



Code: DR-12-045-8R-B2-C0001

REDCATT CX12F140F 12-inch hybrid coaxial loudspeaker driver: 200 W AES, 96.8 dB sensitivity, 8 Ω , 50.8 mm voice coil. Full T/S parameters, datasheet, 2D drawing and STEP CAD file.

KEY FEATURES

- ✓ Integrated aluminum symmetrical horn
- ✓ High sensitivity

QUICK SPECS

Impedance
8 Ω

Sensitivity
96.83 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 CX12F-140F is a high efficiency, (95 dB 1watt / 1 meter) 12-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 weather conditions.

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	12"
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	Copper
Former	Glass Fiber/kapton
Winding Height	1538/2.5 mm

Qes	0.040
Qms	6.53
Qts	0.500
Vas	63.90 liters
Sd	530.93 cm ²
Mms	50.30 grams
Rms	2.71
Cms	0.1600
Bl	13.40 T·m
Le	0.700 mH
Sensitivity	96.83 dB

DESIGN DETAILS

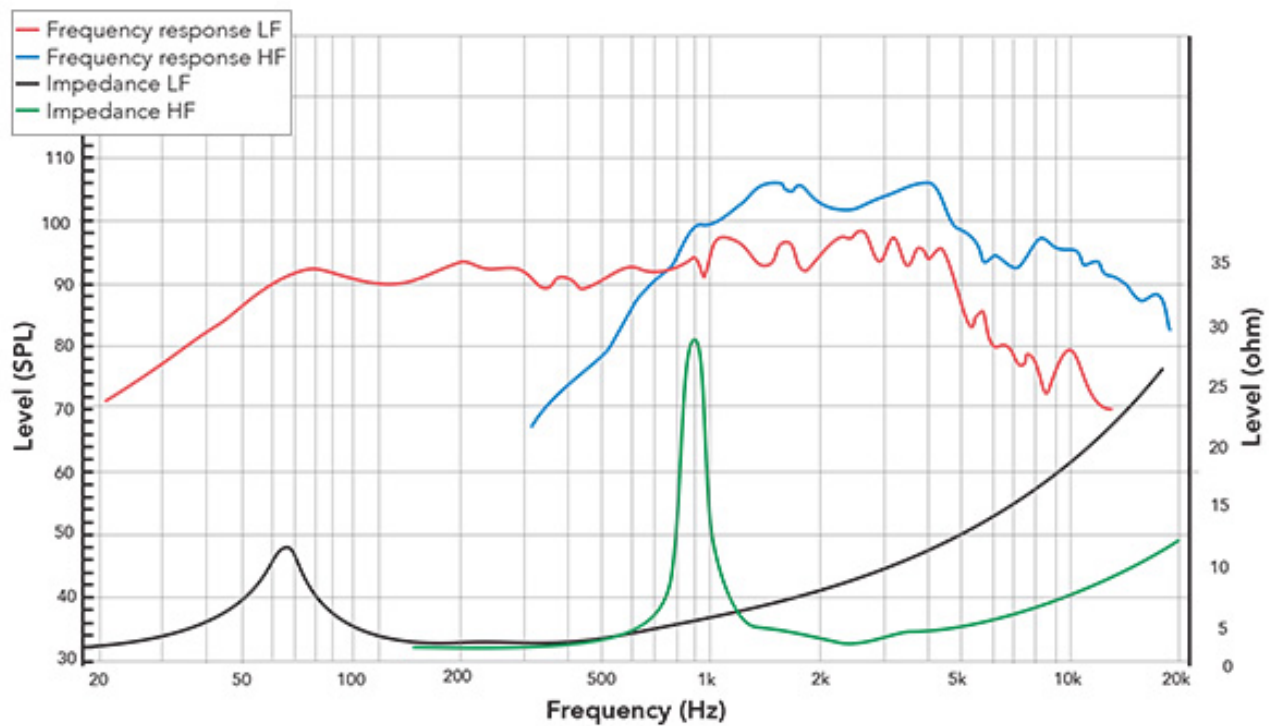
Surround Material	fabric/PEN
Cone/Dome Material	Paper CF/PEN
Spider	Nomex
T-Plate	8 mm
Xmax (peak)	3.9 mm
Xmech	11.9 mm
Overall Diameter	320.00 mm
Bolt Circle Diameter	302.00 mm
Baffle Cutout Dia.	281.00 mm
Mounting Holes	8
Depth (flange to rear)	142.50 mm
Net Weight	5.30 kg
Packaging Dimensions	375X375X210 mm

