SIGNATURE CINEMA

TAKEN TO THE NEXT LEVEL

This view from the back of the cinema shows the equipment in the custom cabinetry, and the B&W wall speakers without their grilles. in use, the equipoment is concealed and the speakers grilled (see image overleaf).

This client was fortunate to experience our previous cinema project by invitation (which was featured in the previous edition of *Headlines* magazine). He was so impressed with it that he was inspired to create the same space for his own house.

However, rather than simply replicating the design, it was imperative to visit the site to further tailor the design for the specific client. Our senior Sales Consultant Alberto Vangi from the Len Wallis Audio team was eager to enliven the client's inspiration and make it happen by working closely with them to understand the accurate requirements from the site.

We were also delighted to have Innovative Building Services working with us again. We knew from our last cooperation on a cinema that the build quality and attention to detail we could achieve together would deliver the quality we both strive for.

Inner space

One outstanding feature from this project was the large cinema size, which gave us additional capacity to deliver an enhanced audio visual experience across many aspects of the design. The room was nine metres long, six wide and an average 2.9 metres high. With the higher ceiling, we were able to fit in three tiered seating rows, and by working with the builder, the LWA team was able to design a raised back section which helped with the sound by keeping the distance and listening angles consistent. This also

achieved a sense of spaciousness, with each elevated row having an unimpeded view of the screen yet with the rear row not positioned too close to the ceiling. Shaun Peffer of LWA created a drawing in AutoCAD for the technical specifications.

Less conducive to the sound was the fact that the room had one wall made of glass, and to accommodate for this constructed pillars were used for the in-wall side speakers, as well as custom-made heavy acoustically-designed curtains to prevent any outside light from entering the room, as well as to improve the acoustics.

4K and Atmos

Once the main structure of the cinema was in place and cabling commenced, it was critical to ensure that all cables were able to transfer the high data rates necessary for 4K video transmission, especially to the projector where longer cable runs are typically required. Cables that fail to meet the necessary specifications cause HDMI handshake issues which can result in video and audio drop-outs. An important piece of advice to take from this is to minimise any shortcuts in your cabling from either a technical or cost perspective, as many hours may be spent endeavouring to trace faults as to why there are signal losses and drop-outs.

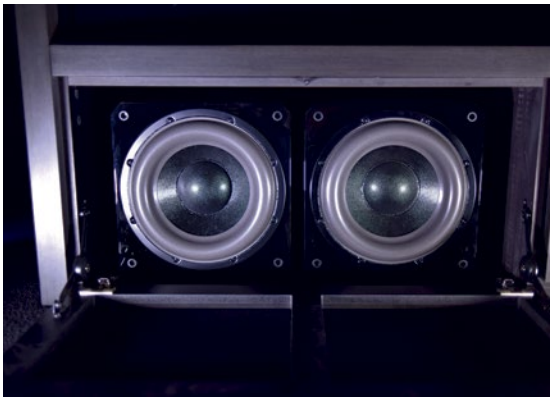
The purpose of the speaker configuration is to make full use of the latest cutting-edge Dolby Atmos and other immersive audio formats which enhance the experience by drawing out every possible nuance of the audio soundtrack. With today's technology, it is possible to achieve a superior cinematic experience at home to that of most commercial cinemas.

This particular room has six front speakers behind the screen, the main front left, centre and right being supplemented by left, centre and right Auro 3D height speakers. There are eight overhead Dolby Atmos in-ceiling speakers – two above each row, and two placed between the front row and screen. There are six side in-wall speakers with three on each side with another two at the back wall. This makes up 22 speakers in total.

With this space to fill and to make the most impact we have eight subwoofers. Four subwoofers were located at the front and four at the back. This provides a total 30 channels of audio.

It was important to select a speaker brand that can produce the sound pressure levels necessary for a room of this size without sounding too harsh or ear-piercing. B&W 700 Series Cinema Range speakers were the perfect choice.

