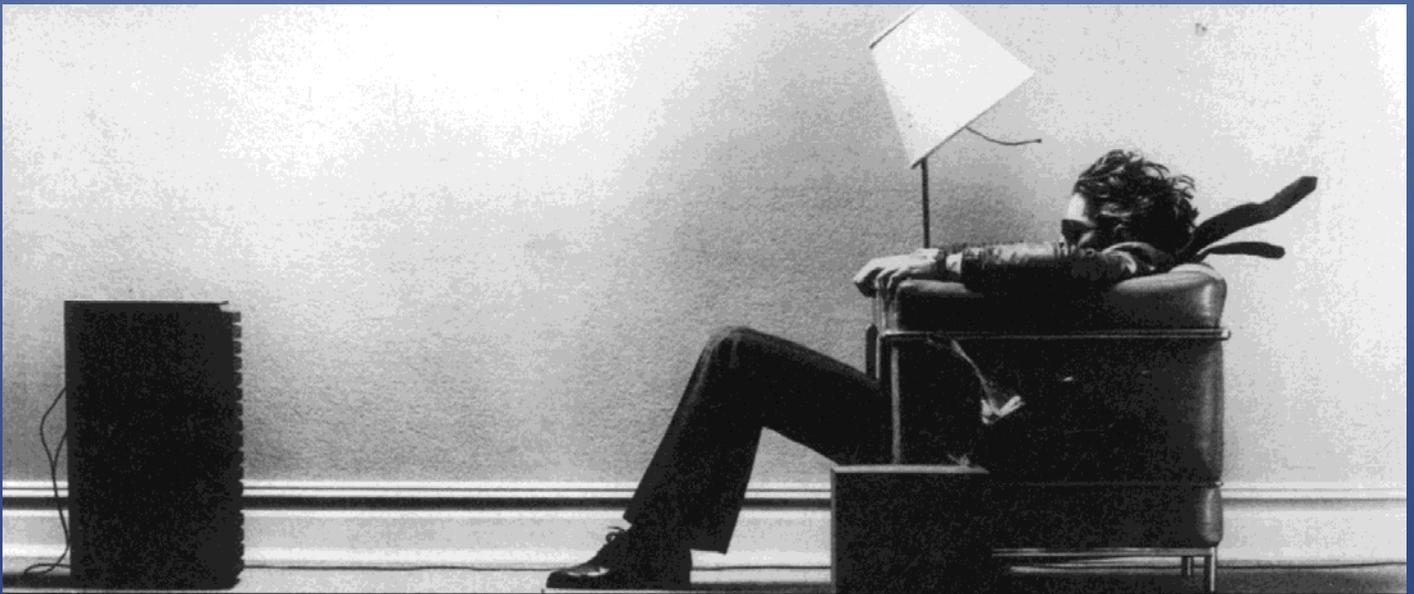


COMPARISON, UNBIASED REVIEW & RANKING OF 12 HIGH-END HOME CINEMA AUDIO BRANDS



DATE AUTHORED: TUESDAY 3RD JULY 2012

PLEASE NOTE: THIS REVIEW IS MY OPINION AND ONLY MY OPINION.
ACCORDINGLY IT SHOULD ONLY BE TAKEN AS SUCH AND YOU ARE
PERFECTLY ENTITLED TO EITHER AGREE OR DISAGREE WITH IT

INTRODUCTION:

For a variety of reasons I am deliberately going to leave the best until last and hence have listed the reviews in reverse order by ranking. So, if you happen to be reading this in a hurry, or are the impatient type, and wish to quickly glean which brand is by far the hands down winner and indisputable king of home cinema audio systems in all respects (and why) then you might wish to skip to the end of the REVIEWS section. Right, here we go:

MY BACKGROUND & PHILOSOPHY:

I have over 20 years' experience to date regarding all things A/V related, including personally designing and installing high-end music hi-fi and home cinema systems.

Please kindly note that whilst I am not a qualified SOUND ENGINEER I do not consider myself to be merely an A/V ENTHUSIAST either. My A/V background comprises over 20 years' A/V experience, stemming from a childhood interest (which is not included in those 20 years) through to date wherein I own and run an A/V company whose sole function is to service all the A/V needs of the property development company that I also own and run; this includes personally designing and overseeing the construction of high-end cinemas.

I feel it important to point out that I am not affiliated with any specific manufacturer, distributor or supplier of A/V equipment, nor do I sell any; nor am I in any way connected with any A/V magazine or similar publication; and accordingly my opinion is entirely impartial and unbiased.

