INSTALLATION BY SURREY HILLS HOME CINEMA

A CINEMA WHICH 'KNOCKS IT OUT THE PARK'

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A visually stunning and technologically impressive home cinema has been installed in a new build family home near Richmond Park. Guildford-based technology integrator, Surrey Hills Home Cinemas, worked closely with the pioneers of High Resolution audio, Meridian Audio, to deliver a home cinema that provides the family with a place to escape to and enjoy the full cinematic experience.

Surrey Hills Home Cinemas was contracted to design and install a home cinema, without an interior designer managing the project and advising the integrator on the specification. This approach meant that the integrator liaised directly with the client, who gave the team ideas and inspiration from magazines. The general brief was for the room to be red with gold piping and almost 'bordello.' The client was also very clear that he did not want to have any technology on display – he did not want to see speakers bolted onto the wall or casually placed in the room.

The main challenge on this project was the size of the room. It was a complete concrete shell and Surrey Hills Home Cinemas had the task of fitting it out from the shell to how it looks today. Concerned over being able to achieve a high performing room within such a large space, the integrator made it more compact – also eliminating the need to use any commercial equipment, which typically sacrifices fidelity for output. The ceiling height was dropped by nearly a metre and a half, while the front and rear walls were brought forward, which provided a better sized room and also allowed the team to integrate a kitchen that the client wanted at the back.

The room features a lot of joinery and flat space, which from a technical aspect, made it difficult to keep the room at its optimum. The room also includes several pieces of artwork on the walls and a kitchen in the back. With all this in mind, Surrey Hills Home Cinemas put great emphasis on the room acoustics by concentrating on two aspects. The first was ensuring the absorption that was installed helps the room being isolated from the rest of the building to avoids noise leak. The second focus was from a performance point of view – concentrating on diffusion techniques as well as absorption to make the room sound lively but contain any base boom.

The Surrey Hills Home Cinemas in-house joinery team create a room built around the technology and the size of the space. While the installation team worked with the client to get a wish list of what they wanted the room to do, the joinery team created the carpentry and the integration of the equipment within the joinery, all signed off and managed by Surrey Hills Home Cinemas.

"This was an incredibly interesting project to work on as I'd never physically built anything of this scale before" said Elliot Hicks, Director of Surrey Hills Cinema. "When it came to choosing the speakers for this project, we looked at the brands that we have worked with in the past, but many of them weren't going to work in this particular room. We spoke to Meridian and used its Design & Specification Service to check that we could achieve the required sound pressure levels at the different seating rows, particularly in the client's main space. After working out that its DSP in-wall speakers in a High Power Array set up could hit a high sound output level of 105dB, whether at the front, middle, or back of the room, with clarity and precision and without any listener fatigue, Meridian was the obvious speaker choice."

With the brief of not having speakers on display, Surrey Hills Home Cinemas focussed on integrating the Meridian speakers into the joinery in the relevant position, whilst overcoming different challenging elements, including pelmets, plinths, and curtains.



The team managed to install each of the Meridian speakers into a different section so that the client doesn't walk in and see a speaker, they walk in and see a room, and then subtly, their eye will catch where the speakers are hidden.

Surrey Hills Home Cinemas specified 27 Meridian speakers in total - four DSP520.2 loudspeakers for each of the front channels, six for the height channels, and six DSP640.2 loudspeakers for the side and rear channels. These loudspeakers are powered by Meridian's exclusive 'CLASS-M' DSP engine and integrated with 'DYNAMIC' Hi-Res amplifiers. Incorporating the latest audio enhancing technologies from Meridian, including Enhanced Bass Alignment (EBA) and Centre Elevation, they provide incredibly lifelike and spacious sound with unmatched levels of performance. Full range, high fidelity, high SPL, all in a 4" installation depth.

On the visual side of things, Surrey Hills Home Cinemas installed a 5m Display Technologies Acoustically Transparent Wow (ATWow) screen in a cinemascope aspect ratio, supplied via Meridian. ATWow is a dual layer image surface made up of a single white front surface mounted over black backing, maximising black level detail whilst maintaining crisp whites and consistent colour accuracy across the entire light spectrum.

On a screen this size, it was important to achieve the right light output. A laser light source projector was the obvious choice, but many of them still don't achieve the sort of brightness that is required. Knowing the quality that a Barco projector can provide and what it could achieve in this room, Surrey Hills Home Cinemas chose the **Barco Balder CinemaScope projector**, also distributed through Meridian. This single chip DLP projector features powerful laser phosphor illumination, 5K CinemaScope (5120 x 2160) resolution, native 2.37 aspect ratio was specified with the Home Theatre colour wheel and choice of high MTF lenses using all glass elements.

With such a bright projector in the room and with it providing the right level of light output, the **WOW fabric** of the screen achieves great brightness and amazing contrast. This also allows the room to be set up in two different modes – one is complete blackout for films, while the other is a gaming mode, where the light output is turned up eve higher, allowing for the required level of ambient light.

In a room this size with a large number of seats, Surrey Hills Home Cinemas wanted to allow everyone to enjoy the same experience, no matter where they are seated. While there is still a hot seat for the client, the set up with the **Trinnov processor**, allows him to use the control system to switch between having the cinema optimised for every seat and just his seat.

"It was great that Surrey Hills Home Cinemas had the confidence in our Design & Specification Service and took our recommendations regarding sound pressure levels" said Barry Sheldrick. "It was really important for the team to meet key measurements, so I was delighted to be able to give them the confidence to say 'you will be able to hit 105db in the back row with low distortion by using the **DSP520.2 loudspeakers** in a High Power Array set up.' It was a real treat for me to be able to visit the finished room. Up until then, I'd only seen it on plans and to see what Surrey Hills Home Cinemas has delivered in terms of the quality of the joinery, fabric, acoustics, as well as the technical aspects, is amazing."

Having such a tricky client brief where the team was not allowed to provide too much technology in the room and they needed to keep it aesthetically pleasing, the result is formidable. When Surrey Hills Home Cinemas first showed the client the room and they heard the cinema working, they were blown away by the performance. The client was surprised and delighted that the team managed to provide a room that could create a powerful cinematic experience, and yet you can't see any technology on display.

"The key reason this project has been such a success is no doubt to our relationship with Meridian" comments Elliot. "They have been with us every step of the way, providing us with any level of technical support we've required, and it's led to a fantastic end result."

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