



Code: DR-10-020-8R-B2-C0001

REDCATT CX10F140F 10-inch hybrid coaxial loudspeaker driver: 200 W AES, 95 dB sensitivity, 8 Ω , 50.8 mm voice coil. Full T/S parameters, datasheet, 2D drawing and STEP CAD file.

KEY FEATURES

- ✓ LF and HF integrated ferrite-neodymium magnetic circuit
- ✓ Aluminum symmetrical horn
- ✓ Good off-axes frequency response

QUICK SPECS

Impedance
8 Ω

Sensitivity
95.03 dB

Voice Coil
LF: 50.8 mm / HF: 35.6 mm

Program Power
LF: 400 W / HF: 60 W

Magnet
Hybrid

 [Datasheet \(PDF\)](#)

Design Notes

The CX10F-140F is a high efficiency, (93.5dB 1watt / 1 meter) 8-inch coaxial speaker with very linear frequency response characteristics and high power handling capability. The mid-woofer utilizes REDCATT developed paper pulp cone that has proven its performance in many of our successful designs. The HF section was designed around our most successful dome assembly as used in 140FCD and has integrated symmetrical aluminum horn. The combination of used materials with our state of the art quality production yields in well performing driver even in the most demanding and extreme

REDCATT engineers have developed ferrite-neodymium based magnetic circuit, capable of delivering the highest level of performance in a small form factor. The combination of ferrite and neodymium delivers an excellent magnetic performance. The magnetic circuit design is optimized to generate the minimum amount of flux modulation, providing exceptional stability. Aluminum demodulation ring is assembled in the HF section.

Specifications

GENERAL SPECS

Nominal Diameter	10"
Rated Impedance	8 Ohm
Magnet	Hybrid
Basket Material	Steel

POWER HANDLING

AES Power	LF: 200 W / HF: 30 W
Continuous Power	LF: 400 W / HF: 60 W
Peak Power	LF: 800 W / HF: 120 W

VOICE COIL

Diameter	LF: 50.8 mm / HF: 35.6 mm
Winding Wire	CCAW
Former	Glass Fiber/kapton
Winding Height	12/2.5 mm

Qes	5.755
Qms	5.03
Qts	0.650
Vas	24.20 liters
Sd	346.40 cm ²
Mms	31.20 grams
Rms	2.92
Cms	0.1400
Bl	10.36 T·m
Le	0.490 mH
Sensitivity	95.03 dB

DESIGN DETAILS

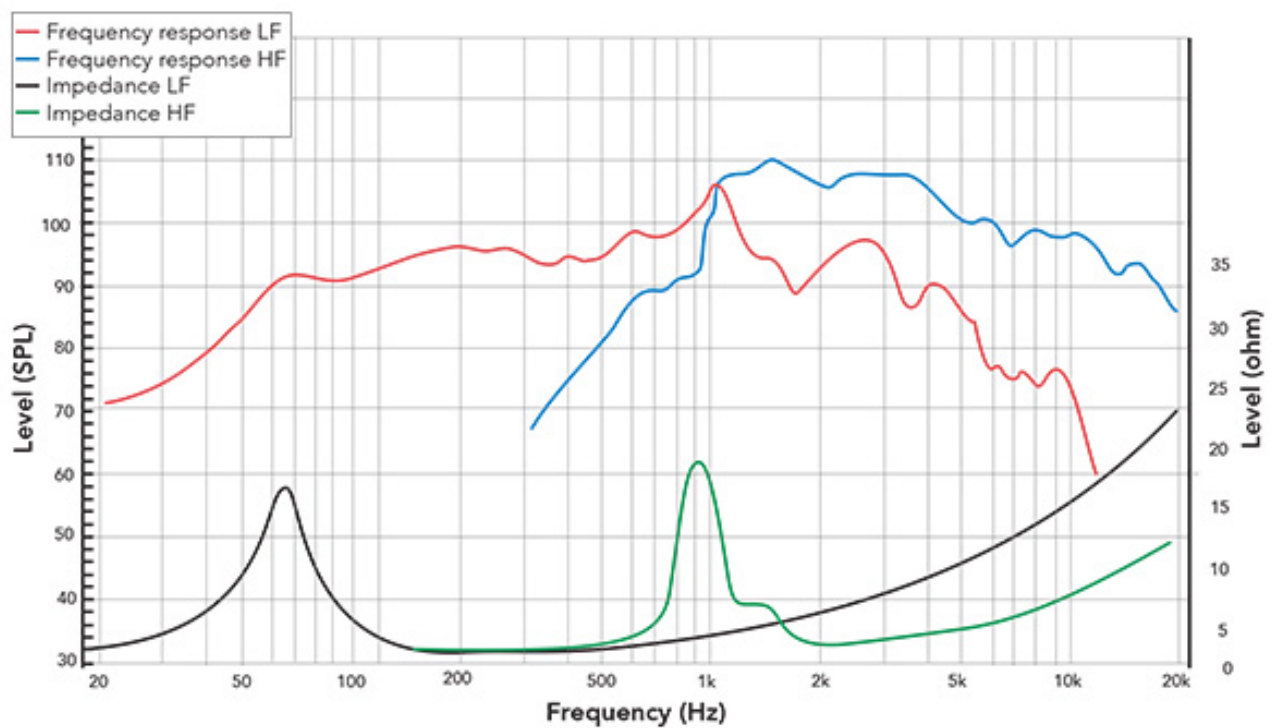
Surround Material	fabric/PEN
Cone/Dome Material	Paper CF/PEN
Spider	Nomex
T-Plate	8 mm
Xmax (peak)	2 mm
Xmech	10 mm
Overall Diameter	256.00 mm
Bolt Circle Diameter	245.00 mm
Baffle Cutout Dia.	231.50 mm
Mounting Holes	8
Depth (flange to rear)	120.70 mm
Net Weight	3.10 kg
Packaging Dimensions	320X320X195 mm

