

COAXIAL

# CX12N251

Professional Coaxial Transducer

PART NUMBER **11100069**

The CX12N251 is a lightweight coaxial driver with excellent linearity and high efficiency. The CX12N251 radiates a coherent single spherical wave front with perfect dispersion control. The design is powered from a large sized single neodymium ring magnet that provides an extremely high flux density and BL factor. The new hyper-vented aluminium basket and magnetic assembly design provide an excellent heat dissipation and lower power compression. Special air-forced ventilations are provided for voice coil, magnet assembly and basket. A 2,5" voice coil combined a strength fibreglass former and aluminium wire drives the mid-bass cone with high efficiency and a good extension.

## MID-BASS DRIVER

- 600 Watt continuous program power handling
- 2.5-inch , fibreglass outside aluminium voice coil
- 99.5 dB Sensitivity
- 50 Hz - 3.5 kHz Frequency range
- Dual-forced air ventilation for minimum power compression
- M-roll surround and exponential cone geometry
- Demodulation ring

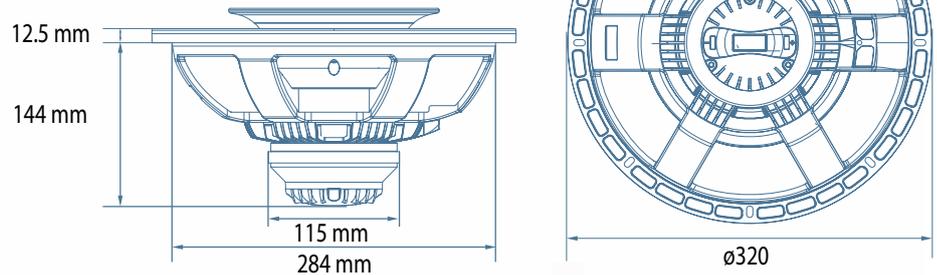
## HF DRIVER

- 100 Watt Continuous program power handling
- 1.75-inch Diaphragm, 1.0-inch Exit Throat
- Frequency range: 1200Hz – 20kHz
- 2-slot, optimised geometry phase plug
- Polyester diaphragm
- Aluminium rear cover

The 1,7" dome compression driver, loaded to a 60° conical waveguide, provides a clear vocal output and a perfect high frequency extension.

## APPLICATIONS

The CX12N251 is the perfect lightweight solution for vocal applications, stage monitoring and compact 2-way reflex enclosures. Ideal in designs where a constant radial directivity pattern is a requirement. is designed for use in compact reflex enclosures and stage monitor.



50 3500

20

100

1.000

10.000

20.000

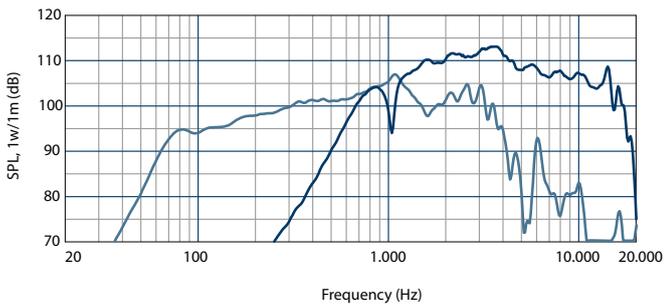


## CX12N251 DRIVER

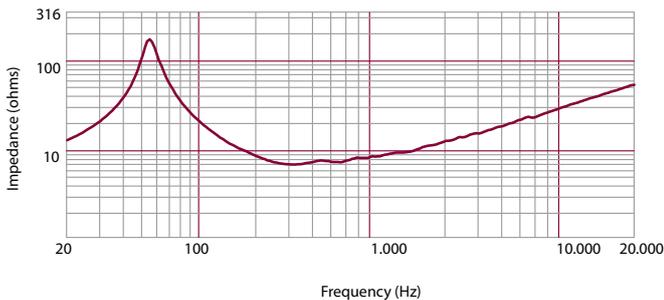
Nominal diameter	25.4/1.0	mm/inch
Rated impedance	8	ohm
Program power	100	Watts
Power handling capacity	50	Watts
Sensitivity 1W, 1m	109	dB
Frequency range	1200 - 20000	Hz
Minimum impedance	6.5	ohm
Voice Coil diameter	44.4/1.75	mm/inch
Voice Coil material	Edgewound Aluminum	
Number of layers	1- Outside	
Diaphragm material	Polyimide	
Diaphragm design	Dome	
Suspension material	Polyimide	
Suspension design	Flat	
BL factor	7.5	T x m
Flux density	1.9	T
Phase plug design	2 slot	
Phase plug material	Composite	
Magnetics	Neodymium	

