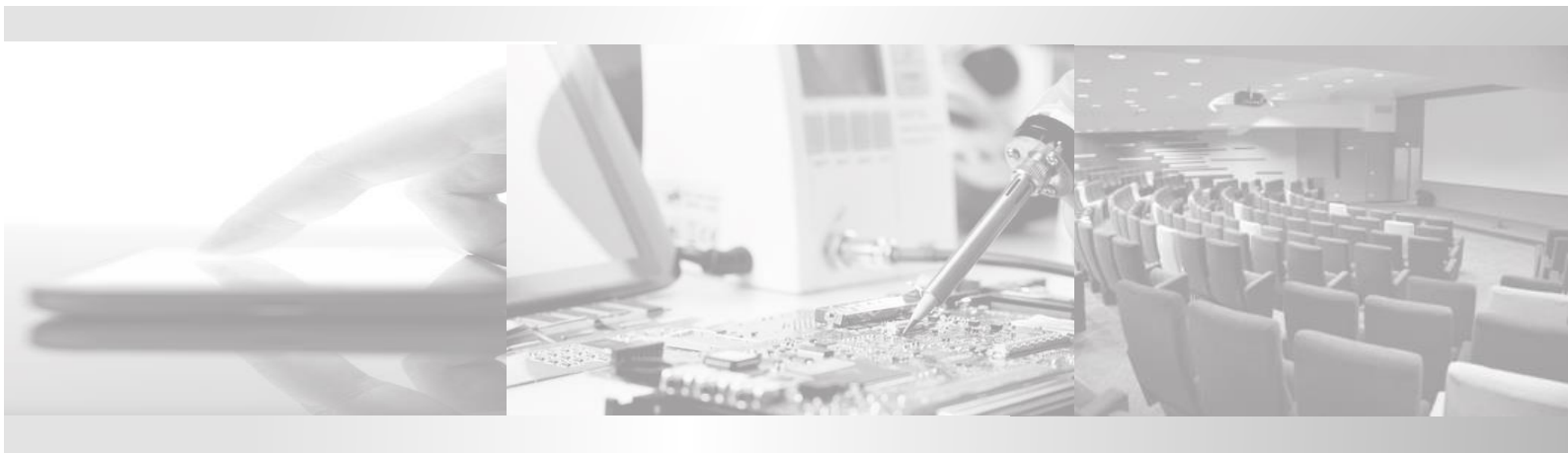


User Manual

Sound bar Ray-On B70





Identification number : 1438

Active Audio
8 Rue Johannes Gutenberg, 44340
Bouguenais, France

14
1438-CPR-0337

EN 54-24:2008
Type B

Loudspeaker for voice alarm systems for fire
detection systems and fire alarm in buildings

RayOn models
Rmini-b, Rmini-w, R70TC-w, R70TC-b,
B70TC-b, B70TC-w R110TC-w,
R110TC-b, R210TC-w, R210TC-b

EU Conformity declaration



We, **Active Audio SAS**
8 rue Johannes Gutenberg
44340 Bouguenais
France



Hereby declare under our own responsibility that the following product:

Type : **70/100V Loudspeaker**
Range : **Ray-On**
Model : **B70 TC**

Is in conformity with the directive :

2014/35/UE ("Low Voltage")

In respect of the following norms and standard:

EN62368-1 (October 2014)

and with the directive

2014/30/EU (Equipment EMC)

In respect of the following norms and standard:

EN55020/2007+A12/2016

Bouguenais, 06th of June 2022,

Mr Mathieu POBEDA, Technical Director



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1 General presentation

The Ray-On B70 sound bar is designed for the sound reinforcement of narrow spaces such as:

- Corridors, escalators
- Shopping alleys
- Shopping malls
- Railway platforms

B70 will also ensure the sound reinforcement of spaces with limited coverage areas, such as:

- Video-conferencing equipment
- Huddle rooms
- Small spaces in museums

The arc position of the drivers allows a perfect directivity control in the spatially and in the frequency domain.

This directivity control allows to limit the sound disturbance in the sound reinforced spaces' neighbourhood.

2 Positioning

The B 70 sound bar is horizontally mounted, above the area to be sounded in transverse direction as shown in figure 1

The width of the zone to be sounded and the recommended space between the loudspeakers is given by the mounting height. Picture N°2 gives these values in function of the mounting height.

