

General description

The bi-amplified Genelec 8010A is an extremely compact two-way active monitoring loudspeaker designed for professional applications. It contains drivers, power amplifiers, active crossover filters and protection circuitry. The MDE™ (Minimum Diffraction Enclosure™) enclosure is made of die-cast aluminium and shaped to reduce edge diffraction. Combined with the advanced Directivity Control Waveguide™ (DCW™), this design provides excellent frequency balance in difficult acoustic environments. If necessary, the bass response of 8010A can be extended with a Genelec subwoofer.

Packing contents

Each 8010A is supplied with a mains cable and this operating manual.

Mounting considerations

Align the monitors correctly

Always place monitors so that their acoustic axes converge at ear height at the listening position (see Figures 1 and 2). Vertical orientation of monitors is preferred, as it minimises acoustical cancellation problems around the crossover frequency.

Maintain symmetry

Check that the monitors are placed symmetrically and at equal distance from the listening position. If possible, place the monitors so that the listening position is on the centerline of the room and the monitors are at an equal distance from the

Active Monitoring System

room centerline.

Minimise reflections

Acoustic reflections from objects close to the monitors, like desks, cabinets, computer monitors etc. can cause unwanted colouration and blurring of the sound image. These reflections can be minimised by placing the monitor away from such surfaces.

Minimum clearances

If the monitor is installed in a restricted space such as a cabinet or integrated into a wall structure, sufficient cooling for the amplifier and functioning of the reflex port must be ensured.

A minimum clearance of 2.5 centimeters (1 in) behind, above and on sides of the monitor must be found. The space adjacent to the amplifier must either be ventilated or sufficiently large to dissipate heat so that the ambient temperature does not rise above 35 degrees Celsius (95°F)

Connections

Connect the mains cables only after you have completed connecting audio signal cabling.

The 8010A has a balanced XLR 7 kOhm audio input connector. It can also be connected to an unbalanced RCA line level audio source with a suitable adapter cable your Genelec dealer can provide. As the 8010A contains amplifiers, no power amplifier is needed. Never connect 8010A to the loudspeaker outputs of a power amplifier, integrated amplifier, or receiver.

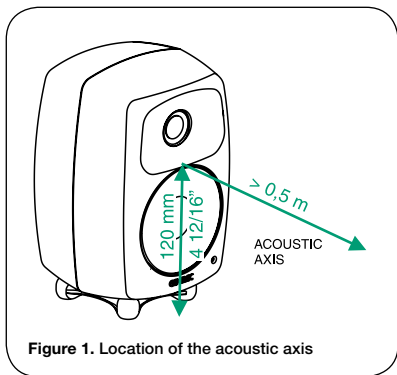


Figure 1. Location of the acoustic axis

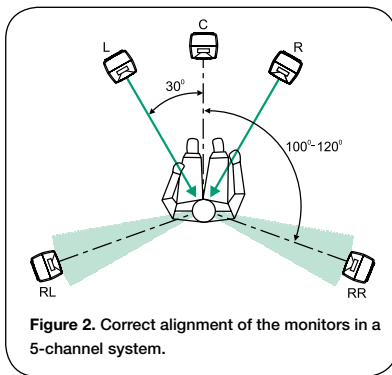


Figure 2. Correct alignment of the monitors in a 5-channel system.