These B&W speakers certainly worth the investment. Being specifically engineered for cinema use they are not designed to be the most attractive products, since you won't be seeing them — the ceiling and in-wall speakers in this theatre have their grilles painted to blend in with the room (see above). Rather it is all about their sonic performance and being capable of producing higher SPL



levels. Meanwhile the eight subwoofers from Sunfire, when all working at once, are able to deliver fast, tight, controlled, deep and balanced bass which results in an exceptional overall sound.

Processing & power

At the heart of the audio system sits a Trinnov Altitude[32] processor, which we selected for multiple reasons. First, we wanted to optimise playback for all immersive formats as well as for legacy soundtracks. Beyond its unique 32 discrete channel rendering capability, the Altitude[32] gave more flexibility in terms of channel assignment and mapping for each format than any other processor available on the market. That's critical when you have 22 speakers in the room. For legacy content, the Altitude[32] did let us decide which upmixer to use for each input, thereby allowing us to use a specific upmixer for stereo sources and another one for multichannel, ultimately resulting in a unique experience tailored to the client's preference.

The second reason also relates to flexibility and lies in both the Optimizer technology and the Altitude[32]'s unrivalled bass management capabilities. With 22 speakers and 8 subwoofers, we had to be able to tune the system to the finest detail, and that's what the Optimizer enabled us to do. Other room correction systems are more limited and wouldn't have allowed us to get the best out of this outstanding installation. Last but not least, Trinnov's support and expertise has been instrumental in getting this challenging system running as smoothly as it does today.

Two Yamaha 11-channel power amps were the driving force behind the speakers, and they deliver clean and stunning power to each of the 22 channels (while the subwoofers are an active design, with their own power).

A dream screen

In cinema design, picture quality goes hand in hand with sound quality to maximise the whole experience. It is certainly worthwhile to invest in picture quality as much as the sound quality. Well-known cinema designer Jeremy Kipnis has said in an interview with Ric Edelman ('The Truth About Money'), "*To put it bluntly, the more money you can spend on the picture as an out of pocket expense the more likely you are to be happy with your home theatre.*"

Implementing this theory, we decided to use the custom Stewart Filmscreen 184" microperforated Cine-V, a curved dual format screen with masking down to 1.78:1 (147") from its native 2.35:1 (184") aspect ratio, a notably large image size. The screen surface selected is a 1.5 gain Ultramatte 150, a gain of 1.5 meaning a 50% brighter result than from a matte white surface with a gain of 1.0.

The combination of the higher gain surface, along with curvature of the screen and the German-made Schneider anamorphic glass lens system (to use the full brightness and resolution of the projector) maintains exceptional image brightness and performance for Ultra-HD HDR content as well as for conventional HD content.

Innovative Building Services also provided us with complete walk around access behind the screen for any servicing requirements and increased ventilation.

With every theatre design, it is critical that the products selected are the most suitable for the task at hand. So it was for the projector used, the Sony VPL-VW870ES. The high brightness and contrast from the Laser-SXRD, a true 4K image (no pixel shifting), and the edge-to-edge crispness of the 18-piece glass lens are just a few of the features that made this Sony the obvious choice for this space.

Just as calibration is a critical part of the sound as mentioned previously with the Trinnov, the same goes for the picture. Mick Peaker from Avical was brought in for the task, being one of only a handful of calibrators in Australia with the necessary skill to accurately calibrate video images to meet exacting industry standards. The combination of multiple factors – the projector, the screen, the

video sources, the cables, the colour of the walls and interior – are all considered in this process. The brightness of the image (which is twice the industry standard) in conjunction with the deep black levels produced by the Laser-SXRD technology serves to increase the perceived depth of the image, and when the black/peak white levels are correctly set, as well as adjusting various elements of colour, it gives picture a more lifelike and three-dimensional look.

The cost of such a service is small compared with the improvement it makes to the picture. The client was amazed at the difference the calibration made, especially with 4K/HDR content. Not calibrating is like buying a Ferrari and not getting it tuned!