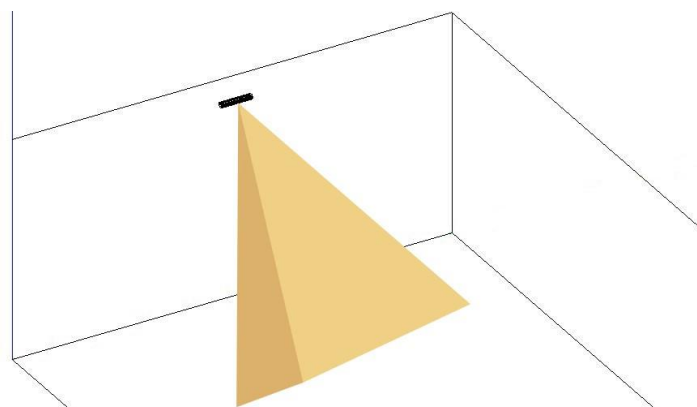


Figure 1: B70 positioning (on a wall or above the audience area in transverse direction)

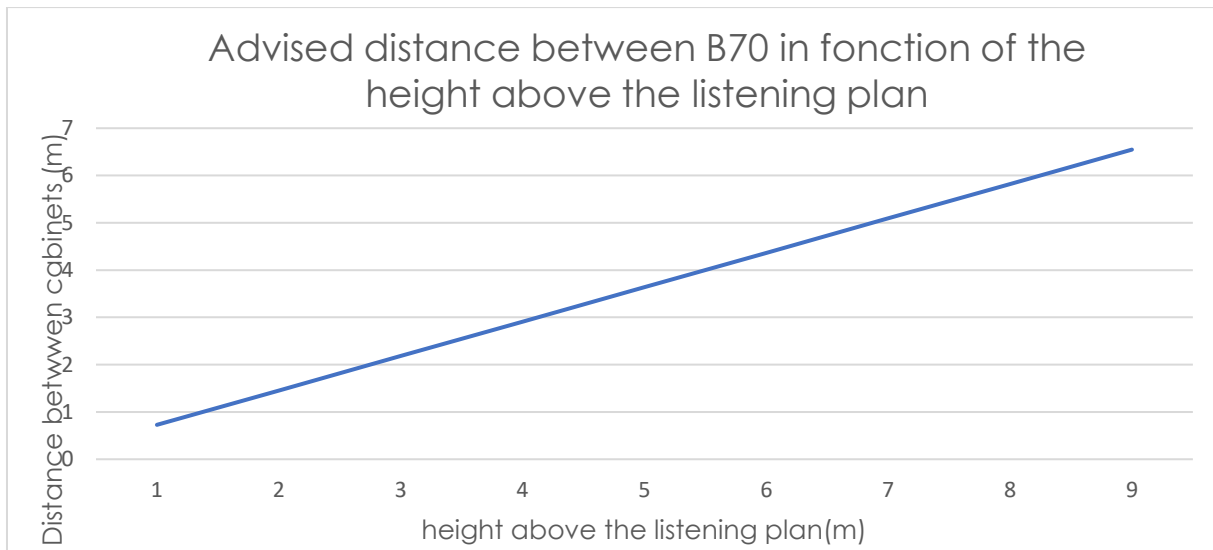
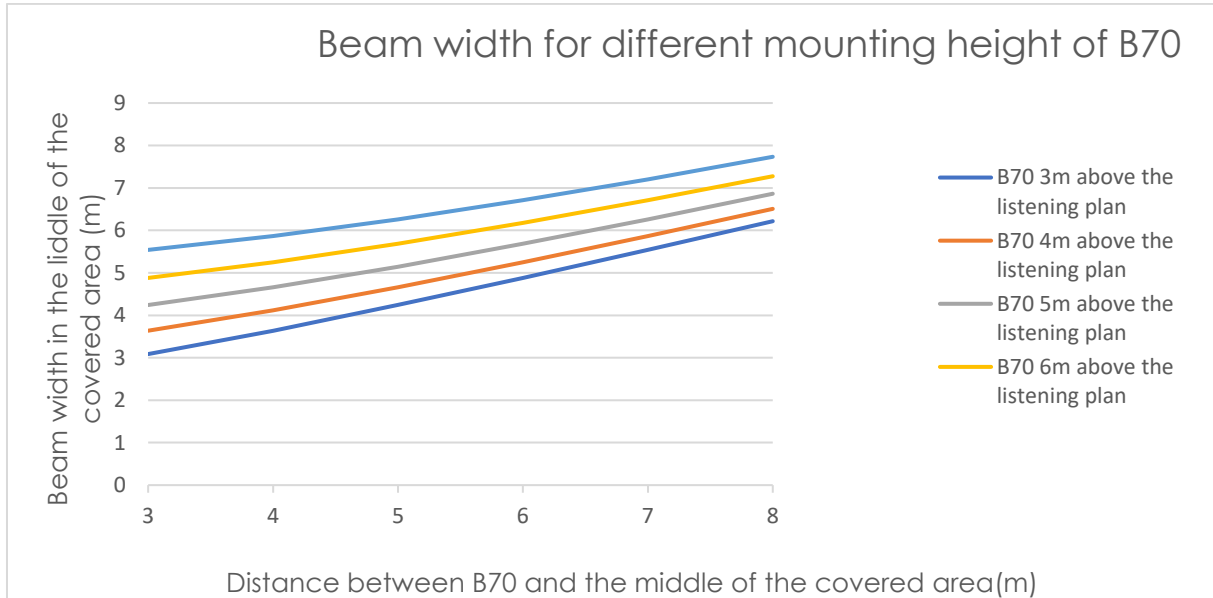


