



Code: DR-8-012-8R-B2-C0001

REDCATT 81XR 8-inch neodymium professional mid-woofer: 200 W AES, 93 dB sensitivity, 8 Ω , Fs 73 Hz, 63.5 mm voice coil. Full T/S parameters, datasheet, 2D drawing and STEP CAD file.

KEY FEATURES

- ✓ Nonparallel voice and low frequency reproduction quality
- ✓ Patented magnetic circuit and air venting design
- ✓ Extremely low harmonic distortion

QUICK SPECS

Impedance
8 Ω

Sensitivity
93.00 dB

Magnet
Neodymium

Program Power
400 W

Fs
73.00 Hz

Voice Coil
63.5 mm

[📄 Datasheet \(PDF\)](#)[📎 2D Drawing](#)[📦 3D Model \(STEP\)](#)

Design Notes

The 81XR was designed to be simply the best driver for 2-way and multi-way systems on the market, yet this driver will also shine in sub-woofer applications. The combination of our XR patented technology with static shorting coil brings an nonparallel opportunity to the audio designers. The common request for 2-way speakers is “more of everything”. Designers wishes for more bass, more mids. Well, there you have it! But not only that. We bring this with clarity in the mid-frequencies and undistorted bass. Our designers were able to achieve THD below 0.5% from 20Hz up to 2.5kHz. There isn't

The magnetic design incorporates large neodymium magnets placed along the voice coil winding, together with the 2nd and static coil placed on the pole piece. This has allowed us to push the cone excursion to 30mm peak to peak, while lowering the inductance. The shorting coil covers the complete main coil excursion. This is also an improvement compared to some previous designs on the market that utilizes static coil. Unique gap side venting ensures good air circulation, lowers air noise and greatly improves the reliability of this driver.

Specifications

GENERAL SPECS

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

POWER HANDLING

AES Power	200 W
Continuous Power	400 W
Peak Power	800 W

Diameter	33.3 mm
Former	Glass Fiber
Winding Height	18.3 mm

T/S PARAMETERS

Resonant Frequency (Fs)	73.00 Hz
Re	5.50 Ω
Qes	0.370
Qms	1.47
Qts	0.300
Vas	7.20 liters
Sd	201.00 cm ²
Mms	38.00 grams
Rms	11.90
Cms	0.1300
Bl	16.00 T·m
Le	0.190 mH
Sensitivity	93.00 dB

General Material

Table

Cone/Dome Material	Paper GF
Spider	Nomex
T-Plate	31 mm
Xmax (peak)	6.35 mm
Xmech	25 mm
Overall Diameter	210.00 mm
Bolt Circle Diameter	195.00 mm
Baffle Cutout Dia.	186.88 mm
Mounting Holes	8
Depth (flange to rear)	128.30 mm
Net Weight	4.90 kg

ORDERING CODES

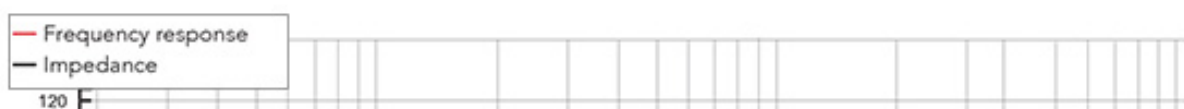
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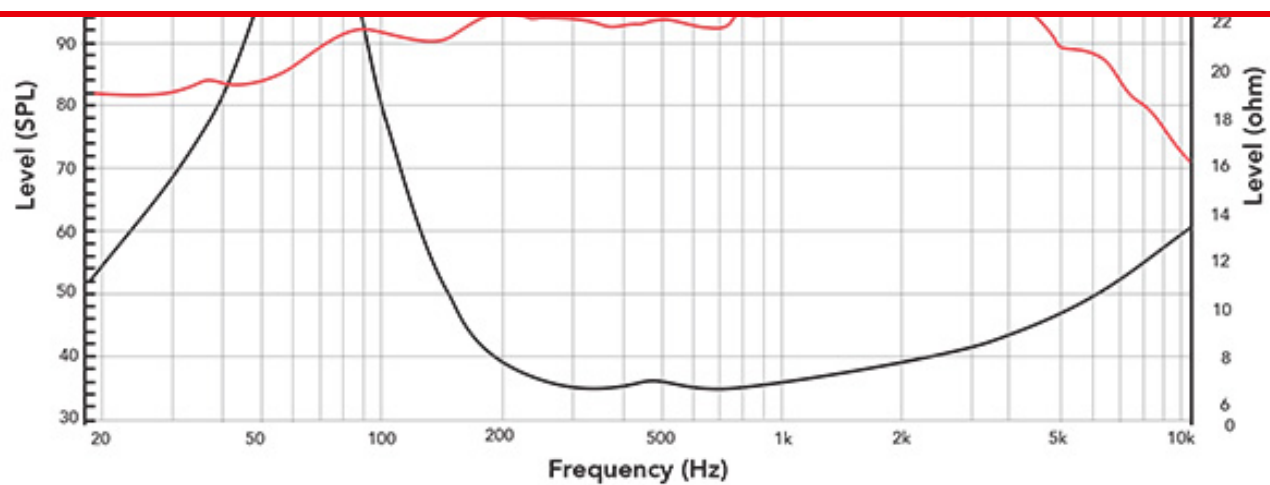
DOWNLOADS