Truly impartial and unbiased opinions are very rare indeed when it comes to the A/V industry. For example, so-called unbiased reviews published within A/V Magazines are in fact nothing of the sort, since the magazine's primary source of revenue is not from its subscribers, but from brands of A/V equipment paying for advertising, and hence all A/V Magazines' reviews will be skewed towards the positive out of fear of upsetting their indispensable paying advertisers.

Consequently, I have the luxury of being able to be brutally honest and frank when it comes to my reviews.

I recently carried out a comprehensive due diligence exercise as part of my keeping myself up to date with regards to the various new releases and advancements within the A/V industry; this included ascertaining which brand of home cinema audio equipment, in my opinion, currently holds the title of being the best.

First of all I short-listed the brands of high-end home cinema audio equipment, which from a variety of information sources, including my own experience, I ascertained in my opinion to be amongst the very best currently available and/or worthwhile auditioning.

Then I personally undertook the somewhat lengthy task of auditioning all of them in such a way as to allow for comprehensive reviews, direct comparisons, scoring and ranking to be carried out.

There is in fact one additional brand that made it onto my short-list which I didn't get around to auditioning, namely B&W's flagship home cinema audio system. The reason I didn't audition this audio particular audio system is twofold; firstly, by the time I came to audition it I had already auditioned the indisputable winner, and realised that it was essentially pointless auditioning it as it could never be better than the winner (N.B. there is a very good reason for this, regarding which you will read about later); and secondly, I essentially ran out of time, in that I became swamped with work and won't be able to take the entire day out that is needed to visit B&W's demo rooms for some time.

My philosophy, which I personally always employ and recommend to others, when it comes to choosing brands of home cinema audio equipment is to firstly, above all, select the speakers; then choose the A/V processor / receiver / amplifiers; and then the source equipment; and in that particular order.

Further to this, it is extremely important to note that when it comes to A/V equipment 'more expensive' does NOT always equate to 'better'. This is something that has not changed over the years; and most certainly applies to even the very top end of A/V equipment, as you will find out later in this review.

...my opinion is entirely impartial and unbiased.

MY SCORING SYSTEM:

When I refer to the term 'the best', let me clarify that my primary interest and focus above all else is audio quality, with value for money being secondary although still significant and most certainly factored into the overall score.

So, if you're looking for "*the best home cinema audio system for less than 1000 bucks*" then you should stop reading now, because that is not what this review is about.

This review is about which brand of home cinema audio equipment currently available today provides the ultimate in audio quality; and then takes into consideration value for money in calculating the overall score.

The scoring system is broken down as follows:

- **AUDIO QUALITY:**

Marks are awarded out of 10 for each of the following designated audio quality sub-categories; with an average overall score for audio quality then calculated by dividing the total score by the number of sub-categories:

o **CLARITY & ACCURACY:**

This sub-category is typically what initially springs to mind for most people when it comes to assessing audio quality.

By definition this is an evaluation and quantification of the clarity and accuracy of the sound outputted by an audio system.

Specifically, the clarity and accuracy of each of the audio frequency groups is assessed, namely treble, mid-range, bass, and sub-bass.

Clarity is the measure of the distinguishability of the individual audio components; the better the clarity of an audio system the better the separation of the various layers of sound and individual sounds. When an audio system has excellent clarity you are able to hear and distinguish between all the individual sounds; whereas when an audio system has poor clarity the individual sounds will tend to blend into each other and become a muddy mess.

Accuracy is a measure of the distinguishability the sound outputted by an audio system from the original source; the more accurate the audio system, the closer the sound outputted will be to what the person or persons responsible for mixing and recording the movie's audio track intended you to hear. For example, if the bass is boomy then the audio system suffers from inaccurate bass and/or sub-bass; or if the dialogue sounds harsh then the system's mid-range is inaccurate.

o **DYNAMICS:**

This is the measure of the energy, speed and impact of a system's audio; including its audio range, namely its capability to play audio ranging from absolute quiet to very loud, and its ability to instantly shift from one extreme to the other.

How fast and tight an audio system's bass and/or sub-bass are will tend to heavily influence how good are its dynamics. For example, an audio system with slow and muddy bass and/or sub-bass will typically suffer from poor dynamics.

Background noise is another factor which plays a key role in an audio system's dynamics, in that the greater an audio system's overall background noise, the worse will be its dynamics.