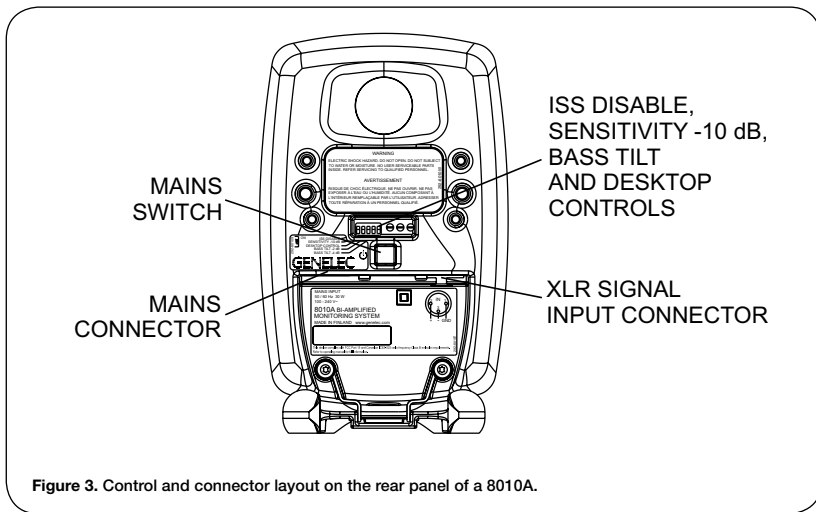


Figure 3. Control and connector layout on the rear panel of a 8010A.

Monitor Mounting Environment	Desktop	Bass Tilt
Flat anechoic response	OFF	OFF
Free standing in a damped room	OFF	OFF
Free standing in a reverberant room	OFF	-2 dB
Near to a wall	OFF	-4 dB
Near field on a reflective surface	ON (-4 dB @ 200 Hz)	-2 dB
In a corner or a cabinet	OFF	-6 dB

Table 1: Suggested tone control settings for various acoustical environments

When all audio connections are completed, connect the monitors to mains with the supplied mains cables. They will switch on automatically.

ISS™ Autostart function

The signal sensing Autostart function of the 8010A powers it up when playback begins. Automatic powering down to standby mode happens after the playback has ended. The power consumption in standby mode is less than 0.5 watts. The monitor will automatically and rapidly start up once an input signal is detected.

There is a slight delay in the automatic powering up. If this is undesirable, the ISS™ function can be disabled by setting the “ISS DISABLE” switch on the back panel to “ON” position. In this mode, the monitor is powered on and off using the power switch on the back panel.

Sensitivity adjustment

The input sensitivity (playback level) of the 8010A has two alternative settings, normal and -10 dB. The normal setting is factory default and the lower, -10 dB setting can be selected by turning the “SENSITIVITY -10 dB” switch on the

back panel to “ON”. The output levels are 100 dB @ -6dBu and 90 dB @ -6 dBu respectively. Choose the setting that gives the desired playback level and good resolution of the volume control.

Tone controls

The frequency response of the Genelec 8010A can be adjusted to match the acoustic environment by setting the tone control switches on the rear panel. The controls are “Bass Tilt” and “Desktop”. Table 1 shows some examples of typical settings in various situations. Figure 4 shows the effect of the controls on the anechoic response.

Start adjustment by setting all switches to “OFF” position. Measure or listen systematically through the different combinations of settings to find the best frequency balance.

Bass Tilt

The Bass Tilt control offers three attenuation levels for the bass response of the monitor, usually necessary when the monitors are placed near a wall or other room boundaries. The attenuation levels are -2 dB (switch 1 “ON”), -4 dB (switch 2 “ON”) and -6 dB (both switches “ON”).

Desktop Control

The “Desktop” low frequency control (switch 3) attenuates the bass frequencies by 4 dB at 200 Hz. This feature is designed to compensate for the boost often occurring when the monitor is placed on a table or similar horizontal surface.

Mounting options

The 8010A offers several mounting options: Iso-Pod™ (Isolation Positioner/Decoupler™) vibration insulating table stand allows tilting the monitor towards the listener. On the rear, there are three pairs of threaded holes compatible with Omnimount®, VESA, and Sanus brackets. For a full list of available options, please consult Genelec’s accessories catalogue at www.genelec.com or contact your Genelec dealer.

Maintenance

No user serviceable parts are to be found inside the unit. Any maintenance or repair of the 8010A should only be done by qualified service personnel.