Figure 2: Width of the covered area and advised distance between loudspeakers according the mounting height

3 Modeling CAO

There are powerful CAD software tools that can predict the acoustics of a room and accurately model the radiation of loudspeaker arrays. These tools can calculate various acoustic indices, such as reverberation time, sound pressure level, STI, etc. The sound radiation of the Ray-On B70 loudspeaker can be predicted directly using CATT-Acoustic™ or EASE software.

4 Equalization and tuning

Ray-On B70 sound bar may be used without any equalization, but using one is advised. Equalization flattens the loudspeaker's frequency response and protects the drivers by filtering low frequencies.

The table 1 gives detailed informations about these equalizations. The corresponding frequency curves are presented in figure 3 on the facing page.

Bande	F (Hz)	G (dB)	Q	Q (Oct)
1	1600	+4	0.2	4.7
2	2700	-4	1	1.4
3	3600	+3	1	1.4
4	5500	-3	0.6	2.2
5	8000	+6	0.3	3.7
6	10500	+5	1	1.4
7	14000	+2	0.5	2.5
8	130	0	HPF	HPF

Table 1 : Advised equalization

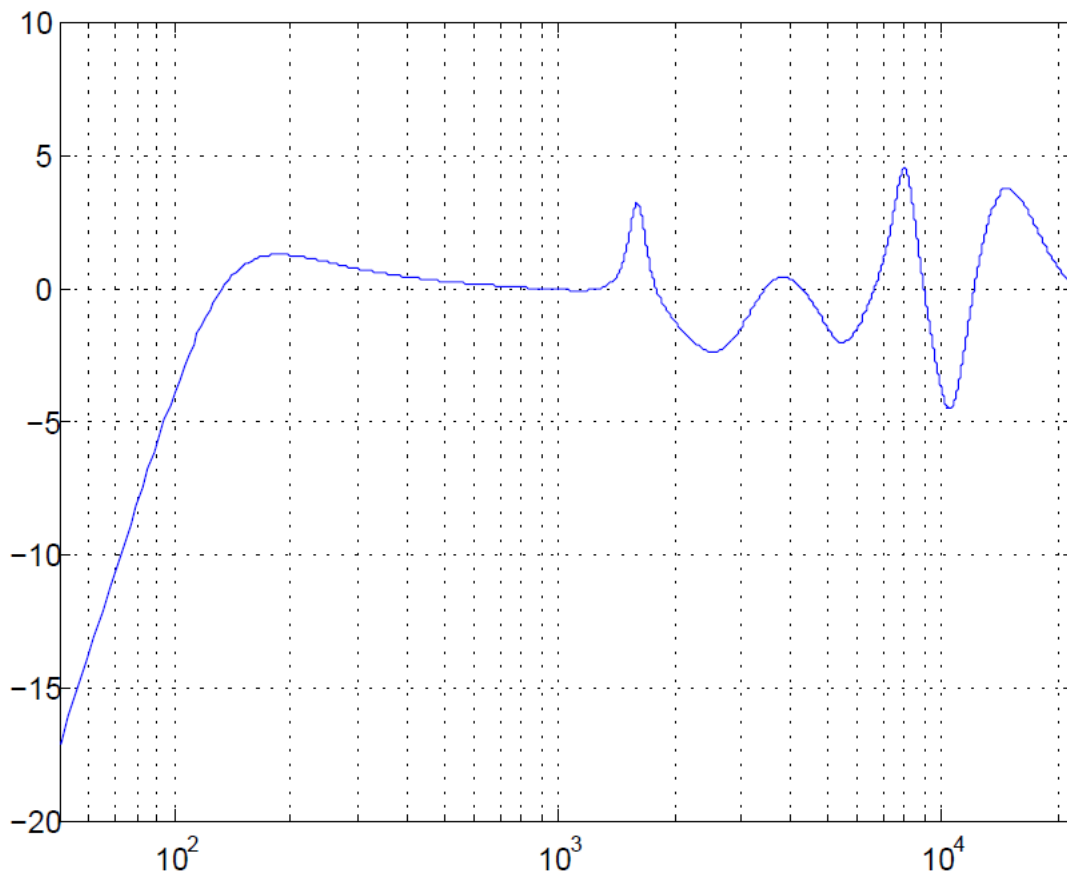
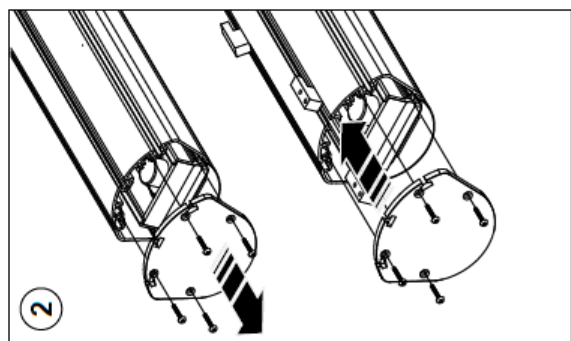
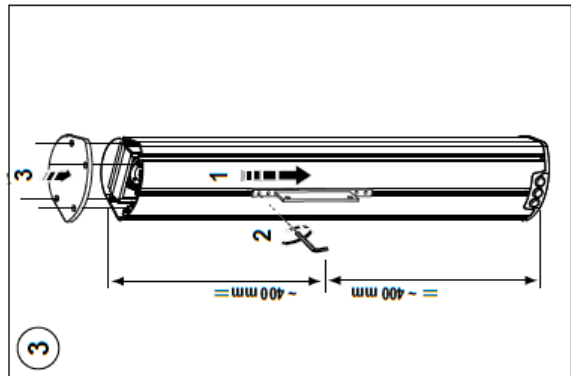
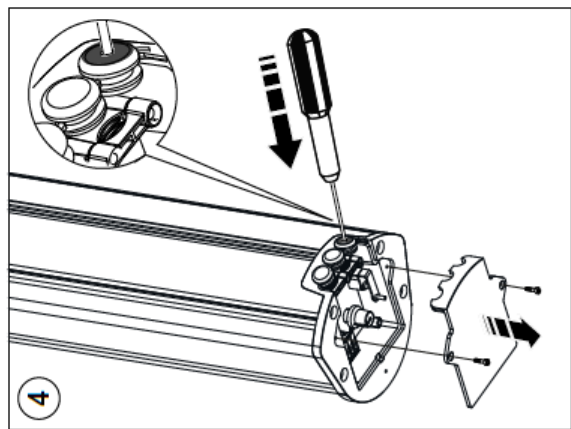
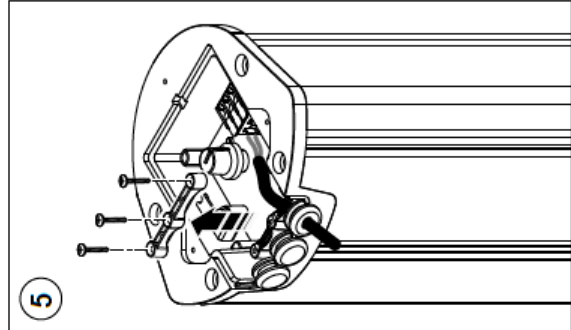
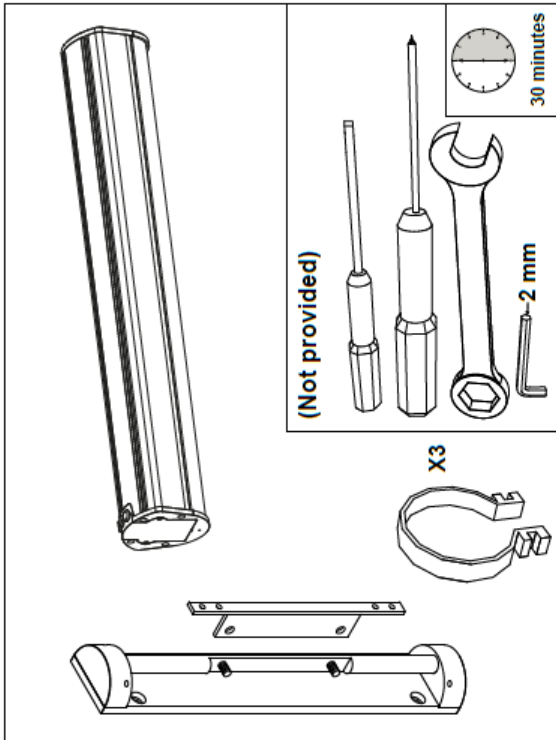
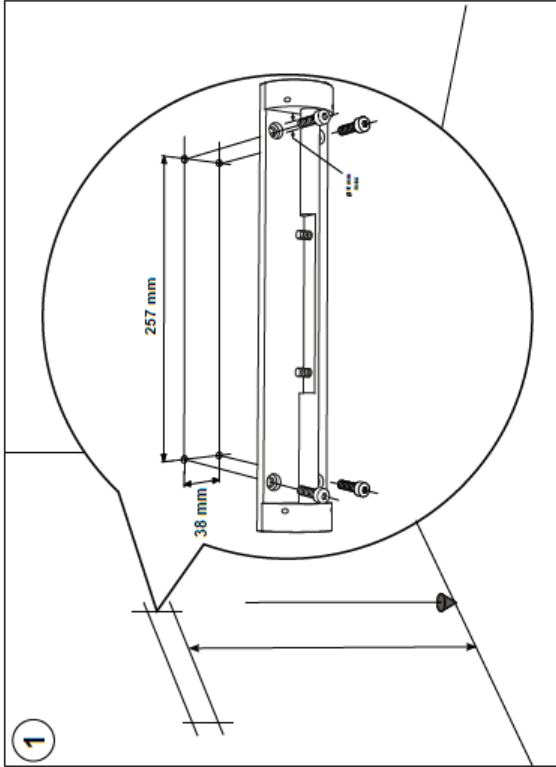
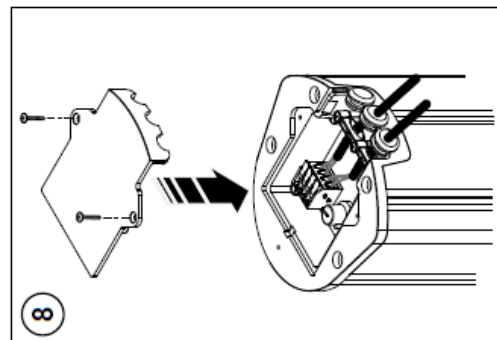
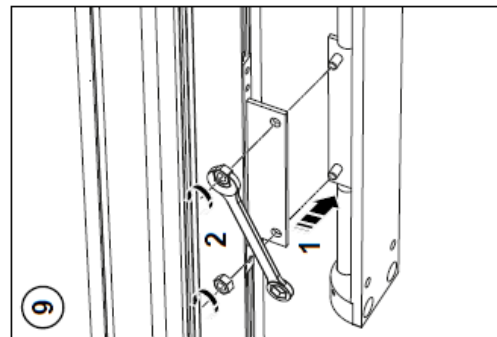
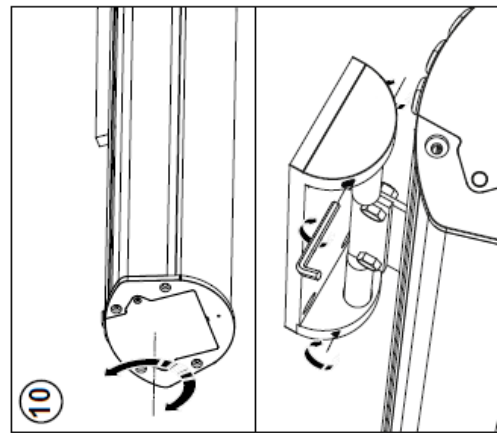
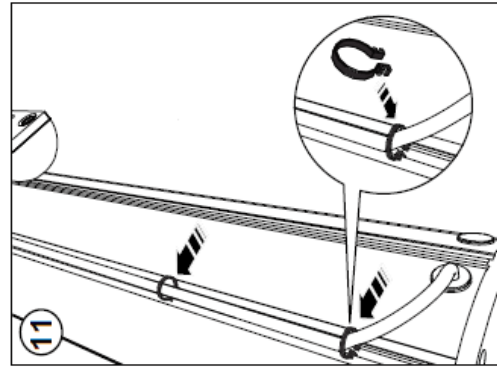
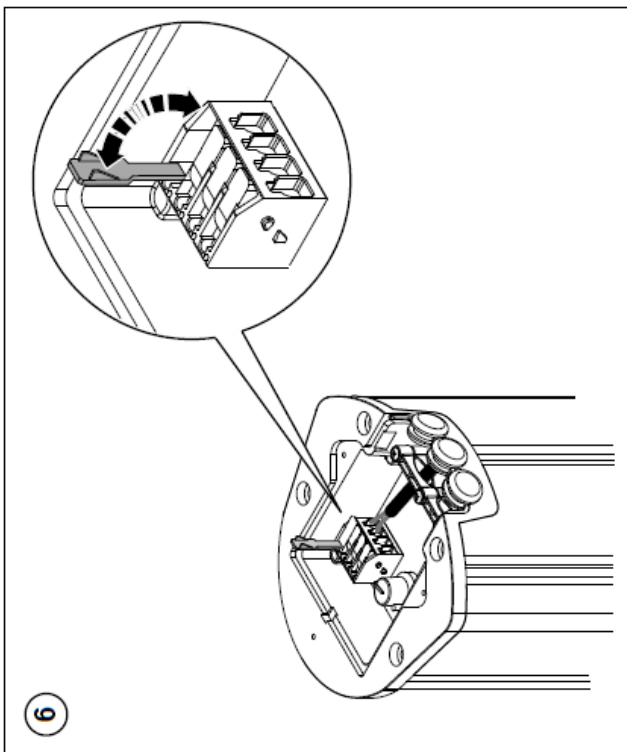
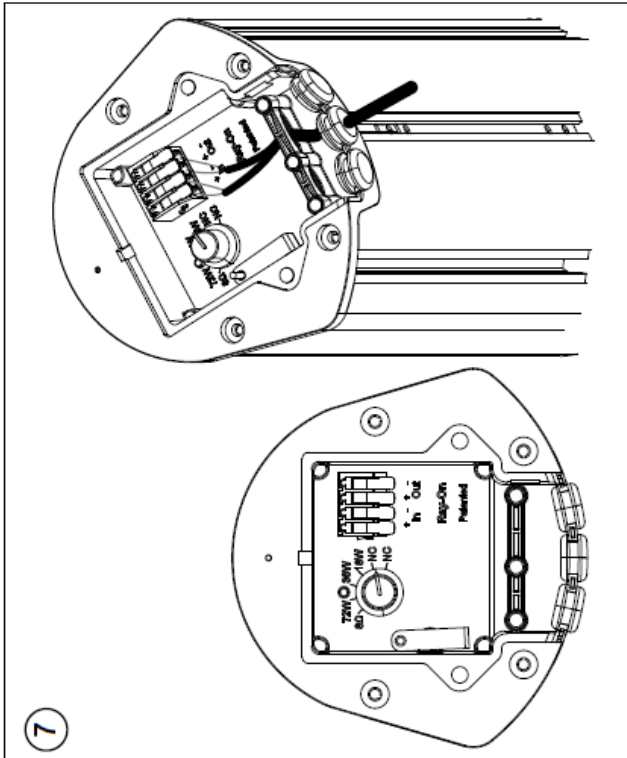