DOWNLOADS

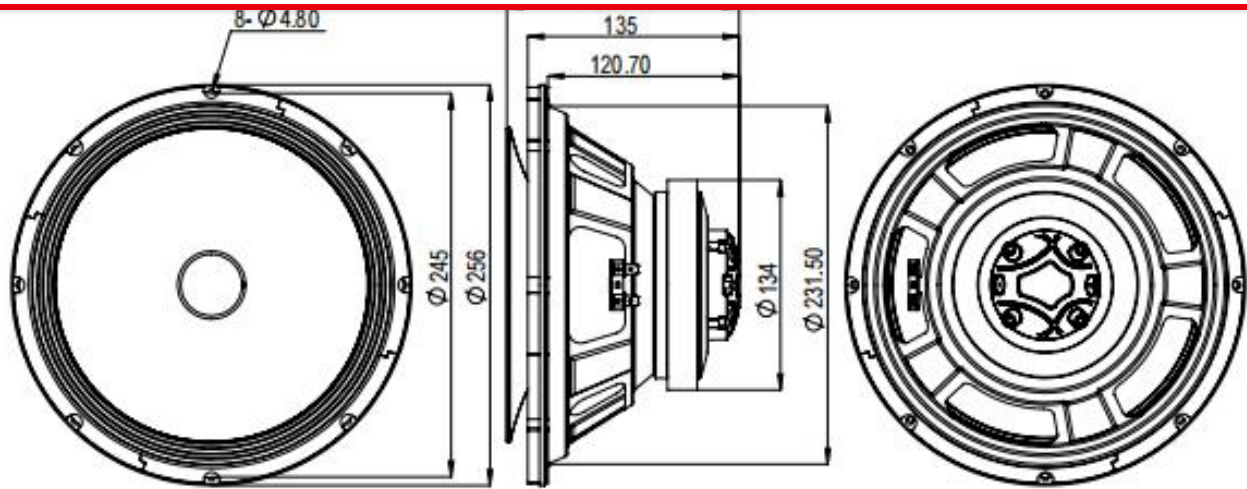
 Datasheet (PDF)

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

Frequency Response & Impedance



2D Drawing



Technical Summary

The CX10F-140FX8-375B is a 10-inch / 1.4-inch coaxial driver sharing the same hybrid ferrite-neodymium combined magnetic circuit architecture as the CX6F and CX8F models, with a single shared magnetic structure serving both the LF woofer (50.8 mm voice coil on glass fiber former) and the HF dome assembly (35.6 mm voice coil on Kapton former). The LF section uses REDCATT's custom carbon fiber paper cone with fabric surround and Nomex spider, rated at 200 W AES / 400 W continuous into 8 ohms. The HF section is identical to the 140FCD standalone driver: a PEN dome with aluminum demodulation ring and a CNC-machined symmetrical aluminum horn providing pattern control and acoustic loading from approximately 1,200 Hz. Sensitivity is 95.0 dB (2.83V/1m) for the LF section and 105 dB (1W/1m) for the HF section, requiring approximately 11.6 dB HF attenuation via L-pad or DSP gain trim in all crossover configurations.

The recommended crossover frequency is 1,200-1,500 Hz (minimum LR4 24 dB/octave), accepting mild LF cone beaming in the crossover zone - a trade-off inherent to the 10-inch format where the LF beaming onset (f_{beam} approx. 1,043 Hz) falls below the HF

requiring bi-amplification or a passive crossover designed for the dual power budgets.

The CX10F-140FX8-375B is suited for professional PA column speaker systems, installed sound ceiling and surface-mount enclosures, and 2-way active or passive coaxial loudspeaker designs where the 10-inch LF section's higher power handling, extended bass capability, and increased volume displacement provide system-level advantages over the 6.5-inch and 8-inch variants. The coaxial geometry eliminates the point-source separation artifacts of separate LF and HF transducers. Pair with a dedicated active subwoofer for applications requiring response below 90 Hz.

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

In sealed enclosures - the primary recommendation for this $Q_{ts} = 0.65$ LF driver - practical alignments range from 17.7 liters ($Q_{tc} = 1.00$, f-3dB approx. 91 Hz) for general PA and full-range column use, to 10.1 liters ($Q_{tc} = 1.20$, f-3dB approx. 102 Hz) for compact column bays, to 5.6 liters ($Q_{tc} = 1.50$, f-3dB approx. 121 Hz) for subwoofer-assisted deployments where content below 130 Hz is handled by a separate LF system. Vented alignments (20-40 L, tuned to 38-55 Hz with a 75 mm port) are available as a secondary option, with port velocities well within PA and hi-fi limits.

Frequently Asked Questions

What are the key features of the CX10F140F?



What applications is the CX10F140F suited for?



What are the power and sensitivity specs of the CX10F140F?



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