Safety considerations

Although the 8010A has been designed in accordance with international safety standards, the following warnings should be observed to ensure safe operation and to maintain the monitor in safe operating conditions:

- Servicing and adjustment must only be performed by qualified service personnel. The monitor must not be opened.
- Do not expose the monitor to water or moisture. Do not place any objects filled with liquid, such as vases, on the monitor or near it.
- This monitor is capable of producing sound pressure levels in excess of 85 dB, which may

cause permanent hearing damage.

- Free flow of air behind the monitor is necessary to maintain sufficient cooling. Do not obstruct airflow around the monitor.
- The amplifier is not completely disconnected from the AC mains service unless the mains power cord is removed from the amplifier or the mains outlet.

Guarantee

This product is guaranteed for a period of two years against faults in materials or workmanship. Refer to supplier for full sales and guarantee terms.

Compliance to FCC rules

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device may not cause harmful interference, and this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Modifications not expressly approved by the manufacturer could void the user’s authority to operate the equipment under FCC rules.

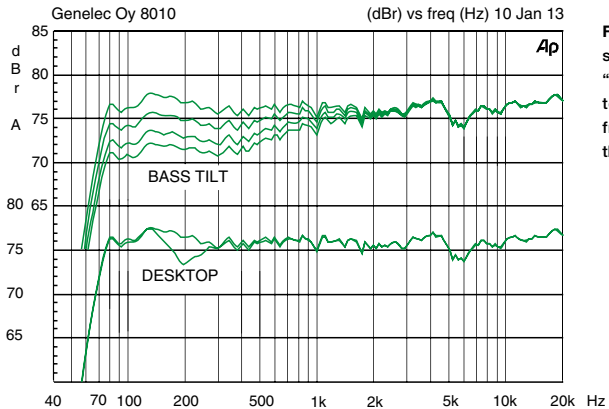


Figure 4. The curves show the effect of the “Bass Tilt” and “Desktop” controls on the free field response of the 8010A

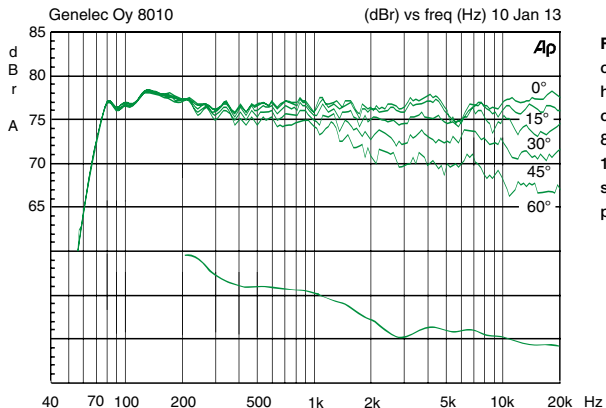


Figure 5. The upper curve group shows the horizontal directivity characteristics of the 8010A measured at 1 m. The lower curve shows the power response.

SYSTEM SPECIFICATIONS

Lower cut-off frequency, -6 dB:	≤ 67 Hz
Upper cut-off frequency, -6 dB:	≥ 25 kHz
Free field frequency response (± 2.5 dB):	74 Hz–20 kHz
Max. short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz at 1 m distance at 0.5 distance	≥ 96 dB SPL ≥ 102 dB SPL
Maximum long term RMS acoustic output in same conditions with IEC weighted noise (limited by driver unit protection circuit) @ 1 m:	≥ 91 dB SPL
Maximum peak acoustic output per pair on top of console, @ 1 m distance with music material:	≥ 105 dB
Self generated noise level in free field @ 1 m on axis (A-weighted):	≤ 5 dB
Harmonic distortion at 80 dB SPL @ 1 m on axis Freq: 70...400 Hz >400 Hz	< 3 % < 0.5 %
Drivers:	
Bass	76 mm (3 in) cone
Treble	19 mm (¾ in) metal dome
Weight:	1.5 kg (3.3 lb)
Dimensions:	
Height including Iso-Pod™ table stand	195 mm (7 ¹¹ / ₁₆ in)
Height without Iso-Pod™ table stand	181 mm (7 ¹ / ₈ in)
Width	121 mm (4 ⁷ / ₈ in)
Depth	115 mm (4 ¹ / ₄ in)