Figure 3: Advised equalisation curves with (rede) and without (blue) cells N°1 and N°6

5 Installation and Wiring

Ray-On B70 is horizontally mounted, usually on a wall or hanged from the ceiling, using the supplied mounting systems. The next two pages illustrate the steps to follow for the mounting.





6 General characteristics and technical drawings

6.1 General characteristics

Acoustical data

	Mode 8Ω	Mode 100V
Continuous power	75W	18W / 36W / 72W
SPL max	97dB à 5m	85 / 88 / 91 dB à 5m
Sensitivity	71dB/W à 5m	
Bandwidth (-3dB/-10dB)	150Hz-14,5kHz / 120Hz-17kHz	
Horizontal opening angle	40° at 1kHz	
Vertical directivity		
Loudspeakers	7 x 2.5''	

Electrical data

	Mode 8Ω	Mode 100V
Nominal impedance	8 Ohm	555 / 278 / 139 Ω
Amp. power Recom.	75W	18W / 36W / 72W
Connectors	Lever terminal block with loop through	
Wire section	2x0,75- 2x2.5mm ²	
Protections	Thermal fuse	

Mechanical data

Material	Body: aluminum ; Grid: steel treated against rust and UV
Dimensions	706 x 128 x 117 mm
Weight	5,4kg
Environment	IP55 de -25°C à +55°C indoor , outdoor
Colors	Black (RAL 9005) White paintable (RAL 9016)
Monting	Wall mount or hanged