## CX12N251 HORN

Throat diameter	25.4/1.0
Nominal coverage (-6dB)	60°
Cut-off Frequency	1800
Material	Structural Polyurethane



Frequency response curve of the loudspeaker made in a hemispherical, free field and mounted in a reflex box with an internal volume of 50 litres and tuned at 60Hz, applying a sinusoidal signal of 2.83 V@8 at 1m.



Impedance magnitude curve measured in free air

## GENERAL SPECIFICATIONS

Nominal Diameter	300/12	mm/inch
Rated Impedance	8	ohm
Program Power <sup>1</sup>	600	Watts
Power handling capacity <sup>2</sup>	300	Watts
Sensitivity <sup>3</sup>	99.5	dB
Frequency Range	50 - 3500	Hz
Effective Piston Diameter	260/10.2	mm/inch
Max Excursion Before Damage (peak to peak)	30/1.18	mm/inch
Minimum Impedance	6,4	ohm
Voice Coil Diameter	64/2.52	mm/inch
Voice Coil Material	Aluminum	
Voice Coil Winding Depth	14/0.55	mm/inch
Layers	outside	
Top Plate Thickness	8/0.31	
Cone Material	No pressed pulp	mm/inch
Cone Design	Curved	
Surround Material	Polycotton	
Surround Design	Triple-roll	
Demodulation Ring	Aluminum	
Magnetics	Neodymium	

## THIELE - SMALL PARAMETERS<sup>4</sup>

Resonance frequency	Fs	60	Hz
DC resistance	Re	5.2	ohm
Mechanical factor	Qms	5.4	
Electrical factor	Qes	0.28	
Total factor	Qts	0.26	
BL Factor	BL	17.5	T · m
Effective Moving Mass	Mms	41	gr
Equivalent Cas air load	Vas	62	liters
Effective piston area	Sd	0.053	m <sup>2</sup>
Max. linear excursion (mathematical) <sup>5</sup>	Xmax	4.8	mm
Voice - coil inductance @ 1KHz	Le1K	1.2	mH
Half-space efficiency	Eff	5.2	%

## MOUNTING INFORMATION

Overall Diameter	320/12.6	mm/inch
Bolt Circle Diameter	294.5-304/11.6-12	mm/inch
Bolt Hole Diameter	5.5/0.21	mm/inch
Front Mount Baffle Cut-out	288/11.34	mm/inch
Rear Mount Baffle Cut-out	288/11.34	mm/inch
Depth	144/5.67	mm/inch
Volume occupied by the driver <sup>6</sup>	2.4/0.8	liters/ft <sup>3</sup>

## SHIPPING INFORMATION

Net Weight	3.6/7.94	Kg/Lbs
Shipping Weight	4.1/14.7	Kg/Lbs

## NOTES TO SPECIFICATIONS

1 Program Power is defined as 3 dB greater than AES power. - 2 AES standard. - 3 Sensitivity measurement is based on a 500-2,5 kHz pink noise signal with input power of 2.83V @ 8 Ohms. - 4 Thiele-Small parameters are measured after a 2 hour warm up period running the loudspeaker at full power handling capacity. - 5 The maximum linear excursion is calculated as:  $(Hvc - Hg)/2 + Hg/4$  where Hvc is the voice coil depth and Hg the gap depth. - 6 Calculated for front mounting on 18 mm thick board. The data are not binding; RCF reserves the right to modify the data at any time and without previous notice.