CROSSOVER SECTION

Input connector: XLR female 7 kOhm:	pin 1 gnd, pin 2 + pin 3 -
Input level for 100 dB SPL output at 1 m:	-6 dBu (Sensitivity -10 dB off)
Level control range relative to max output:	-10 dB (Sensitivity -10 dB on)
Desktop control operating range:	0 to -4 dB @ 200 Hz
Crossover frequency, Bass/Treble:	3.0 kHz
Bass Tilt control operating range in -2 dB steps:	0 to -6 dB @ 100 Hz
The 'CAL' position is with all tone controls and Sensitivity -10 dB function set to 'off'	

AMPLIFIER SECTION

Bass amplifier power with an 8 Ohm load:	25 W
Treble amplifier power with an 8 Ohm load:	25 W
Long term output power is limited by overload protection circuitry	
Amplifier system distortion at nominal output THD+N:	≤ 0.08 %
Mains voltage:	100 - 240 V AC
Voltage operating range:	±10 %
Power consumption	
Standby	<0.5 W
Idle	5 W
Full output	30 W

使用说明书

8010A

有源监听系统

概述

Genelec 8010A是为专业应用设计的超紧凑型两分频、双功放有源监听音箱。它包含驱动单元、功放、有源分频滤波器以及保护电路。MDE™ (Minimum Diffraction Enclosure™) 最低衍射箱体采用压铸铝材质，音箱外型可减少箱体边缘的衍射。8010A采用了先进的DCW™声波指向性控制技术 (Directivity Control Waveguide™)，这一设计确保音箱即使处于不佳的声学环境中也能具有优秀的频率平衡表现。如果需要，可以配合使用合适的真力低音音箱来扩展8010A的低频响应。

包装

每只8010A配有一条电源线和这本使用说明书。

安装注意事项

正确摆放音箱

请正确摆放音箱，让所有音箱的声轴都瞄准听音位置的耳朵高度。垂直放置音箱是最佳选择，因为它能够最大程度减轻分频点附近的声学抵消问题。

保持对称

请检查音箱放置是否对称，以及到达监听位置的距离是否相等。如果可能，将监听位置放在房间的中线上，且使音箱到中线距离相等。

最大限度减少反射

音箱附近的物体会产生声学反射，例如桌面、柜子、电脑显示屏等，这些会引起不必要声染色和的声像模糊。将音箱远离这些平面物体，可以尽量减少反射。

最小间距

如果音箱被安装在一个有限的空间内，例如放在柜子内或嵌入墙体中，一定要确保功放充分冷却以及倒相口工作正常。

音箱必须和四周，包括后方，上方和两侧保持至少2.5厘米 (1英寸) 的间距。功放周围的空间必须通风或具有足够大的散热空间，以确保环境温度不超过35摄氏度 (95华氏度)。

连接

在完成音频信号线连接后方可连接电源线。

8010A包含一个阻抗10kOhm的平衡XLR输入接口。也可以通过合适的转接器连接非平衡RCA线路电平音频信号，详询真力经销商。由于8010A包含功放，因此不需要额外的功放。切勿将8010A连接到功放、合并功放或影音接收机的扬声器输出端口。