Tuning and exploitation

Modeling	EASE et CATT-Acoustic
Recommanded equalization	

Authers characteristics

Warranty	5 ans
Serial number	YYMMxxxxx (YY : Year ; MM : month ; xxxxx : serial)
Certification	CE EN5424 – type B for B70TC model

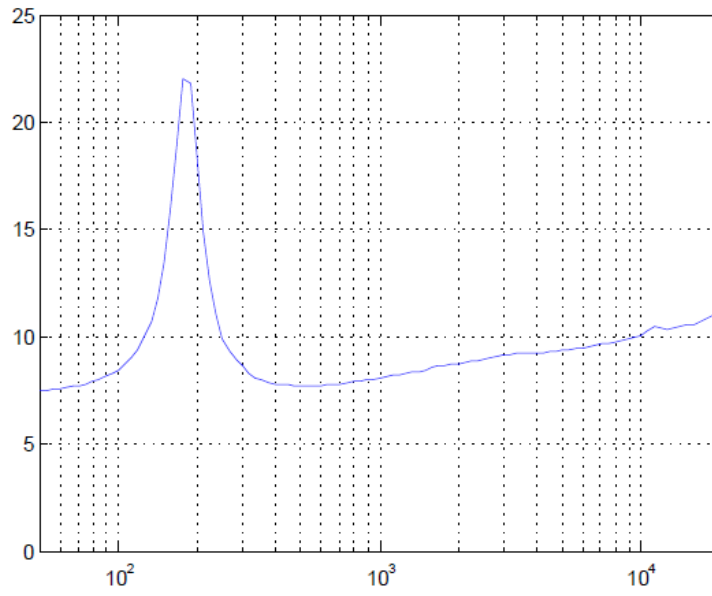


Figure 4 : Impedance curve

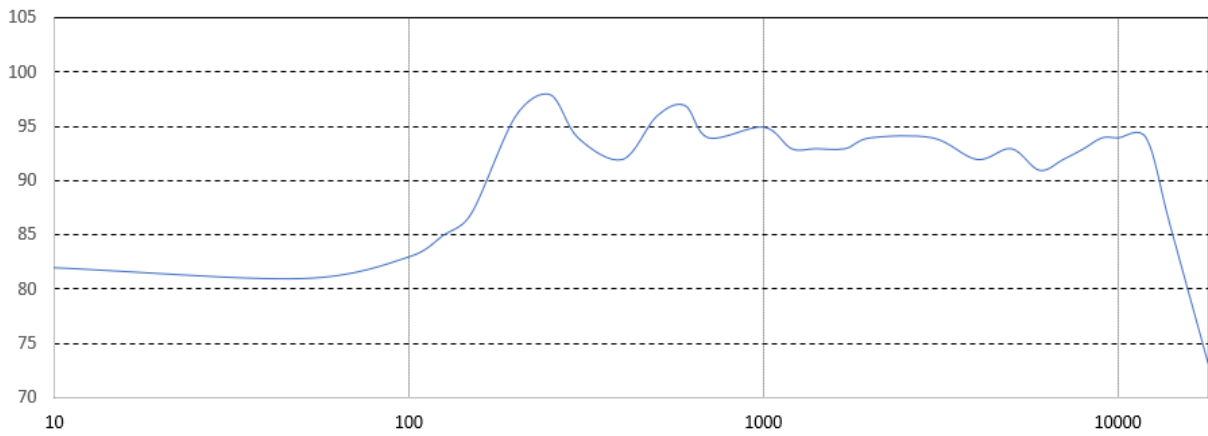
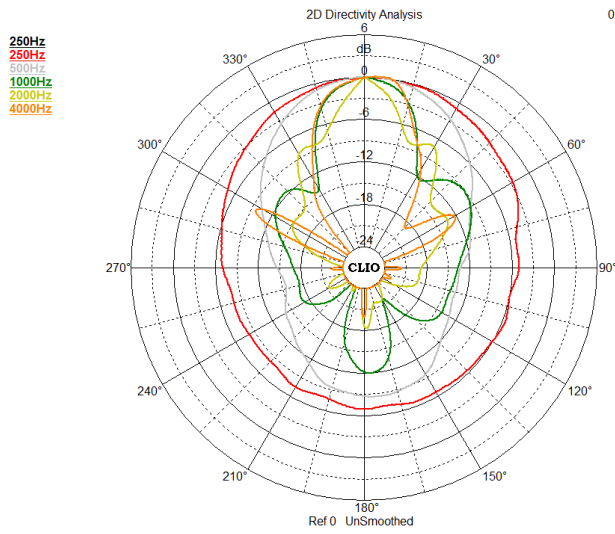
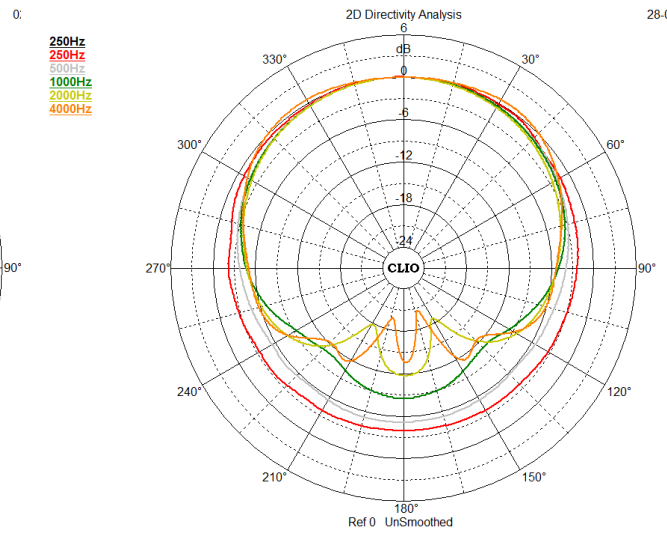