...when it comes to A/V
equipment 'more
expensive' does NOT
always equate to 'better'

Background noise is strongly influenced by the signal-to-noise ratio (SNR) of the system's audio equipment and typically manifests itself in the form of hiss and/or hum emanating from the speakers.

There are two types of background noise which plague audio systems, namely the fixed type and the variable type.

The fixed type of background noise is basically what you can hear emanating from the speakers when the system's volume knob is set to zero. Depending both on how great it is and also what is the room's ambient noise level you may need to put your ear close to a speaker to hear it. The volume of the fixed type of background noise remains the fixed irrespective of the volume setting, hence the name.

The variable type of background noise is the additional hiss and/or hum sound(s) that you can hear overlaid on top of the fixed type of background noise which increases in volume as you increase the audio system's volume setting.

At which point in the audio equipment chain the background noise is produced will determine whether it is of the fixed type or variable type.

A simple way to evaluate the extent of both types of background noise for an audio system is to firstly set the system such that there is no audio playing from the source equipment; then turn the volume setting to zero and listen to what volume of hiss and/or hum emanates from the speakers; and then, still with no audio playing from the source equipment, turn the volume up to maximum and listen to what volume of hiss and/or hum emanates from the speakers.

Audio systems with high dynamics will sound exciting and that much more real and immersive; whereas audio systems with poor dynamics will sound flat, boring and non-immersive.

○ **AMBIENCE:**

This is defined by the capability of the respective audio system to properly and comprehensively envelop the listener in and in-fill all areas of the room with surround sound.

This is also a measure of the audio system's ability to accurately position sound around the room.

Flaws in an audio system's ambience can be apparent through 'holes' in the audio's sound stage and/or inaccurate sound positioning. For example, sound might be audible at the front and back of the room but not throughout the space in-between; and a particular sound that is supposed to come from a pin-point location might be unfocused.

Ambience is one of the first aspects to be compromised when it comes to the quality of an audio system, which is unfortunate because it is a primary factor that determines whether or not a particular audio system provides a truly spine-tingling immersive experience.

○ **VOLUME CAPABILITY:**

This is defined by the capability of the respective audio system to consistently maintain the same quality of audio performance across all volume settings up to, including and beyond Cinema Reference Levels. You may ask *"Beyond Cinema Reference Levels? Why on earth would you ever want to listen to audio at above Cinema Reference Levels?"* Well the answer to that question is quite simple, namely that it is important to consider the volume threshold at which the audio quality begins to deteriorate, since this will be representative of how

There are two types of background noise which plague audio systems...

much headroom (if any) the particular audio system has when played at Cinema Reference Levels; and if a particular audio system has a decent amount of headroom when played at Cinema Reference Levels then it will tend to perform consistently better and with more stability than an audio system which is maxed out at Cinema Reference Levels.

Volume capability is also an important consideration when it comes to the issue of room size limitation. Therefore, an audio system which would perform equally well whether the room size be a 2-seater 8m² living room or a 12-seater 50m² dedicated cinema (with the only modification being the addition in additional subwoofers according to the respective increase in room dimensions) will score more points under this sub-category than an audio system which is limited by room size.

- **EAR FATIGUE:**

Ear fatigue occurs when your ear, trying to protect itself, starts to shut down and block out the sound.

The cleaner the system's audio the less will be its tendency to induce ear fatigue, and hence the louder and longer your ears will tolerate listening to it before ear fatigue occurs.

The harsher the system's audio the greater will be its tendency to induce ear fatigue, and your ears will tolerate listening to it for less time and at a lower volume threshold before ear fatigue occurs.

It could be argued that ear fatigue is a subset of "Clarity & Accuracy" because audio inaccuracy is a primary contributor towards ear fatigue. However, I have allotted ear fatigue as a separate audio quality sub-category for three reasons; firstly, since this is typically indirect (e.g. inaccurate mid-range = harsh sounding dialogue = ear fatigue); secondly, because there are other contributors towards ear fatigue; and thirdly, since ear fatigue directly affects the system's listenability.

The scoring for this particular audio quality sub-category is accordingly to the extent that the audio system induces ear fatigue and at what volume setting / sound level this occurs.

- **VERSATILITY:**

This is scored on the ability to play all types of audio source material to a consistently high quality standard; with the source material itself being exclusively the limiting factor with regards to audio quality.

