



Code: DR-6.5-006-8R-B2-C0001

REDCATT 6NPM 6.5-inch neodymium professional midrange driver: 180 W AES, 96.8 dB sensitivity, 8 Ω , Fs 150 Hz, 44.5 mm voice coil. Full T/S parameters, datasheet, 2D drawing and STEP CAD file.

KEY FEATURES

- ✓ Very high efficiency midrange
- ✓ Ultra low harmonic distortion
- ✓ High power handling

QUICK SPECS

Impedance
8 Ω

Sensitivity
96.79 dB

Magnet
Neodymium

Program Power
360 W

Fs
150.00 Hz

Voice Coil
44.5 mm

 [Datasheet \(PDF\)](#)

 [2D Drawing](#)

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

Design Notes

The 6NPM is a very high efficiency, (97 dB 1watt / 1 meter in 1l enclosure) 6-inch midrange speaker with incredibly linear frequency response characteristics and ultra low harmonic distortion artifacts. The 6NPM has extremely high sound quality. The 6NPM uses a lightweight paper pulp, specifically developed for this application. This unique cone provides the ideal weight to strength ratio.

Voice Coil

distortion artifacts. By combining this material with the state of the art adhesives, the 6NPM delivers incredible performance.

The neodymium magnet is in a direct contact with the CNC exposed aluminum section of the basket, hold in place by our thermal transfer adhesives. This design dramatically improves the heat transfer. Further more, based upon a request, we have developed added on aluminum heat-sink. The heat-sink is a recommended optional accessory for applications in sealed mid-range, low volume enclosures.

Specifications

GENERAL SPECS

Nominal Diameter	6.5"
Rated Impedance	8 Ohm
Magnet	Neodymium
Basket Material	Aluminum

POWER HANDLING

AES Power	180 W
Continuous Power	360 W
Peak Power	720 W

Diameter	44.5 mm
Former	Glass Fiber
Winding Height	6.8 mm

T/S PARAMETERS

Resonant Frequency (Fs)	150.00 Hz
Re	6.90 Ω
Qes	0.380
Qms	4.58
Qts	0.350
Vas	2.90 liters
Sd	143.10 cm ²
Mms	11.10 grams
Rms	2.28
Cms	0.1000
Bl	13.70 T·m
Le	0.160 mH
Sensitivity	96.79 dB

General Material

Cone/Dome Material	Paper GF
Spider	Nomex
T-Plate	6 mm
Xmax (peak)	0.4 mm
Xmech	6.4 mm
Overall Diameter	162.00 mm
Bolt Circle Diameter	172.00 mm
Baffle Cutout Dia.	145.00 mm
Mounting Holes	4
Depth (flange to rear)	52.50 mm
Net Weight	1.20 kg

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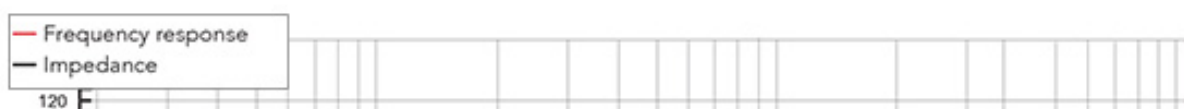
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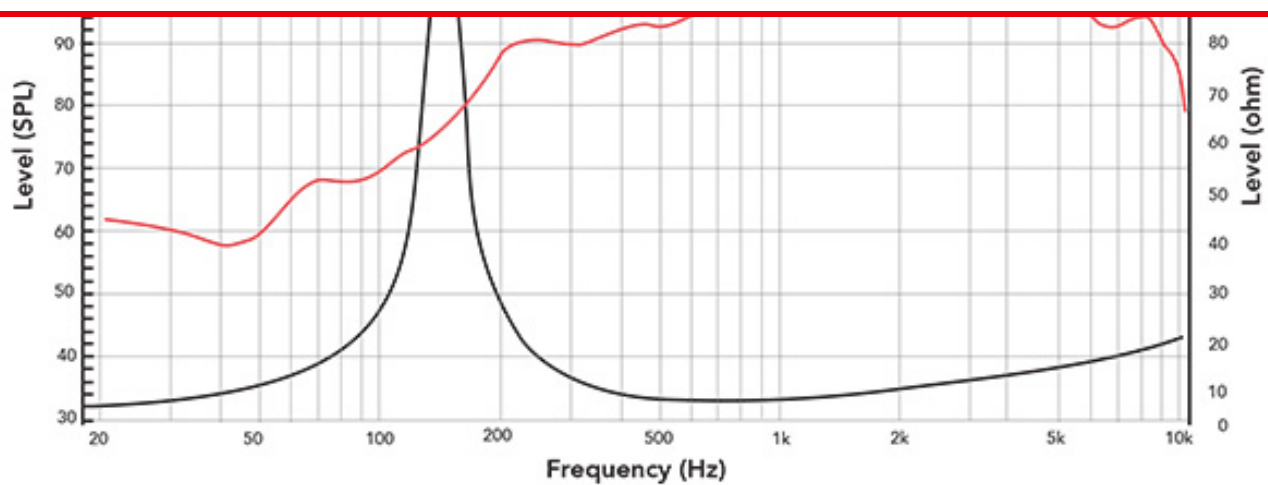
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 Datasheet (PDF)
  2D Drawing (PDF)
  3D Model (STEP)

