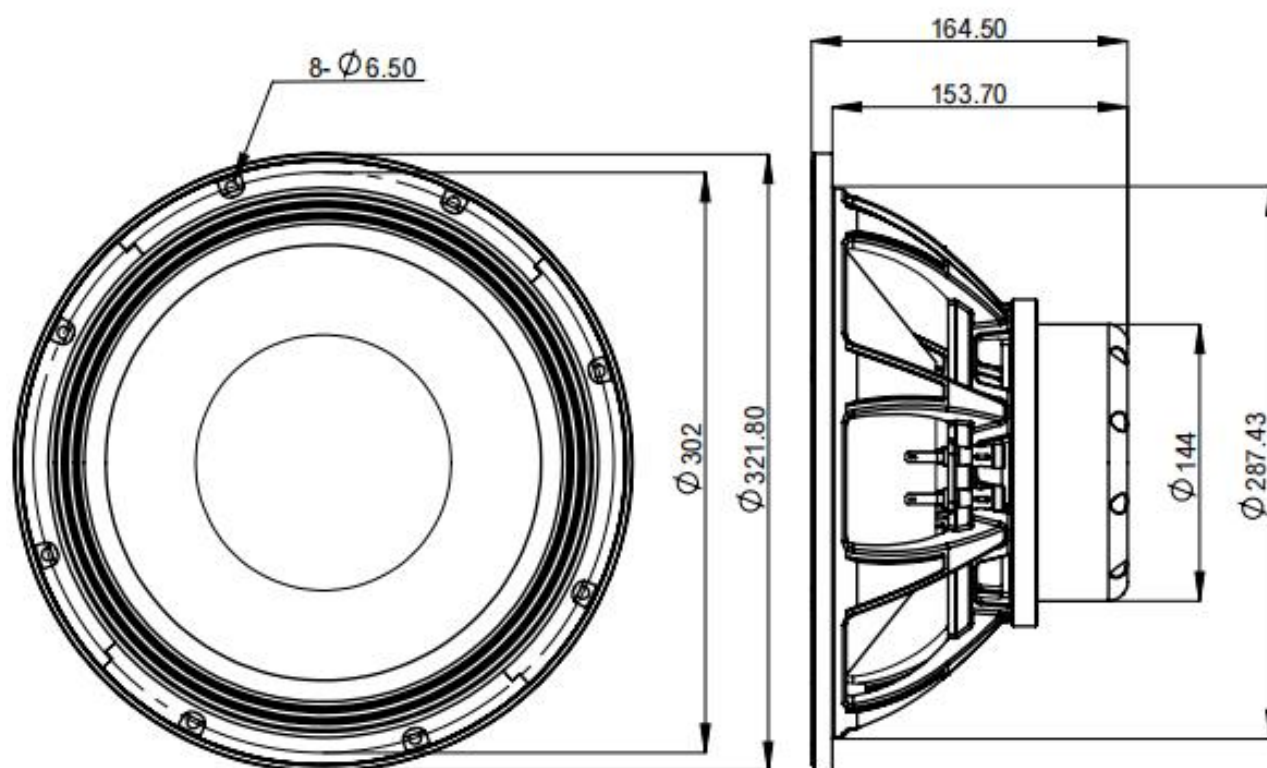
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Frequency Response & Impedance





2D Drawing



and fixed installation systems operating across the 40-2000 Hz bandwidth. With a measured sensitivity of 96.88 dB (1 W/1 m) and a 101.6 mm (4-inch) copper voice coil wound on a composite Polyimide former rated to withstand peak temperatures in excess of 350 degC, the driver delivers exceptional acoustic output per watt across continuous programme material without thermal compression. The Neodymium motor system produces a Bl of 27 T.m at a Qts of 0.17, placing it in the extreme-motor-force category of professional woofer design. This combination of high motor strength, high sensitivity, and superior thermal management makes the 122NPW a direct competitor to the most demanding 12-inch PA woofer applications in touring, theatre, and high-SPL installation markets. The carbon fiber loaded paper cone assembly is extensively treated for humidity and environmental resistance, and the double silicone sealed Nomex spider provides additional protection against contaminants in field and permanent-installation environments.

The 122NPWX8-102 requires high-power professional amplification in the 800-1600 W range into 8 ohms, with DSP-controlled signal management mandatory for all alignments. A 24 dB/octave high-pass filter is required at 55, 40, or 35 Hz depending on alignment tuning, as the vented enclosure rapidly unloads the cone below the tuning frequency and the Qts=0.17 motor provides no passive self-limiting below resonance. Displacement-limiting and power-limiting algorithms should be included in any DSP preset for this driver. The operating bandwidth is approximately 40 Hz to 2 kHz; low-pass crossover to a compression driver or mid-high section at 1.0-1.5 kHz with a 24 dB/octave slope is standard for two-way system designs using the 122NPW as the LF component.

The 122NPWX8-102 is suited for: compact and mid-size touring PA enclosures requiring maximum SPL from a 12-inch footprint; two-way professional speaker systems for live sound reinforcement, houses of worship, theatre, and stadium installation; line array bass extension and mid-bass column modules; club and venue main speaker systems operating at continuous high power levels; and cinema LF speaker assemblies where programme-consistent output, thermal durability, and motor linearity across the operating band are required. Its 96.88 dB sensitivity, 800 W AES power handling, and Neodymium motor with Polyimide former represent the specification combination typical of reference-class professional 12-inch woofer designs for mid-to-large-scale sound

secondary simulation and careful evaluation. Several rounds of samples and fine-tuning may be required for optimal results.

Enclosure Recommendations

Recommended enclosure alignments (bass reflex):

- 70 liters tuned to 38 Hz: high output, strong mid-bass, reduced excursion; -3 dB approx. 35 Hz, HP filter 30 Hz
- 90 liters tuned to 33 Hz: balanced response, general-purpose (recommended); -3 dB approx. 28 Hz, HP filter 23 Hz
- 90 liters tuned to 31 Hz: extended low-frequency, requires HP filter protection; -3 dB approx. 26 Hz, HP filter 20 Hz

Frequently Asked Questions

What are the key features of the 122NPW?



What enclosure is recommended for the 122NPW?



What applications is the 122NPW suited for?



What are the power and sensitivity specs of the 122NPW?



Related professional woofers



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12NPM



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121FIND



LF 12"
121FIND



LF 12"
121NPM

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Professional mid-woofers & midranges

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