Top marks are awarded for playing all audio source types with a consistent optimal quality standard; whereas marks are deducted for playing some types of audio source material sub-optimally as compared to others.

For example, an audio brand which sounds great only when uncompressed audio source material, such as DTS HD Master Audio, is played, but makes your ears bleed whenever a compressed audio format such as a CD is played, would score lower than an audio brand which makes both uncompressed and compressed audio source material sound the best that they possibly can, within the limitations of the source material itself.

- **VALUE FOR MONEY:**

This is defined by the exercise of weighing up a system's audio quality versus its total cost; for which a mark out of 10 is awarded.

I will repeat what I said earlier, namely that it is extremely important to note that when it comes to A/V equipment 'more expensive' does **not** always equate to 'better'.

Ear fatigue occurs when your ear, trying to protect itself, starts to shut down...

In over two decades of A/V experience I have come across far too many instances wherein a particular brand of audio equipment has clearly paid a disproportionate amount of money on marketing to get their brand and product well-known and recognised, than on research and development to achieve a high standard of product quality (e.g. Bose).

As a consequence, there are far too many instances of a very expensive audio system which doesn't in fact sound especially good; and hence, when compared against another brand of audio system which has superior audio quality but is in fact cheaper, represents poor value for money.

The more favourable the ratio of a system's audio quality to its cost, the better is its value for money, and consequently the higher its score for this category will be.

- **OVERALL SCORE:**

Because I consider audio quality to be of greater fundamental importance and hence carry greater weight than value for money, the overall score is calculated accordingly; namely, with a 2:1 ratio, in that the score for audio quality is doubled, then added to the score for value for money, and then the total divided by 3 to produce the audio system's overall score.

Doing so also intentionally eliminates the potential for the fiasco whereby an inexpensive audio system with mediocre sound quality achieves a higher overall score than a much more expensive audio system with outstanding sound quality but which represents worse value for money. This is often seen in A/V magazine reviews and is just plain wrong.

With regards to the respective individual allocated scores, at first glance you might be of the view that some of the scores for audio quality are lower than you feel to be appropriate; however, please kindly note that when allocating marks out of a maximum available score, a baseline reference must be used in deciding exactly what score to allocate; and the baseline reference in this particular instance is the absolute in audio quality, and the scores accurately reflect this. Secondly, the difference in scores between different brands of audio equipment must be accurately and proportionately representative of the extent of the differences in audio quality; and thirdly, the maximum available score cannot by definition be exceeded. Hence, in order to meet all three of these criteria some scores have had to be scaled down accordingly.

For example, let's say 'Brand One' of audio equipment has been allocated and a score for audio quality of 5 out of 10, but you feel it deserves a higher score of say 8 out of 10. That's all well and good, but say 'Brand Two' of audio equipment has 30% better audio quality than Brand One... what score do you give to 'Brand Two'? The score for Brand Two should be 30% greater than the score for Brand One, but this would mean allocating a score greater than the maximum available score, which cannot be done. Hence, the only option is for the scores to be scaled down accordingly such that they all fit within the scoring range, with the highest score determining the extent of how much or little scaling down is required.

Therefore, please kindly take note of this and the fact that, as a result, all the scores for audio quality are in fact accurately representative, particularly with regards to how the audio quality of each brand of equipment compares to the others.

There are far too many instances of a very expensive audio system which doesn't in fact sound especially good...

AUDITIONING PROCESS:

Appropriate measures were taken to allow direct comparisons and proper ranking to be carried out for all the respective brands of home cinema audio equipment; these included:

- 1) The volume setting of all audio systems auditioned was the same, namely Cinema Reference Levels (95 dB nominal; and up to 115 dB peak [all channels]); this was achieved and/or confirmed via usage of a high-sensitivity sound level meter.

In certain instances the volume setting for a particular audio system was then subsequently increased or decreased at my request as part of my auditioning process with regards to my evaluating that particular system's capacity for inducing ear fatigue.

- 2) All audio systems were auditioned sitting in the primary listening position for the respective audio system. This is a particularly important factor which is often overlooked when comparing audio systems. In order to achieve a proper comparison it is important to eliminate listening position being an influencing factor on audio quality.
- 3) Identical source material was used for all audio equipment auditions where possible; this included the following, specifically selected for optimally testing the various audio quality subcategories:

- a. Movies (Blu-Ray):

- i. *STAR TREK VI: The Undiscovered Country – Opening Titles and First Scene (Chapter 1)*

This is a particularly useful segment of source material in that it comprehensively tests multiple audio quality subcategories and hence is highly effective in quickly separating the wheat from the chaff.