Figure 5 : Frequency response



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Figure 6: horizontal and vertical polar curves

6.2 Mechanical drawings

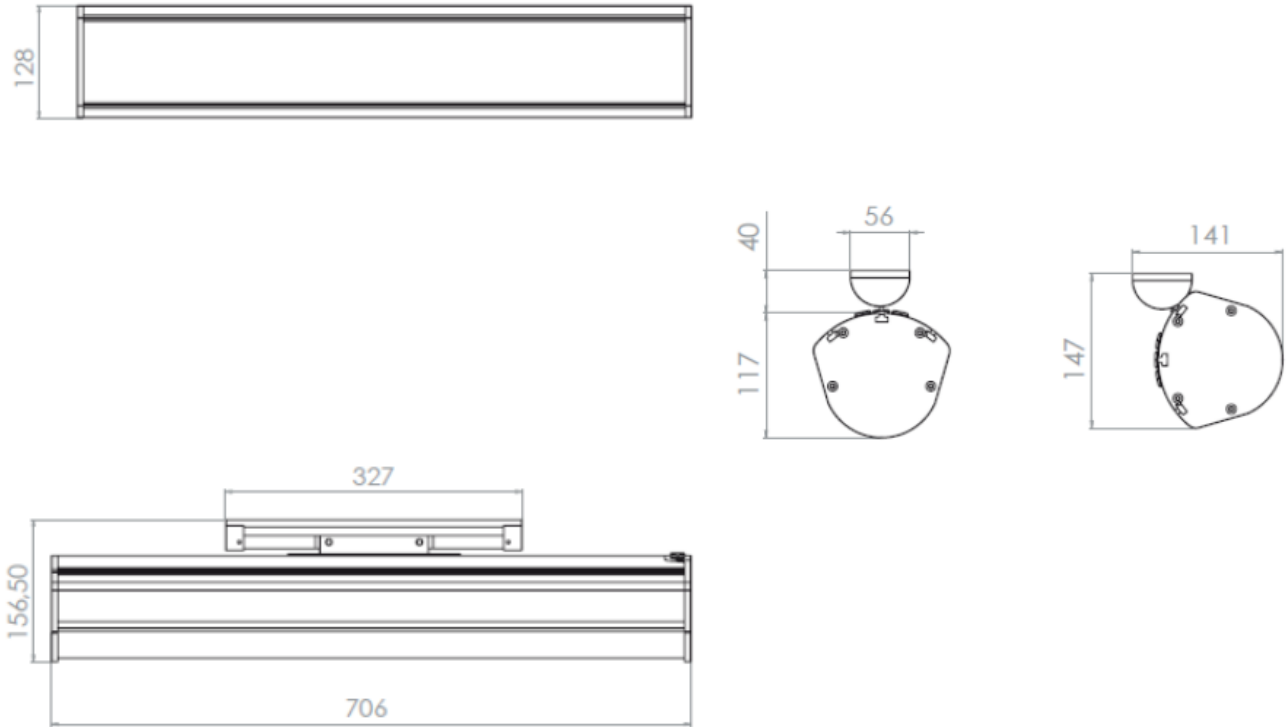


Figure 7: Mechanical drawings

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