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

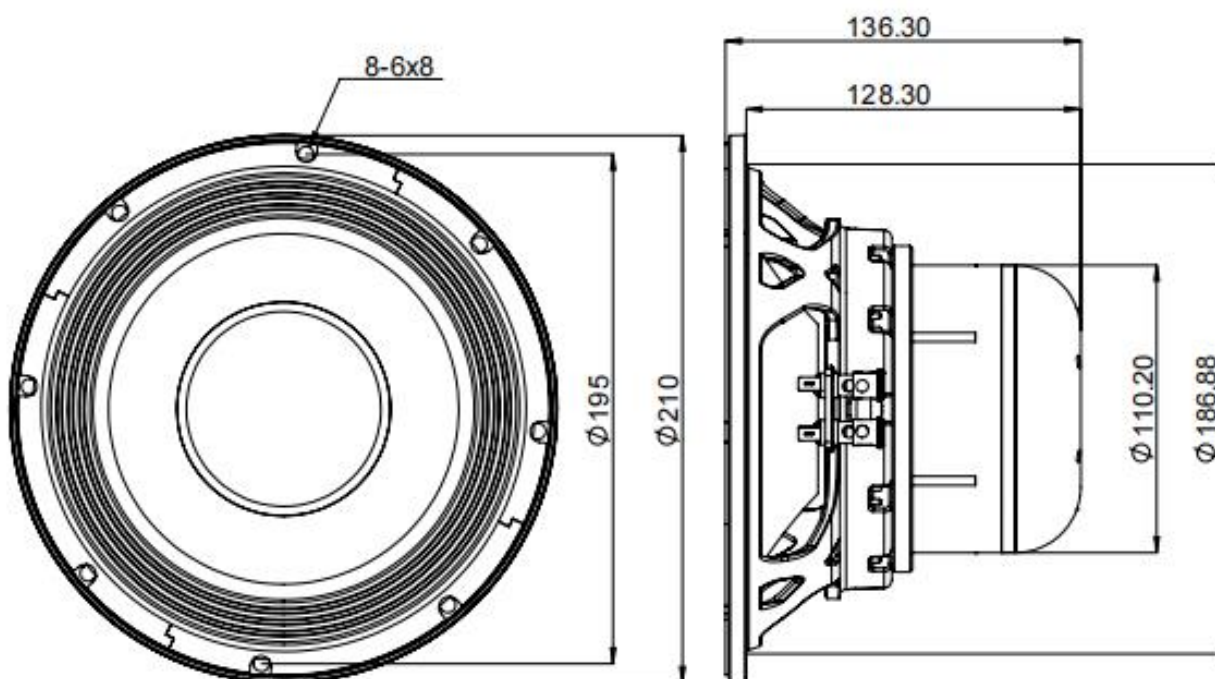
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Frequency Response & Impedance





2D Drawing



multi-way systems with 93.0 dB sensitivity (1W/1m). 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 intended for use with moderate amplification (approx. 200 W AES / 400 W continuous) and DSP control. A high-pass filter in the range of 47-67 Hz is recommended depending on enclosure tuning, along with proper limiting to manage thermal and mechanical stress. Typical operating bandwidth is 50-2500 Hz, covering bass through upper-mid frequencies for direct integration with a compression driver or tweeter in a two-way or multi-way system.

This design is particularly effective in single or multi-driver bass reflex systems used in professional two-way and multi-way PA systems, powered monitors, and compact bass-reflex enclosures, where extended bandwidth, controlled distortion across the full operating range, and versatile system integration are required.

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

Recommended enclosure alignments (bass reflex):

- 6 liters tuned to 77 Hz: high output, strong mid-bass, reduced excursion; -3 dB approx. 71 Hz, HP filter 69 Hz
- 8 liters tuned to 68 Hz: balanced response, general-purpose (recommended); -3 dB approx. 58 Hz, HP filter 58 Hz
- 10 liters tuned to 59 Hz: extended low-frequency, requires HP filter protection; -3 dB approx. 50 Hz, HP filter 47 Hz

Frequently Asked Questions

What enclosure is recommended for the 81XR?



What applications is the 81XR suited for?



What are the power and sensitivity specs of the 81XR?



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