The absolute silence throughout the studio logos, followed by the thundering opening orchestral title music, followed by a brief pause of silence, followed by a huge explosion and subsequent energy wave provides an especially effective test of an audio system's dynamics and background noise.

The energy wave's audio sweeps from the front to the back of the room encompassing the listener in the process. This is shortly followed by the starship travelling through the shockwave with the listener being thoroughly enveloped in surround sound accordingly. This sequence is an excellent test for an audio system's ambience and will immediately make apparent any flaws or 'holes' in the respective system's surround sound listener-envelopment and room-filling capabilities.

The bass and sub-bass mix for this movie is particularly fussy in that it is often lost and/or cancelled out by a sub-optimally performing audio system; hence, the opening sequence with its huge explosion and subsequent shock wave serves as an excellent measure for the clarity and accuracy of an audio system's bass and sub-bass.

The opening scene's dialogue and a bone china cup and saucer smashing onto a steel floor also provide a good test of the clarity and accuracy of an audio system's mid-range and treble.

The crescendos of the opening orchestral title music are a good test of an audio system's volume capability in that it is not uncommon to see these 'break' an audio system resulting in manifestation of distortion; this most often occurs with audio systems which are already pushed to (or past) their limit when played at Cinema Reference Levels.

Appropriate measures were taken to allow direct comparisons and proper ranking to be carried out...

ii. *OPEN RANGE – Gun Fight (Chapter 13)*

This movie features without a doubt the best gunshot sounds ever produced as part of a movie soundtrack. The gunfire is *extremely* realistic; and includes a diverse array of pistol, shotgun and rifle firing.

As such, it poses an excellent test of an audio system's clarity, accuracy and dynamics.

iii. *HOUSE OF FLYING DAGGERS – Drums Sequence (Chapter 3)*

In this sequence the main character, a young female dancer named Mei, is surrounded by drums and by manipulating the movement of very long ribbons that she holds in both hands has to repeat the sequences in which pebbles thrown by an adversary individually hit the drums.

This sequence in particular is highly effective in testing an audio system's all-round (i.e. treble, mid-range and bass) clarity and accuracy; including the respective sound separation, definition and refinement. It culminates with the adversary throwing the entire container full of pebbles at the drums, which comprises one of the most challenging of audio soundtracks in this regard.

It is also a highly useful test of an audio system's dynamics.

iv. *THE MATRIX – Lobby Scene (Chapter 29)*

This scene is especially effective in testing an audio system's clarity and accuracy, in particular its sound separation capabilities; as well as its bass and sub-bass performance; and its dynamics.

Towards the beginning of the scene Neo smacks a security guard squarely in the chest with a martial arts open palm strike; this an excellent test of a system's dynamics.

There is a point later in the scene wherein the soundtrack peaks in complexity, wherein there is a vastly complex layering of sound on top of each other; this includes: multiple guns being fired; shell casings dropping to and hitting a stone floor; the metallic mechanical sound of weapons being cocked; weapons being dropped onto the floor; and bullets ricocheting off of slate walls and shattering stone columns; all of which is overlaid on top of a thumping music track with a deep bass-line and percussion.

v. *MASTER AND COMMANDER: The Far Side Of The World – Ship Battle (Chapter 4)*

This is a particular favourite of mine with regards to testing an audio system's capabilities.

The peaceful tranquillity of wind and ocean sounds as Captain Jack Aubrey looks through his telescope into the fog is shattered as he suddenly screams "down! All hands down!" and canon fire blasts the ship, with multiple cannonballs ripping through the masts and deck, smashing everything in their path to smithereens.

What follows is one of the most realistic and epic ship battles ever filmed.

This particular sequence is an exceptional test of an audio system's dynamics and sub-bass performance; as well as its clarity and sound separation.

**The volume setting of all
audio systems auditioned
was the same...**

vi. *THOR – Destroyer Fight Sequence (Chapter 12)*

The soundtrack for this movie is phenomenal, however it is one of the most demanding currently available.

The audio within this particular scene is such that it will seriously put an audio system's performance to the test. In fact, it is so demanding that it is not uncommon for it to 'break' an audio system when played at Cinema Reference Levels; meaning that the audio system quite simply cannot handle it and consequently manifestation of distortion, harshness and/or other breaches in audio quality occur.