当音频连接完成后，使用附送的电源线将音箱接通电源。音箱会自动启动。

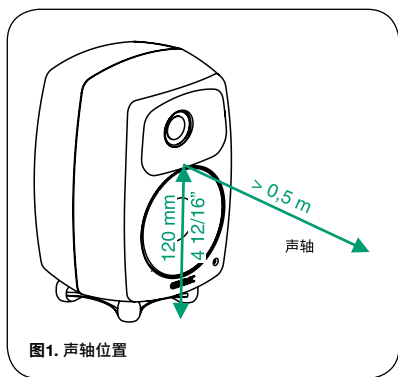


图1. 声轴位置

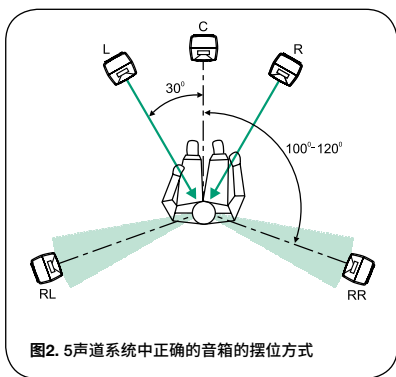


图2. 5声道系统中正确的音箱的摆位方式

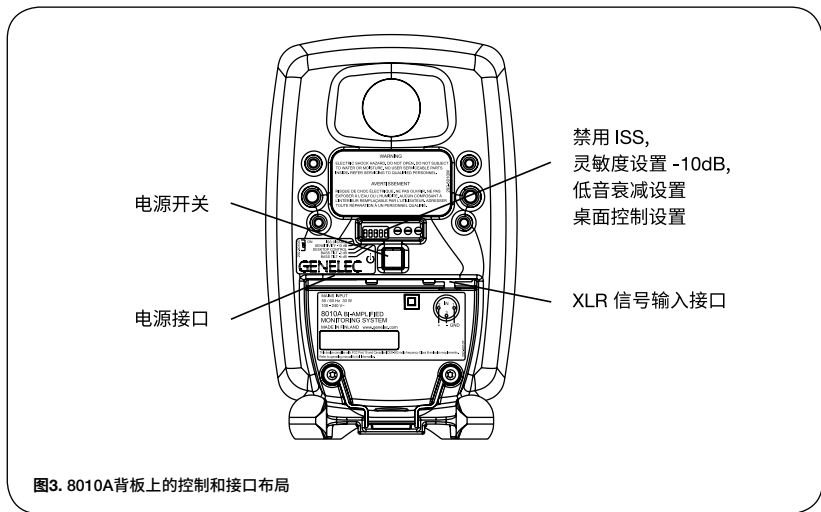


图3. 8010A背板上的控制和接口布局

音箱摆放环境	桌面控制	低频衰减
平直的消声室响应	关	关
吸声室内自由放置	关	关
混响室内自由放置	关	-2 dB
靠近墙	关	-4 dB
近场置于反射平面上	开(-4 dB @ 200Hz)	-2 dB
放置在角落或箱子中	关	-6 dB

表1:不同声学环境中建议的音色控制设置

ISS™自动启动功能

8010A具备信号感应自动启动功能,播放开始时音箱自动打开。当播放结束,电源会自动切换到待机模式。待机模式的耗电不足0.5瓦。当检测到输入信号,音箱电源会迅速自动启动。电源自动启动存在微小的延时。如果不希望延时产生,将背板上的“禁用ISS”开关调至“ON”,可以禁用ISS功能。这种情况下,音箱通过背板上的电源开关来开启和关闭。

灵敏度调整

8010A的输入灵敏度(回放电平)有两个不同的设定:正常和-10dB。正常设定为出厂设置,更低的-10dB灵敏度可以通过将背板的“SENSITIVITY -10dB”开关调至“ON”来开启。在这两个灵敏度下,输入电平-6dBu时的输出声压级分别为100 dB和90 dB。请选择合适的设置来得到所需的播放音量,同时确保前级音量控制拥有良好的精度。

音色控制

通过设定音箱背面板的音色控制开关,调整真力8010A的频率响应使之与声学环境相匹配。控制调整参数包括“低频衰减”和“桌面控制”。表1列出了不同环境中的几种典型设置。图4显示了在消声室内不同音色控制的效果。

