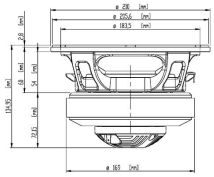
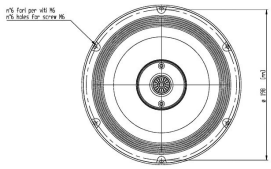
8CX650 8Ω

Coaxials - 8.0 Inches





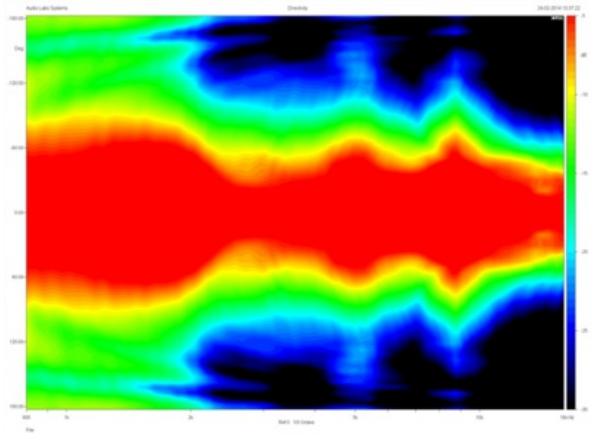
- 91 dB LF/106 dB HF SPL 1W/1m average sensitivity
- Single magnet motor
- 400W LF - 140W HF maximum program power Handling
- 65 mm (2.5”) Edge wound Aluminum LF voice coil (EWAL)
- 44 mm (1.75”) HF PEN diaphragm
- Proprietary Phase Plug design
- HF copper sleeve for reduced distortion and higher output
- 90 degrees nominal conical dispersion
- Atmos™ ready
- Extended LF design
- Suitable for very compact enclosures and stage monitors

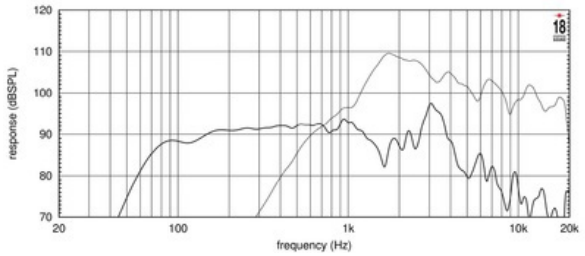
Eighteen Sound Srl
Via Botticelli 8 - 42124 Mancasale (RE) - ITALY - Ph. +39 0522 1861800 - Fax +39 0522 1861801 - info@eighteensound.it

8CX650 8Ω

Coaxials - 8.0 Inches

The 8CX650 is a 8" - 1" coaxial transducer designed for use in compact reflex enclosures and stage monitors as small as 30 lt, with a nominal dispersion of 90 degrees.
The high force ceramic single magnet structure makes the 8CX650 a lightweight speaker for its performance class - only 5,5 kg (12 lb).
The 65 mm (2.5 in) LF edgewound CCAW voice coil employs our Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fiberglass former carries windings on both the outer and inner surfaces to achieve a balanced coil with a uniform distribution of mass and motion energy. This results in an extremely linear motor assembly.
The low-profile smooth straight LF cone provides a smooth response within its intended frequency range and maximum reliability under high mechanical stress.
Equipped with a proprietary hybrid radial tangerine phase plug, the integrated HF compression driver has been designed to deliver a smooth coherent wavefront at the horn entrance in all working frequency ranges with a high level of manufacturing consistency. The phase plug, with its short openings and high flare rate value, assures low distortion and remarkable improvements in mid-high frequency reproduction. A copper sleeve reduces inductance value above 10kHz, improving phase and impedance linearization.
The HF diaphragm assembly is made by proprietary treated Polyethylene material. Thanks to its superior diaphragm dimensional stability, Polyethylene shows constant behavior during its whole working life. Moreover, this particular material with its very high value of elasticity modulus is capable of superior transient and intermodulation distortion response. The flat suspension shape is designed to maintain low stiffness and low mid-band distortion and response.
An edge-wound aluminum voice coil wound on proprietary treated Nomex completes the diaphragm assembly. Thanks to its physical properties, the proprietary treated Nomex former shows a 30% higher value of tensile elongation at a working operative temperature when compared to Kapton. This feature enables proper energy transfer control from the voice coil to the dome in real working conditions. Moreover, this proprietary former material is suitable for use in damp and wet environments.
A specific dedicated HF driver throat design has also been chosen, maximizing the cone’s profile coupling.





8CX650 8Ω

Coaxials - 8.0 Inches

SPECIFICATIONS

Nominal Diameter	200 mm (8.0 in)
Nominal Impedance	8 Ω
Minimum Impedance LF	5.8 Ω
Frequency Range	90 - 4700 Hz
Dispersion Angle[1]	60 °

SPECIFICATIONS LF UNIT

LF Sensitivity[2]	91.0 dB
LF Nominal Power Handling[3]	200 W
LF Continuous Power Handling[4]	400 W
LF Voice Coil Diameter	65 mm (2.5 in)
LF Winding Material	Edgewound Aluminum

SPECIFICATIONS HF UNIT

HF Sensitivity[5]	106.0 dB
HF Nominal Power Handling[6]	70 W
HF Continuous Power Handling[7]	140 W
HF Voice Coil Diameter	44 mm (1.75 in)
HF Winding Material	Edge wound Aluminum
Diaphragm Material	PEN
Recommended Crossover[8]	1.6 kHz

PARAMETERS

Resonance Frequency	65 Hz
Re	4.9 Ω
Qes	0.37
Qms	6.4
Qts	0.35
Vas	16.6 dm^3 (0.59 ft^3)
Sd	227.0 cm^2 (35.19 in^2)
η_0	1.2 %
Xmax	6.0 mm
Mms	25.6 g
Bl	12.0 Txm
Le	0.7 mH
EBP	175 Hz

MOUNTING AND SHIPPING INFO

Overall Diameter	210 mm (8.27 in)
Bolt Circle Diameter	195 mm (7.68 in)
Baffle Cutout Diameter	185 mm (7.28 in)
Depth	132 mm (5.2 in)
Flange and Gasket Thickness	8 mm (0.31 in)
Net Weight	5.6 kg (12.35 lb)
Shipping Weight	6.0 kg (13.23 lb)
Shipping Box	235x235x165 mm (9.25x9.25x6.50 in)

1. Included by –6 dB down points.
2. Applied RMS Voltage is set to 2.83V.
3. 2 hours test made with continuous pink noise signal within the range Fs-10Fs. Power calculated on rated minimum impedance. Loudspeaker in free air.
4. Power on Continuous Program is defined as 3 dB greater than the Nominal rating.
5. Applied RMS Voltage is set to 2.83V.
6. 2 hour test made with continuous pink noise signal within the range from the recommended crossover frequency to 20 kHz. Power calculated on rated nominal impedance. Loudspeaker in free air.
7. Power on Continuous Program is defined as 3 dB greater than the Nominal rating.
8. 12 dB/oct. or higher slope high-pass filter.