And in Mick Peaker's own words, "*I've calibrated home cinemas around the country for the last seven years, and I can honestly say that this project has been, overall, one the most enjoyable I've experienced.*"

Putting it all together

Key sources for the cinema are X-Box, PS4, Foxtel, Oppo 205 4K Blu-ray, Apple TV and Kaleidescape. All of the sources are 4K capable. The one source from these that might not be known to everyone is the Kaleidescape. The quality of downloads to their movie server, once you purchase from the Kaleidescape store, is breathtaking. The ability to find and play scenes, the whole movie, favourite directors, the cover art layout and its phenomenal user interface is just a taste of Kaleidescape's capability. And to bring it all together in terms of control and ease of use, RTI control was incorporated via their app, processor and an Apple iPad. Alex Rosas carried out the programming and made the cinema easy to use even for the least experienced user. For example, if you select Kaleidescape, it will turn on the system which will include the Kaleidescape, Trinnov, Sony projector and Yamaha power amps, and then display the Kaleidescape movie covers across the screen in Cinemascope. If you want to watch 1.78:1 (more common for concerts), the press of a button will remove the Schneider lens from in front of the Sony projector and bring down the side masking to present a perfectly formatted 1.78:1 image.

Also this format 1.78:1 (also known as 16:9) is typically used for free-to-air programs and for many Foxtel channels, while Cinemascope (2.35:1) is the most common format for movies. Another reason why a cinema with a Cinemascope screen is so much better than buying the biggest of TVs (which only come in 1.78:1) is that you will not get those black bars across the top and bottom with most movies commonly filmed in 2.35:1. Choosing between these formats requires just a single press of the RTI panel.

In summary everyone wants things to work as easily as possible, and RTI control does exactly that.

This cinema project was taken to the next level by putting together all aspects, each having their place in creating a Signature Cinema. We proudly achieved this through site visit, consulting, specifying, design, drawings, planning, project management, installation, calibrating and programming, all delivered through a professional handover. It is now the most used room in the house by the entire family. To put it simply, the better the room, the more it will be enjoyed.

PRODUCT LISTING (KEY ITEMS)

Sony VPL-VW870ES 4K SXRD Laser Projector

FlexiMount Heavy Duty Adjustable Projector Bracket & Cradle

Stewart Filmscreen Custom 184" Cine-V with THX 2 Ultra Microperforated Ultramatte 150 surface

Schneider CDA 1.33x Medium Anamorphic Lens System on Automated Schneider Torsion System

B&W CT7.3 x 6 Three Way Vented Speakers

B&W CWM 7.3 x 8 Three Way Reference In Wall Speakers

B&W CCM 7.3 x 8 Reference Ceiling Speaker

Sunfire HRS12 Active Subwoofer x 8

Trinnov Altitude 32/32 Surround Sound Processor

Yamaha MX-A5000 x 2 11-channel Power Amp

Kaleidescape Strato Movie Server

Oppo UDP-205 4K Blu-ray Player

RTI XP6 Processor

To complete this article we have included below the owner's comments which talk about the cinema, how it all came together and their experience.

"Our high end residential home builder is one of the fussiest builders you'll come across, and is very wise with his choices. So that's how we came across Alberto. When Alberto introduced himself to us, all my husband and I can say is that he approached us like we'd known him for years. We already felt a sense of being comfortable from his exceptional responses to his duties and he was able to interpret even the most complex instructions. He is already a resource for the people in his line of work, he acts like it's his own cinema room being built. Like all things there are always some little hiccups, but Alberto went far and beyond our expectations where he has spent evenings and late nights with no extra costs, and would not leave until he resolved and followed everything through to its fine details. Through the time of installation he's shown such a high quality and integrity, sense of responsibility and ambition. He is a leader and is able to organise his team to a high level of service. I guarantee and promise anyone who is in doubt, just have a look at his work, it says it all. We highly recommend Alberto Vangi and the LWA team and I guarantee you won't be sorry – if anything you'll just gain a friendship."