beyma
PROFESSIONAL LOUDSPEAKERS

15XA38Nd

Coaxial

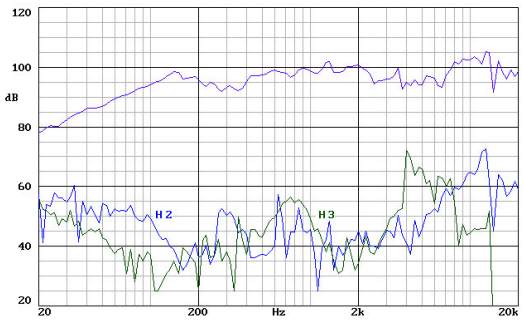
KEY FEATURES

- 15” bass loudspeaker and 2” exit compression driver combination
- Excellent power handling: 350 w AES (L.F. unit) and 90 w AES (H.F. unit)
- Extended and linear frequency response (25-20000 Hz)
- High sensitivity: 99 dB (L.F. unit) and 105 dB (H.F. unit)
- Low weight (common neodymium magnet system for both units)
- Bass loudspeaker designed for compact bass-reflex cabinets

GENERAL DESCRIPTION

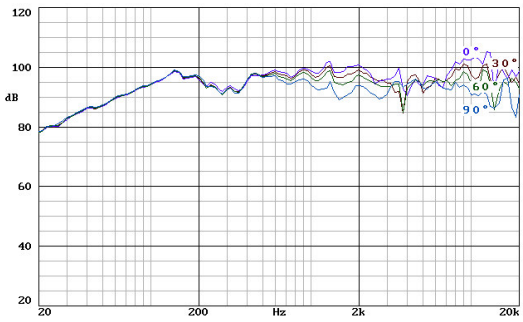
This 15” coaxial loudspeaker is intended for the most demanding professional applications. Its low frequency unit features a 4” (100 mm) edgewound aluminium ribbon voice coil capable of handle 350 w AES. This bass unit has been optimized in order to fit in with the most compact bass-reflex systems. The high frequency unit uses a 2.8” (72.2 mm) aluminium ribbon voice coil and a composite structure diaphragm, that is to say, a titanium dome and polyester surround combination. All these components give as a result a coherent and extended frequency response with low distortion that ranges from 25 Hz up to 20 kHz. Moreover, the use of a common neodymium magnet system for both units reduces the weight to 6.8 kg.

FREQUENCY RESPONSE AND DISTORTION CURVES

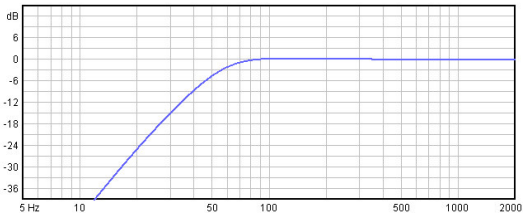


Note: on axis filtered frequency response measured with loudspeaker standing on infinite baffle in anechoic chamber, 1w @ 1m.

FREQUENCY RESPONSE OUT OF AXIS

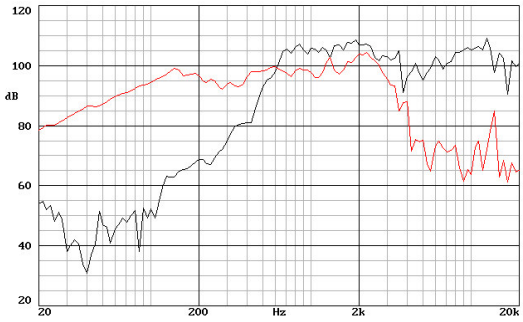


PREDICTED LOW FREQUENCY RESPONSE



Note: bass-reflex cabinet, Vb=100 l, fb=42 Hz

FREQUENCY RESPONSE OF LF & HF UNITS



Note: on axis frequency response of low and high frequency units, 1w @ 1m.

