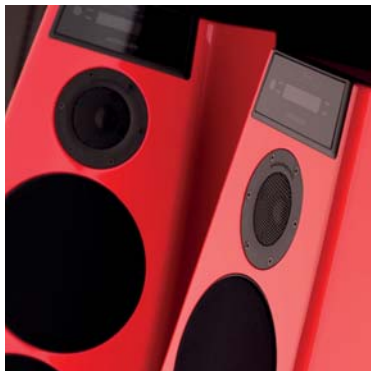
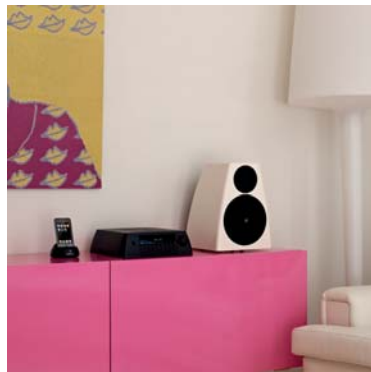
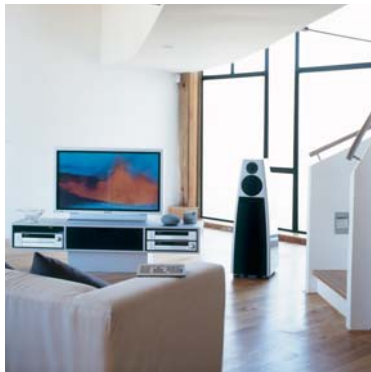




**MERIDIAN**

**AUDIO  
SECRETS**  
THE  
DESIGNERS  
HANDBOOK





## CREATING THE PERFECT HARMONY OF EXQUISITE SOUND IN BEAUTIFUL SURROUNDINGS

At Meridian, we've been designing and creating state-of-the-art audio and video home entertainment systems for over 35 years. The driving force behind our pursuit of perfection has always been the desire to lose as little of the original source material as possible – a passion for audio and video reproduction so pure you'll find yourself at the heart of every performance.

The underlying design philosophy for our systems is to combine the ground-breaking functional performance of all the components with a striking visual appeal; aesthetics that make a bold design statement, but one that's always in harmony with the surroundings.

We've created this non-technical reference guide especially for architects, interior designers and their clients, to demonstrate how our striking and innovative home entertainment systems can be incorporated seamlessly with all your design aspirations, to create an all-encompassing experience of pure quality in both form and function.

A handwritten signature in white ink, reading "Allen Boothroyd".

**Allen Boothroyd**  
Co-Founder & Design Director

# 'THE INTEGRITY OF THE INTERIOR DESIGN AND ROOM LAYOUT MUST ALWAYS COME FIRST'

## THE MOST IMPORTANT COMPONENT IN ANY SOUND SYSTEM IS ITS LOCATION

All rooms contain a mixture of reflective materials – like glass, plastered walls and wood – and more absorbent materials, like the carpets, curtains and upholstery. All these materials affect audio reproduction in different ways – the hard reflective materials reflect the sound around the space and can cause the audio to 'ring' like a bell and seem distorted. This effect can be counteracted by softer absorbent materials which serve to dampen and soak up the sound.

To deliver the most realistic audio experience, a mixture of reflective and absorbent materials throughout the room is recommended. But we recognise that this may not always be possible. What if your room design calls for a whole wall of panoramic windows to make the most of a stunning view? Alternatively, there may be layers of rich, sumptuous upholstery, carpets and rugs. The integrity of the interior design and room layout should always be paramount.

## MERIDIAN'S INTELLIGENT TECHNOLOGY MEANS YOUR DESIGN IS NEVER COMPROMISED

Digital signal processing (DSP) – which we've pioneered and adapted for the home audio market – allows us to build individually-controlled loudspeakers that deliver as much pure quality sound as a conventional speaker eight times the physical volume. And unique Meridian Room Correction smooths out room resonances for clearer sound and better imaging, whatever the room layout or combination of materials used.

Another major issue in audio reproduction is the 'boundary effect', which occurs when loudspeakers are placed close to the walls, resulting in the bass notes being over-enhanced at the cost of other, higher-frequency sounds. All Meridian loudspeakers – including our unobtrusive in-wall designs – can be individually fine-tuned to optimise sound quality wherever they are positioned in the room.



## FOUR TOP TIPS FOR GOOD SOUND DESIGN

**01** Talk to a sound design specialist about your architectural and interior design plans early on – together you can integrate stunning design and perfect audio reproduction as part of the blueprint for your project. **02** Agree on your audio and video home entertainment solution right at the start of the project process. This ensures all the controls can be fully-integrated, cables hidden away out of sight, and the whole system optimised for perfect performance. **03** Always try to position loudspeakers where they will deliver optimum sound quality – there are ways to hide and camouflage what you don't want to see whilst retaining the overall integrity of the design. **04** Where possible, create a space that includes a balanced mixture of reflective and absorbent materials and surfaces, to optimise audio reproduction.