When played on a system with sufficiently decent audio quality this scene will dazzle; whereas, when played on a system which is wanting with regards to audio performance you will find yourself grasping wildly at the remote control to turn the volume down before your ears start to bleed.

b. Music (SACD):

i. *DIRE STRAITS: Brothers In Arms – Money For Nothing*

c. Music (CD):

i. *POSITION MUSIC: Orchestral Series Volume 6 – Juggernaut*

ii. *ESCALA – Palladio*

iii. *SUCKER PUNCH: Movie Soundtrack – Sweet Dreams*

iv. *X-MEN FIRST CLASS: Movie Soundtrack – Frankenstein's Monster*

- 4) The source equipment used across all auditions was selected such that it did not significantly in any regard affect, or influence, the comparative performance of any of the audio systems.
- 5) For home cinema audio brands which don't offer all audio system components (i.e. the complete one-stop-shop of speakers, amplifiers and A/V processor) an appropriate top-of-the-range flagship model of an alternative brand for the missing item(s) of A/V equipment was selected; for example, in the instance where a brand provides the speakers and amplifiers, but not the A/V Processor, an appropriate flagship model of another brand of A/V Processor was selected for the auditioning process.

REVIEWS:

It was originally my intention to include multi-paragraph fully comprehensive reviews for each and every brand of audio equipment, however due to the sheer number of brands being reviewed and scored, in order to avoid the total length of this document becoming the length of a novel, I will in fact be providing succinct summary information with all key salient points (positives, negatives and my conclusion) listed as bullet points for all but the winning brand, wherein I will provide a fully comprehensive and hence lengthy review.

N.B. All prices listed are the Recommended Retail Prices for the respective audio systems, specifically the total cost of all the audio equipment items listed, at the time of publishing this review. The prices do not include the cost of any speaker cables or acoustic room treatment.

**All audio systems were
auditioned sitting in the
primary listening position...**

12) ARTCOUSTIC:

- Equipment:

- **Speakers:** 3 x Artcoustic Spitfire 16-8 SL (LCR); 4 x Artcoustic C-1 SL (Surrounds)
- **Subwoofers:** 2 x Artcoustic 180-43 SL Sub; with Artcoustic PA260 amps
- **Pre-Amp/Processor:** Onkyo PR-SC5508
- **Power Amplifier(s):** 1 x Onkyo PA-MC5500



- Price (RRP):

£22,340

- Review:

- POSITIVES:
 - Improvement over the old range.
 - Speaker design means very easy installation.
 - Shallow dimensions means greater retention of floor space with dedicated home cinema installations.
 - Comparatively pretty inexpensive.
- NEGATIVES:
 - Below average overall audio quality despite being an improvement over the old range.

○ NEGATIVES (continued):

- Poor clarity and accuracy; sluggish and muddy bass and sub-bass; mid-range and treble readily sound harsh and unpleasant; not a lot of fine detail.
- Quickly induces ear fatigue, especially so when audio is played at Cinema Reference Levels. For example, the Destroyer Sequence in THOR was quite literally painful to listen to and I had to ask for the volume to be turned down... a lot.
- Non-existent ambience and poor audio projection; all audio sounded flat; there were huge gaping holes in the surround sound envelope; and there was little to no in-filling of the room with sound. For example, with the opening sequence of *STAR TREK VI: The Undiscovered Country*, the sound of the shockwave, which is supposed to sweep through the room enveloping you in the process, instead jumped straight from the front of the room to the back, missing out the middle of the room entirely, leaving one feeling distinctly underwhelmed by what should be an awe-inspiring scene.

○ CONCLUSION:

- Artcoustic's new SL home cinema range is a significant improvement over the old range, which it has superseded, most noticeably with regards to the clarity and accuracy of the upper end of the frequency spectrum. This is almost certainly due to the fact that the speakers in the old range were not full range, whereas the replacements are. Even so, the problem is that whilst Artcoustic's old home cinema range suffered from pretty poor overall audio performance, the new SL home cinema range has simply taken a singular step up the performance ladder to distinctly less than average.

As such, whilst Artcoustic's range of artwork-concealed loudspeakers remains the irrefutable king of invisible-type speakers when it comes to audio quality; their second attempt to diversify their product range by branching out into the home cinema market is only slightly less unsuccessful than their initial attempt.

My advice to Artcoustic is to stick to what you are good at, namely invisible-type speaker solutions.