请确保在所有设定开关处于“OFF”位置时再开始系统调整。通过测量或系统地聆听不同的设置组合来找出最佳的频响平衡。

低音衰减

低音衰减(Bass Tilt)控制为低频响应提供了三个衰减电平,通常在音箱放置于靠近房间边界位置时需要开启。衰减电平包括-2dB(开关1“ON”),-4dB(开关2“ON”)以及-6dB(两个开关均“ON”)。

桌面控制

2“桌面(Desktop)”低频控制(开关3)在200Hz处将低频衰减4dB。这一功能用于补偿音箱置于桌面或类似水平面上之所产生的低频增强。

安装选件

8010A提供了多种安装选件: Iso-Pod™ (Isolation Positioner/Decoupler™) 隔振底座可以使音箱倾斜以指向听音者。音箱背面有三对螺纹孔, 适配不同类型的支架。如需要安装选件的完整列表, 请查阅www.genelec.com上的真力附件目录或联系您的真力经销商。

维护

在音箱内没有需要用户维修的零部件。任何关于8010A的维护或维修都应由具有维修服务资质的人员来完成。

安全注意事项

尽管8010A已经按照国际安全标准设计, 仍应注意以下警告和注意事项, 确保安全的操作以及安全的音箱工作条件:

- 音箱维修和调整必须由具有维修资质的人员来完成。不可打开音箱。
- 切勿将音箱靠近水或潮湿环境。切勿在音箱上或其附近任何地方摆放充满液体的物品, 例如花瓶。
- 此音箱可以产生超过85dB的声压级, 这可能会引起永久性听力损伤。
- 确保音箱后方空气流动, 使音箱能够充分冷却。不要阻碍音箱周围的气流。
- 除非将电源线从功放上或电源插座上拔掉, 否则功放并未完全与交流电源断开连接。

质保

产品为材料和工艺上的瑕疵提供2年质保。请参考供货商的销售和质保条款。

FCC符合性声明

该设备符合FCC规定的第15部分。操作必须符合以下两个条件:

- (1) 此设备不造成有害干扰
- (2) 设备必须接受所收到的干扰, 包括可能导致意外操作的干扰

注意: 该设备已经经过测试, 符合B类数字设备的限制, 且符合FCC标准第15部分的要求。这些限制旨在提供合理的保护, 防止在住宅区安装时产生有害干扰。该设备会产生, 使用和辐射射频能量, 如果未按照说明安装和使用, 则可能对无线通信造成有害干扰。但是, 我们不在特定安装中不产生干扰。如果设备对无线电和电视的接受产生有害的干扰, 用户可通过开关该设备进行验证, 我们建议用户采用下述中一种或多种手段进行干扰消除:

- 重新调整天线的方向和位置
- 加大该设备与接收器之间的距离
- 将该设备和接收器分别连接到不同电路的插座上
- 向经销商或有经验的无线电/电视技术人员寻求帮助