**'THERE ARE SOME  
INHERENT DIFFERENCES  
IN THE WAY THE EAR  
PICKS UP LOW & HIGH  
FREQUENCY SOUNDS'**

## UNDERSTANDING THE BASICS OF SOUND

Highly complex and almost infinitely flexible, the human ear can detect everything from the low notes of a 64ft organ pipe to the high pitches of melodious birdsong. But there are some inherent differences in the way the ear picks up low and high frequency sounds, and while you can leave all the real science to us, it may be useful to know something of why Meridian products are designed the way they are.

Low notes and sounds are not very directional. As a result, loudspeakers specifically designed to reproduce low notes (known as 'woofers') can be placed almost anywhere in the room and still be heard perfectly. They can even be located conveniently out of sight behind furniture, with little or no adverse effect on their performance as part of the overall audio system.

Higher notes are extremely directional. That's why, for the best quality all-round audio reproduction, loudspeakers which focus on delivering these higher notes (often called 'tweeters') should ideally be placed at ear level, and not obstructed.

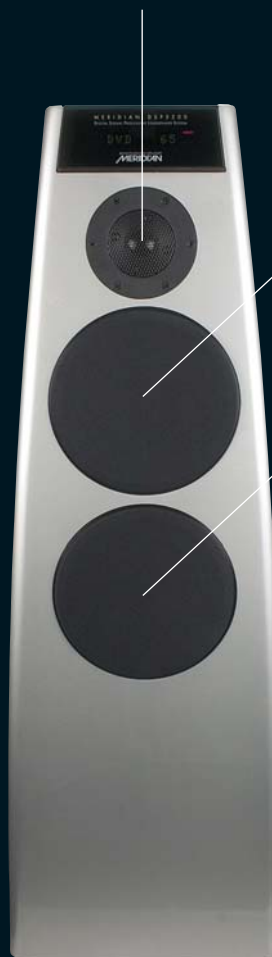
The key sounds for listening to speech and the subtleties of music normally fall somewhere in the mid-range. And being mainly directional too, the main loudspeakers of any audio system should also be sited at ear level for the optimum audio experience.

## SURROUND YOURSELF WITH SOUND

Most music is reproduced in stereo (2-channel) sound, and output for radio and speech is also normally two-channel. Movie soundtracks are recorded in up to seven individual channels, known as 'multi-channel' or 'surround sound'. The most important loudspeaker position in a surround sound system is the 'centre front'. As this is where most of the speech output comes from, the best location for realistic, engaging performance from this speaker is either behind or below the video screen itself.

### THE HIGH NOTES

These highly directional sounds need to be 'visible to the ears' for optimum performance.



### THE MID-RANGE

The most important directional sounds for speech and music.

### THE LOW NOTES

As these sounds are less directional, speaker positioning is less critical – out of sight behind furniture is fine.

Whilst most loudspeakers perform all three functions in one (as pictured), some design projects may benefit from the increased flexibility offered by our smaller speakers combined with a concealed 'sub-woofer'.

## THE ARCHITECTURE OF A SOUND SYSTEM

All sound systems use very similar basic components – it's the way these components are combined together that varies between manufacturers. The diagrams below show the key differences between an ordinary sound system and a Meridian digital sound system.

### MERIDIAN BENEFITS INCLUDE:

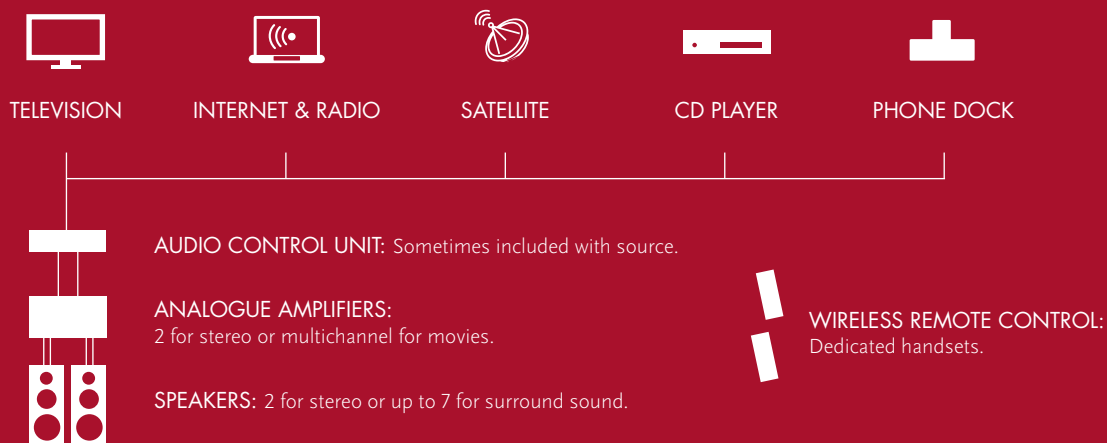
Fewer boxes.

Fewer and thinner cables.