- Score:

AUDIO QUALITY:	1.5
<i>Of which:</i>	
Clarity & Accuracy:	1
Dynamics:	1
Ambience:	1
Volume Capability:	1
Ear Fatigue:	1
Versatility:	4
Space	
VALUE FOR MONEY:	2.5
OVERALL:	1.8

11) KEF:

- Equipment:

- **Speakers:** 7 x KEF HTS9001 ACE (LCR and Surrounds)
- **Subwoofers:** 1 x KEF Reference 209
- **Pre-Amp/Processor:** Arcam FMJ AV888
- **Power Amplifier(s):** 1 x Arcam FMJ P777



- Price (RRP):

£28,020

- Review:

○ POSITIVES:

- Good clarity; with above average sound separation and refinement
- Decent ambience; pretty good surround sound envelope with only very minor holes and blind spots; does a respectable job with regards to correctly in-filling the room with sound; although the surround sound positioning is a bit all over the place.
- Very good versatility; CD quality source material sounds not half as bad as it should do given the system's other flaws.

○ NEGATIVES:

- Poor accuracy; audio is significantly bright and harsh when played at Cinema Reference Levels, inducing ear fatigue practically immediately. This is especially noticeable with mid-range and treble, wherein speech borders on distortion. I found myself repeatedly having to turn the volume down as I was finding the audio was grating on my ears.
- Dreadful dynamics; packs about as much punch as a soggy sponge.

○ NEGATIVES (continued):

- Terrible volume capability; harshness means it's impossible to turn the volume up without your ears shutting down; and to make matters worse the performance of the speakers declines rapidly the larger the room size.

○ CONCLUSION:

- The HTS9001 speakers are the flagship of the KEF loudspeaker range for Home Cinema; and the Reference 209 is KEF's flagship subwoofer. Taking this into consideration, and the fact that KEF is not exactly a new kid on the block, this system's audio performance should be a damn sight better than it actually is.
- Two of the hardest components of home cinema audio performance to crack are sound separation and ambience; it is therefore both mindboggling and frustrating that KEF have somewhat bizarrely succeeded in nailing these, only to fail miserably when it comes to audio accuracy and dynamics.
- The grating harshness of this audio system makes it about as functional as underpants with built-in barbed wire; in that you can use it, but it won't be an especially pleasant experience.

- Score:

AUDIO QUALITY:	3.3
<i>Of which:</i>	
Clarity & Accuracy:	3.5
Dynamics:	1
Ambience:	6.5
Volume Capability:	1
Ear Fatigue:	1
Versatility:	7
Space	
VALUE FOR MONEY:	2
OVERALL:	2.9

10) TRIAD:

- Equipment:

- **Speakers:** 2 x Triad InRoom Platinum LCR (L & R), Bi-Amped; 1 x Triad InRoom Platinum LCR Center, Bi-Amped (Centre); 4 x Triad OnWall Gold Surround (Surrounds)
- **Subwoofers:** 2 x Triad InRoom Platinum DSP Sub; with 2 x Triad RackAmp 1000 DSP
- **Pre-Amp/Processor:** Sherbourn PT-7020A
- **Power Amplifier(s):** 2 x Sherbourn PA 7-350



- Price (RRP):

£47,800

- Review:

- POSITIVES:
 - Decent clarity and acoustic resolution for mid-range and treble; lots of fine detail.
 - High speaker sensitivity for the LCR speakers (94.5 dB/1W/1m) theoretically means there is a lesser load on the amplifiers to achieve the respective required volume.
 - Pretty good volume capability; with the surround speakers being the primary limiting factor.
- NEGATIVES:
 - Significantly 'honky'; with non-neutral, inaccurate, coloured sound due to the horn type speaker architecture.
 - Awful lower bass and sub-bass clarity, accuracy and dynamics; Triad's flagship Platinum DSP subwoofer is severely lacking in performance. The severely flawed and muddy bottom end is a huge let-down.

○ NEGATIVES (continued):

- Below par ambience; the surround speakers are somewhat clinical, fail to properly to in-fill the room with sound, and are a bit underwhelming.
- The front LCR speakers and subwoofers are bulky and deep, which aside from making them difficult and awkward to install requires a significant loss of valuable floor space in order to conceal them behind the front wall and/or screen.
- Better for listening to music than home cinema usage.
- Poor value for money.