DOWNLOADS

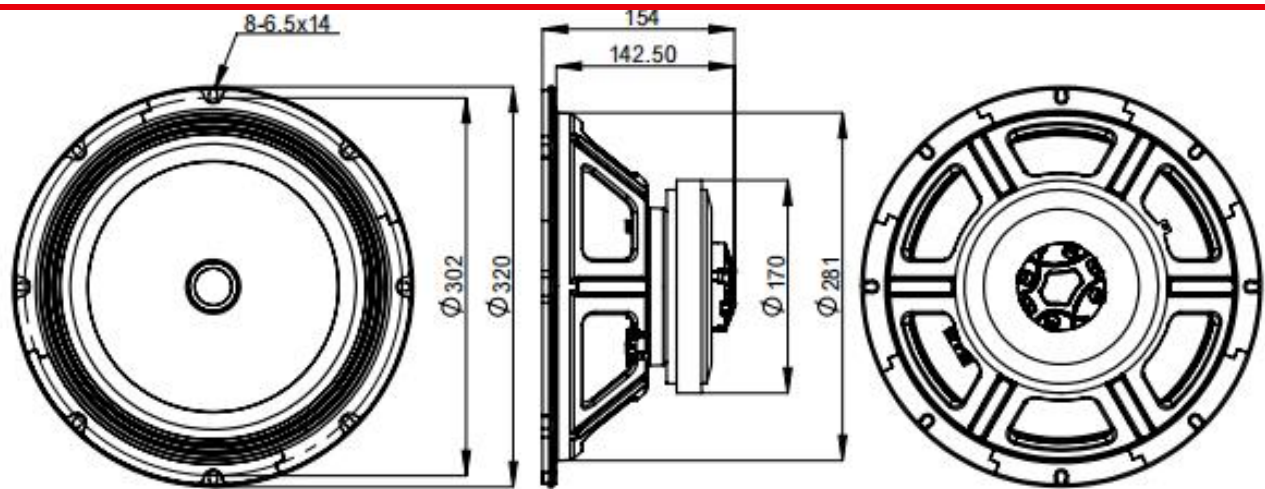
 Datasheet (PDF)

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

Frequency Response & Impedance



2D Drawing



Technical Summary

The CX12F-140FX8-376B is a 12-inch / 1.4-inch coaxial driver sharing the hybrid ferrite-neodymium combined magnetic circuit architecture of the REDCATT coaxial family, with a single shared magnetic structure simultaneously serving the LF woofer (50.8 mm copper 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 carbon fiber paper cone with fabric surround and Nomex spider, rated at 200 W AES / 400 W continuous into 8 ohms, with an extended X_{max} of 3.9 mm - nearly double the 2.0 mm of the smaller coaxial variants - providing significantly greater volume displacement (V_d approx. 207 cm³) for deeper bass extension. The HF section uses the 140FCD dome assembly with CNC-machined symmetrical aluminum horn. LF sensitivity is 96.83 dB (2.83V/1m) and HF section sensitivity is 105 dB (1W/1m), requiring approximately 9.8 dB HF attenuation in all crossover configurations.

The recommended crossover frequency is 1,200-1,500 Hz (LR4 or LR6 24-36 dB/octave), noting that the 12-inch LF cone begins beaming above 842 Hz and the voice coil inductance rolloff at 1,251 Hz falls within the crossover region - both constraints

crossover.

The CX12F-140FX8-376B is suited for professional PA column speaker systems, installed sound and commercial audio applications, and 2-way coaxial loudspeaker designs where the 12-inch format's higher volume displacement, extended bass capability, and greater power handling are required. The coaxial geometry provides point-source acoustic coherence, and the 320 mm OD establishes the directivity boundary at approximately 538 Hz, above which the integrated aluminum horn progressively governs coverage. Pair with a dedicated active subwoofer for applications requiring response below 80 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 LF Qts of 0.50 gives the system designer genuine flexibility: the Butterworth alignment at 63.9 liters (f-3dB approx. 79 Hz) suits larger PA enclosures with extended bass; Qtc = 1.00 at 21.3 liters (f-3dB approx. 88 Hz) is practical for column and surface-mount designs; Qtc = 1.20 at 13.4 liters (f-3dB approx. 99 Hz) suits compact column bays with active subwoofer support. Vented alignments (30-80 L, tuned to 28-45 Hz with a 100 mm port) extend bass below F_s with port velocities within PA limits in all recommended alignments.

Frequently Asked Questions

What are the key features of the CX12F140F?



What applications is the CX12F140F suited for?



What are the power and sensitivity specs of the CX12F140F?



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All coaxial drivers



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CX10F140F



Coax 8"

CX8F140F



Coax 6"

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