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TECHNICAL SPECIFICATIONS

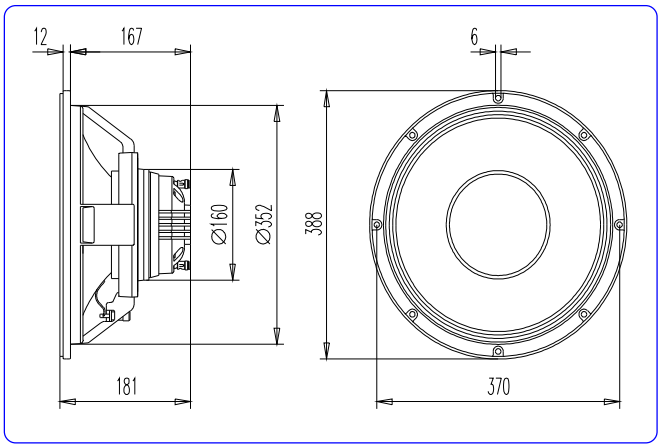
L.F. UNIT	
Nominal diameter	380 mm. 15 in.
Rated impedance	8 ohms.
Minimum impedance	7.6 ohms.
Power capacity*	350 w AES
Program Power	700 w
Sensitivity	99 dB 2.83v @ 1m @ 2π
Frequency range	25-3500 Hz
Recom. enclosure vol.	60 / 180 l 2.14 / 6.35 ft.$_3$
Voice coil diameter	100 mm. 4 in.
Magnetic assembly weight	4.2 kg. 9.24 lb.
BL factor	18.2 N/A
Moving mass	0.072 kg.
Voice coil length	16 mm.
Air gap height	9 mm.
X damage	28 mm.
H.F. UNIT	
Rated impedance	16 ohms.
Minimum impedance	13.5 ohms.@ 3.5 kHz
Power capacity	90 w AES above 1 kHz
Frequency range	0.5 - 20 kHz
Sensitivity 1w @ 1m	105 dB
Voice coil diameter	72.2 mm. 2.87 in.
Flux density	1.6 T
BL factor	15.3 N/A
Dispersion	80° conical

THIELE-SMALL PARAMETERS

Resonant frequency, fs	33 Hz
D.C. Voice coil resistance, Re	6.8 ohms.
Mechanical Quality Factor, Qms	7.50
Electrical Quality Factor, Qes	0.30
Total Quality Factor, Qts	0.29
Equivalent Air Volume to Cms, Vas	359 l
Mechanical Compliance, Cms	326 µm / N
Mechanical Resistance, Rms	2 kg / s
Efficiency, ηo (%)	4
Effective Surface Area, Sd (m²)	0.088 m²
Maximum Displacement, Xmax	4 mm
Displacement Volume, Vd	350 cm³
Voice Coil Inductance, Le @ 1 kHz	1.6 mH

Notes:
*The power capacity is determined according to AES2-1984 (r2003) standard.
Program power is defined as the transducer's ability to handle normal music program material.

DIMENSION DRAWINGS



MATERIALS

L.F. UNIT
- **Basket:** Die cast aluminium
- **Cone:** Paper
- **Surround:** Plasticised cloth
- **Voice coil:** Edgewound aluminium ribbon
- **Magnet:** Neodymium

H.F. UNIT
- **Dome:** Titanium
- **Surround:** Polyester
- **Voice coil:** Edgewound aluminium ribbon
- **Voice coil former:** Kapton

MOUNTING INFORMATION

Overall diameter	388 mm.	15.28 in.
Bolt circle diameter	370 mm.	14.56 in.
Baffle cutout diameter:		
- Front mount	352 mm.	13.85 in.
- Rear mount	352 mm.	13.85 in.
Depth	181 mm.	7.13 in.
Volume displaced by driver	7 l	0.25 ft.^{3}
Net weight	6.8 kg.	14.96 lb.
Shipping weight	7.4 kg.	16.28 lb.

****T-S parameters are measured after an exercise period using a preconditioning power test.**
The measurements are carried out with a velocity-current laser transducer and will reflect the long term parameters (once the loudspeaker has been working for a short period of time).

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