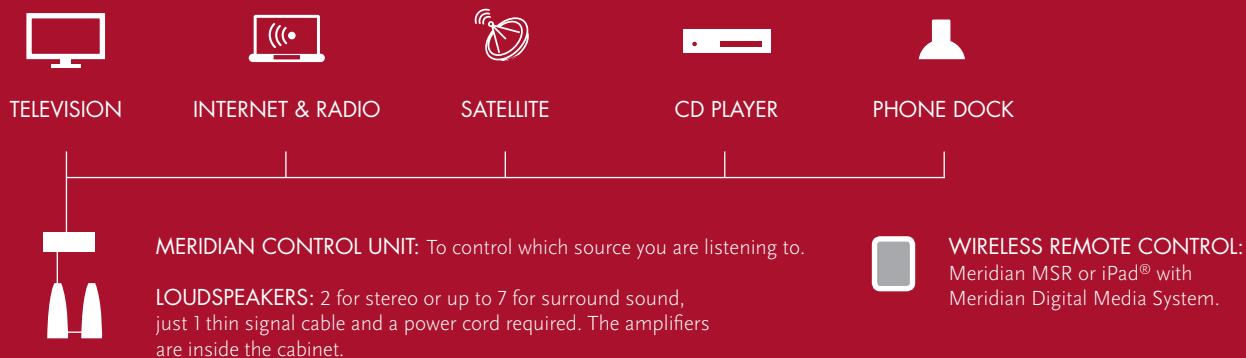
More sound output from smaller loudspeakers.

Integrated wireless iPod/iPad WiFi control.

### A CONVENTIONAL SOUND SYSTEM LAYOUT



### A MERIDIAN SOUND SYSTEM LAYOUT





## WHY NOT 'WIRELESS FOR SOUND'?

All Meridian systems can be controlled using infrared/ wireless remote control or WiFi iPod/iPad integration. But due to the speed and quantity of digital audio data being sent out to them, the loudspeakers do still need wired connections to ensure consistent, high quality, reliable sound. WiFi speakers would lose definition and clarity.

Long traditional speaker cables can cause distortion and be very costly. With Meridian's patented SpeakerLink® technology, the audio connection cables are as thin as a telephone wire and specially designed to prevent distortion, regardless of the length of cable required. So, 'wired for sound' is still the order of the day, but the total flexibility of SpeakerLink® makes installation swift, easy and less disruptive.

## IN-WALL LOUDSPEAKERS

For smaller room sizes, or if your interior design ideas require the audio system and speakers to be concealed, Meridian's In-wall Loudspeakers are ideal.

Meridian DSP In-wall Loudspeakers take all the innovative technology of Meridian's DSP-based Digital Active Loudspeaker range and incorporate it into a range of neat In-wall Loudspeakers. Almost totally hidden from view, Meridian in-walls deliver the same performance and superb sound quality as our free-standing designs. The back-box has been designed for easy and quick installation, and includes our innovative SpeakerLink® technology for simple integration with the rest of the system.



DSP In-wall Loudspeakers fit almost flush to the wall, and the grille can either be colour-co-ordinated to blend in with the surrounding wall colour, or picked out in a subtle or bold statement colour if required.

## MUSIC IN 270 COLOURS

All our lacquer-finished DSP loudspeakers and 800 series components come as standard in a choice of striking high-gloss white or black. But what if you have already chosen a distinct colour scheme for your interior design project? You might prefer the audio system components to match even more perfectly with the new scheme, or blend in alongside a signature piece of furniture you've chosen to set the look for the whole finished project.

That's where Meridian Select – our bespoke colour service – can help. It uses the RAL Classic System (the most popular European colour reference standard in use today), giving you a choice of around 270 different colours and shades to help your Meridian system achieve an ideal match – or striking standout look – within its surroundings.

Meridian Select is available on all our piano-lacquered loudspeakers and 800 Series components. And all Meridian Select products proudly bear a custom nameplate showing the owner's name, and signed by Meridian founders Bob Stuart and Allen Boothroyd.



## SPEAK TO US

This reference guide has been designed to introduce you and your clients to the main types of audio and video systems available, and the key benefits you'll enjoy if you choose Meridian.

For detailed advice and assistance in designing and installing your next home entertainment system, we are here to help.

We have a wide network of preferred partners throughout the world, all of whom are fully trained in designing, creating and installing all the latest Meridian components and systems. They are fully committed to working with you to create a fully bespoke home entertainment solution that meets all your requirements.

The back cover of this handbook shows the material used to craft the cabinets of our finest loudspeakers. Like any finely-tuned instrument, the performance of a Meridian loudspeaker is governed significantly by the materials from which it is manufactured.

We use plywood made from specially selected, cold-grown European Birch. This wood has very tightly packed rings, and is more dense and inert as a result. Multiple layers of this plywood are pressure-laminated together around a 1mm aluminium core. The rigidity and mass are improved even further by treating the interior surfaces with an additional layer of aluminium-doped epoxy resin. The result is a material that is so inert, no measurable vibration can be detected.

For details of the full range of Meridian audio and video products including our award-winning 'touch screen' Digital Media System, please visit [meridian-audio.com](http://meridian-audio.com)

**Meridian Audio Limited**

Cambridgeshire, United Kingdom

[meridian-audio.com](http://meridian-audio.com)