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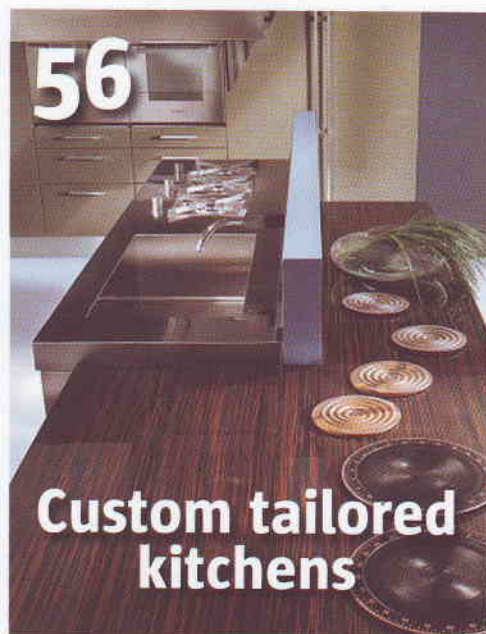
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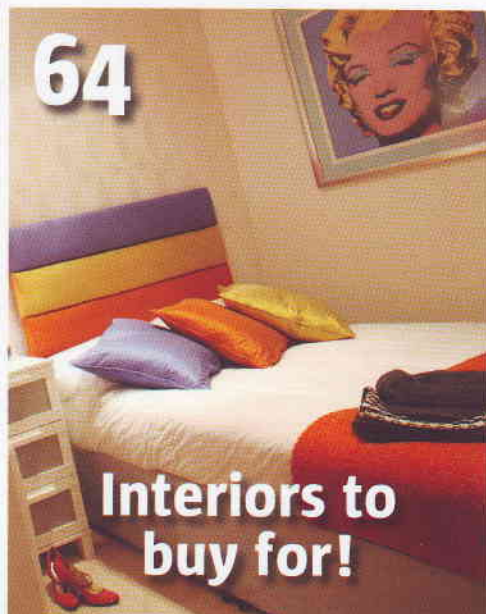
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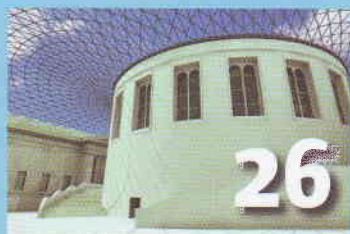
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SOUND ADVICE ON OPEN PLAN LIVING

Creating minimalist, open plan living spaces presents a challenge when it comes to audio visual installation



Described as one of the most desirable houses in the UK, this art deco property on the outskirts of Harrogate is visually stunning. The interior design is contemporary, boasting large minimalist open plan living spaces incorporating the latest audio visual, communication and entertainment systems, together with home automation and environmental controls. Despite installing a host of features, the visual disruption created by technology is minimal.

This is due in no small part to the use of Amina Plaster In-wall speakers, which fill the living space with high definition sound.

Installing AV in the property was challenging because of the layout. The centre piece of the house is the main living area where two full height, two storey windows provide views of the garden and allow light to flood into the space. For the AV suite, this meant there were physical restrictions on where loudspeakers could be placed. The only available space to place the left and right loudspeakers was at the extremes of the room, immediately adjacent to the side walls.

The incumbent conventional speakers, which were positioned outside the main listening area, generated compromised sound quality due to the reflection of acoustic energy from the side walls. It produced reverberation and poor clarity, while the location of the speakers also meant the main listening area was off axis. Overall the audio quality was poor with steep sound level gradients in the living room.

To resolve the situation North East AV integrator, Lifestyle, positioned Amina Plaster In-wall speakers in the same space and location, resulting in vastly improved audio quality. The entire room is now filled with high definition sound with no more steep sound pressure gradients. Not only this but all visual signs of the sound source have been eliminated.

Amina In-wall loudspeakers are based on diffuse source vibrating soundboard technology. It mimics the way a traditional acoustic instrument works, where the strings create vibrations in the instrument body. In fact, the loudspeaker uses a neodymium exciter to take the audio output from the amplifier to create vibrations in a lightweight, composite panel.

The vibrations produced are tiny and as billions of vibrations >>>



*Previous page: Installing AV in the property was challenging because of the layout
Above: Amina loudspeakers produce diffuse sound, filling awkward and even acoustically reflective environments*

evolve in pockets all over the surface of the panel, it creates a diffuse source of non phase related sound energy. This ensures that surround or stereo sound can be heard whatever the room, whatever the listening position, filling the space with more even sound.

These technical attributes of the Amina loudspeaker were particularly relevant for the open plan home, not least because the sound produced radiates in all directions. Unlike traditional piston cone speakers, which are inherently directional, the positioning of the speakers is less critical. Height and position are far less relevant within the room and the speakers can be placed in any orientation and plane. This means that in the Harrogate property the sound emanates in all directions filling the room and reducing the beam of sound effects.

Sound was also more even through the room compared to a conventional loudspeaker, where the sound pressure level falls off dramatically as the listener moves away. This is more pronounced when the listener is not directly in front of the speaker. With Amina, the sound is diffuse, so fall-off is less severe with distance, especially off-axis. This improves further in acoustically reflective environments such as a conservatory or a pool area where reflective energy is constructive, giving an even sound-fill.

It also made them ideal for use in the acoustically reflective environment presented by the open plan Harrogate property, where the speakers were located close to the side walls in a room full of hard surfaces.

Finally, the Amina Plaster In-wall speakers worked well with the clean lines of the art deco design, because once installed, they are invisible. The speakers can be plastered into the wall or ceiling, resulting in zero visual foot-print. The panel inside the speaker is tuned to accept one to two millimetres of plaster skim on its face and when decorated, it cannot be seen. The tiny vibrations create minimal displacement and the plaster itself is relatively flexible, so the vibrations pass seamlessly through the skim layer to excite air molecules on the surface, producing sound that reaches the listener.

The AIWX range of Amina Plaster In-wall speakers come in three power ratings: A AIWX1 20W speakers, AIWX3 40W speakers and the AIWX5 80W speakers. All speakers are sized at 450 by 345 by 40mm to fit between the standard studs in modern drywalling and beams in ceilings. Retail prices start at £350 each.

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