任何未经厂方许可的改动都将让用户丧失在FCC规定下操作设备的权力。

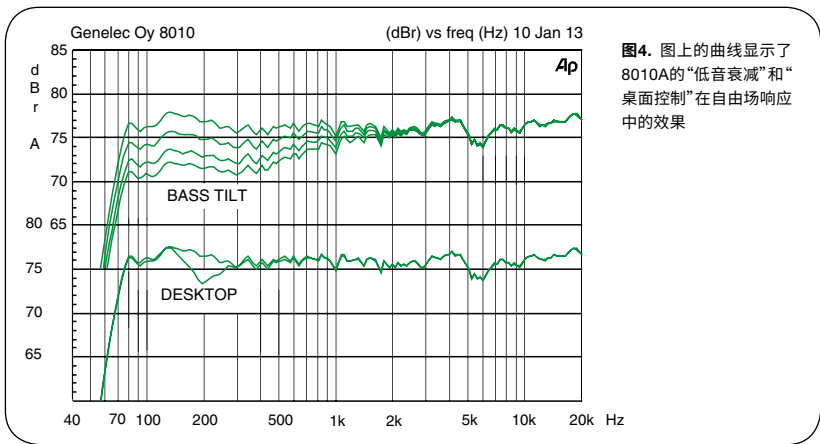


图4. 图上的曲线显示了8010A的“低音衰减”和“桌面控制”在自由场响应中的效果

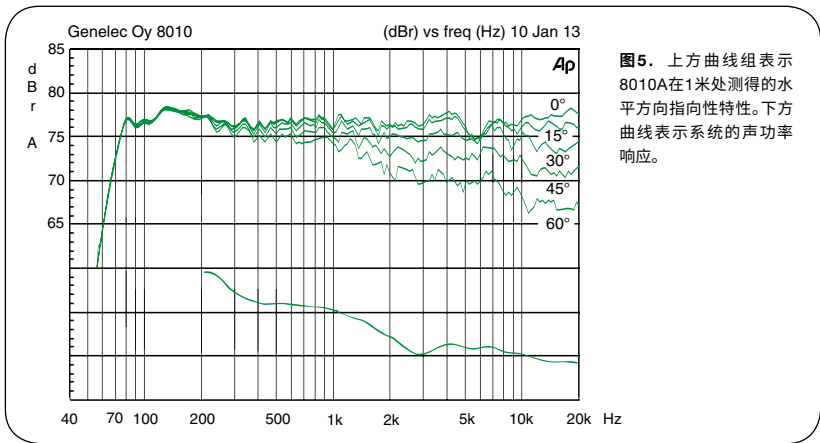


图5. 上方曲线组表示8010A在1米处测得的水平方向指向性特性。下方曲线表示系统的声功率响应。

系统参数

低频截止频率, -6 dB:	≤ 67 Hz
高频截止频率, -6 dB:	≥ 25 kHz
自由场频率响应 (±2.5 dB):	74 Hz–20 kHz
半开放空间内, 轴上最大短时正弦波声学输出, 100Hz–3kHz均值 @1m @0.5m	≥ 96 dB SPL ≥ 102 dB SPL
在相同条件下, 使用IEC计权噪声测试的 最大长期RMS声学输出 (受驱动单元保护 电路限制):	≥ 91 dB SPL
在调音台上方, 使用音乐信号进行测试, 在 距音箱1m处每对音箱最大峰值声学输出:	≥ 105 dB
自由场内自身噪声电平 @1m 轴上:	≤ 5 dB
总谐波失真 85dB SPL @1m, 轴上 频率: 70...400 Hz >400 Hz	< 3 % < 0.5 %
单元:	
低音	76 mm (3in) 锥形
高音	19 mm (7/8 in) 金属球顶
重量:	1.5 kg (3.3 lb)
尺寸:	
高度 (含Iso-Pod™ 底座)	195 mm (7 ¹¹ / ₁₆ in)
高度 (不含Iso-Pod™ 底座)	181 mm (7 ¹ / ₈ in)
宽度	121 mm (4 ⁷ / ₈ in)
深度	115 mm (4 ¹ / ₂ in)

分频部分

输入接口:XLR母座7kOhm:	pin 1 gnd, pin 2 + pin 3 -
获得1米处100dB SPL输出所需的输入电平:	-6 dBu (-10dB灵敏度 设置关闭)
相对最大输出的电平控制范围:	-10 dB (-10dB灵敏度 设置打开)
桌面控制操作范围:	0 to -4 dB @ 200 Hz
分频点, 低音/高音:	3.0 kHz
低音衰减控制范围, -2dB步长:	0 to -6 dB @ 100 Hz
“校准”位置是当所有音色控制以及输入灵敏度控制-10dB功能 设定在“off”的状态	

功放部分

低音功放输出功率, 8 Ohm负载::	25 W
高音功放输出功率, 8 Ohm负载:	25 W
长期输出功率受驱动单元保护电路限制	
在标称输出功率下功放系统THD+N:	≤ 0.08 %
电源电压:	100 - 240 交流电
电压工作范围:	±10 %
功耗	
待机	<0.5 W
空闲	5 W
满输出	30 W