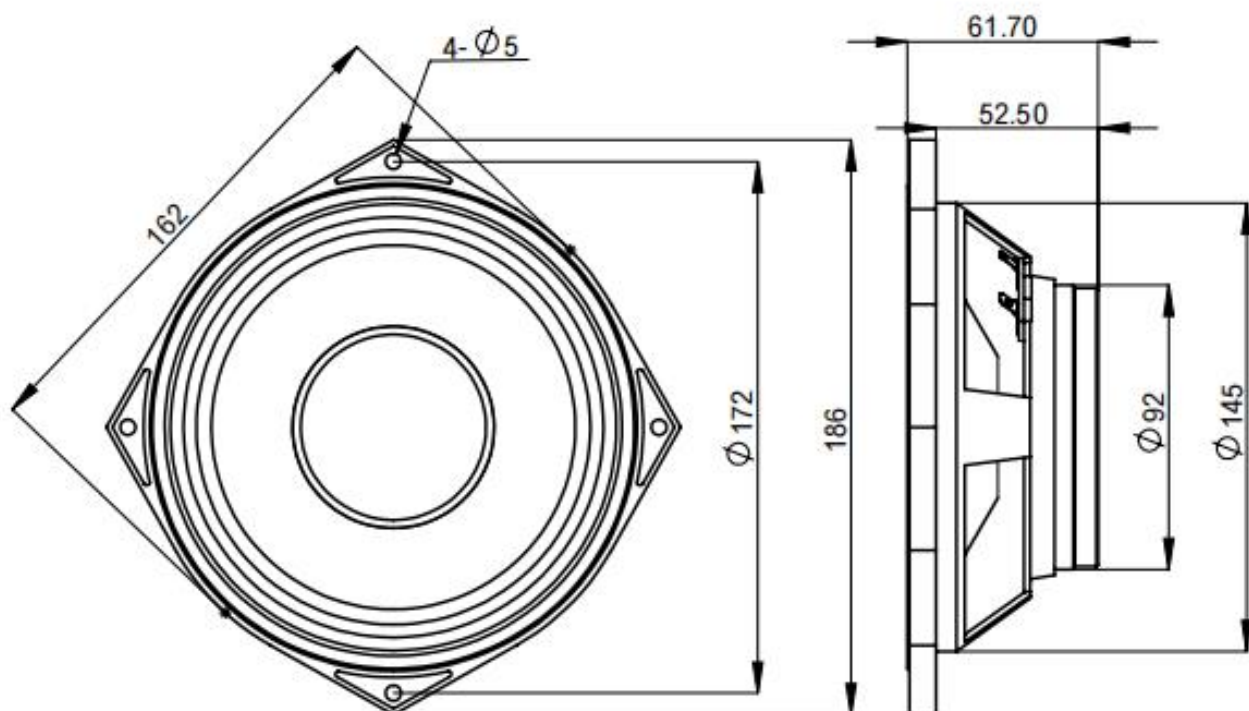
Covered by the REDCATT **3-year Limited Warranty**.

Frequency Response & Impedance





2D Drawing



professional sound reinforcement systems requiring high sensitivity (97 dB 1W/1m) and controlled, low-distortion reproduction in the 300-5000 Hz range. It features a lightweight paper pulp cone on a fabric surround, driven by a 1.75-inch edge-wound aluminum voice coil on a glass fiber former. The motor and suspension are optimized to maintain consistent performance at high drive levels, with controlled excursion and reduced thermal compression during long-term operation.

The driver is rated for approximately 180 W AES / 360 W continuous power handling and requires active DSP crossover management. A high-pass filter in the range of 300-500 Hz (24 dB/octave Linkwitz-Riley recommended) should be set according to the chosen enclosure volume and system architecture. The neodymium motor provides direct thermal coupling to the aluminum basket, and an optional bolt-on aluminum heatsink is available for sustained high-power operation in sealed low-volume enclosures where thermal management is critical.

This driver is particularly effective in professional touring line arrays, compact point-source loudspeakers, coaxial monitor systems, and horn-loaded midrange applications, where high sensitivity, low distortion, and compact enclosure requirements are priorities.

Recommended enclosure volumes are simulated results. For best enclosure volumes and tuning, we recommend secondary simulation and careful evaluation. Several rounds of samples and fine-tuning may be required for optimal results.

Enclosure Recommendations

professional multi-way systems where the LF section handles frequencies below the crossover point. In sealed cavities, practical volumes range from 0.6 to 2.0 liters with system resonances between 230 and 360 Hz; these alignments require active high-pass filtering at 300-500 Hz and function as rear-chamber acoustic loading rather than as bass-extending enclosures. Horn loading (constant-directivity waveguide, 90 degrees or narrower) is the preferred implementation for maximum sensitivity, controlled dispersion, and thermal management under high continuous drive levels.

Frequently Asked Questions

What are the key features of the 6NPM?



What enclosure is recommended for the 6NPM?



What applications is the 6NPM suited for?



What are the power and sensitivity specs of the 6NPM?



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