○ CONCLUSION:

- Acoustic colouration is a phenomenon which *almost* without exception plagues all horn type speakers; and unfortunately Triad's flagship range of audio equipment, as good as it is in other areas, suffers from exactly this affliction, resulting in the typical 'honky' non-neutral, inaccurate, coloured sound that has come to be expected from speakers with this type of architecture. Furthermore, invariably horn type speakers are better suited to listening to music than home cinema usage; and this is exactly the case here. For these reasons alone my advice is to avoid, unless you happen to be fanatical about horn type speakers; but even then there are much better choices.
- With audio equipment of this price bracket there are certain matters that become inexcusable and this includes sloppy bass and sub-bass. Triad's subwoofers have already earned a bit of a reputation within the A/V industry as being poorly performing. I was really hoping that their newish flagship subwoofer, the InRoom Platinum DSP Sub, would have corrected that which has been severely lacking in their other subwoofers; however, unfortunately it is just as bad as the others.
- There exist cheaper audio systems with considerably superior sound quality. Why pay more for something that is seriously flawed and nowhere near as good?

- Score:

AUDIO QUALITY:	3.2
<i>Of which:</i>	
Clarity & Accuracy:	3
Dynamics:	2
Ambience:	3
Volume Capability:	5
Ear Fatigue:	3
Versatility:	3
Space	
VALUE FOR MONEY:	3
OVERALL:	3.1

9) PROCELLA AUDIO:

- Equipment:

- **Speakers:** 3 x Procella Audio P815 (LCR), Bi-Amped; 4 x Procella Audio P8 (Surrounds)
- **Subwoofers:** 2 x Procella Audio P18
- **Pre-Amp/Processor:** Sherbourn PT-7010A
- **Power Amplifier(s):** 1 x Sherbourn 7/2100A



- Price (RRP):

£67,800

- Review:

- POSITIVES:
 - Superb ambience.
 - Near perfect clarity and accuracy for both mid-range and treble.
- NEGATIVES:
 - Abysmal clarity and accuracy for the lower end of the frequency spectrum; with slow, boomy bass and sub-bass single-handedly ruining everything that's positive.
 - Feeble dynamics.
 - Very poor volume capability; the speakers are prone to distorting when played at Cinema Reference Levels, which is both shocking and entirely unacceptable at this price range. When distortion emanates from the speakers ear fatigue immediately and inescapably occurs.
 - Speakers are ugly and awkward to install.

- NEGATIVES (continued):
 - Terrible value for money.
- CONCLUSION:
 - Superb ambience and crystal clear mid-range and treble are completely overbalanced by abysmal slow boomy bass and sub-bass, weak dynamics, and poor volume capability, with the system prone to distorting. It is simply astounding and wholly unacceptable that a system this expensive is unable to play even Dire Straits Brothers In Arms SACD track Money For Nothing at Cinema Reference Levels without the speakers distorting.
 - With its marketing spiel regarding having been “*originally designed for the reference theater at DTS*” by “*two former engineers from DTS*” I had very high hopes for this particular brand. It therefore came as a bit of a shock to discover that what we have here is simply yet another example of an expensive brand of audio equipment whose audio quality disappointingly fails to live up to expectations.

- Score:

AUDIO QUALITY:	3.8
<i>Of which:</i>	
Clarity & Accuracy:	5
Dynamics:	1
Ambience:	8
Volume Capability:	2
Ear Fatigue:	2
Versatility:	5
Space	
VALUE FOR MONEY:	2
OVERALL:	3.2

8) JBL SYNTHESIS:

- Equipment:

- **Speakers:** 3 x JBL Synthesis Everest DD66000 (LCR); 8 x JBL Synthesis SK2-3300 BT LCR Monitors (Surrounds)
- **Subwoofers:** 4 x JBL Synthesis S1S-EX
- **Pre-Amp/Processor:** JBL Synthesis SDP40HD; with JBL Synthesis SDEC4500 Digital EQ System
- **Power Amplifier(s):** 11 x JBL Synthesis S820



- Price (RRP):

£255,000

- Review:

○ POSITIVES:

- Wonderful dynamics and clarity.
- Excellent sound separation and refinement.
- Good ambience.
- Tight and fast lower bass and sub-bass; packs a really good punch.

○ NEGATIVES:

- Somewhat harsh sounding; rapidly causes ear fatigue when played at Cinema Reference Levels, something which is entirely unacceptable given the system costs £1/4 million.
- A bit 'honky', with moderately inaccurate and coloured sound, undoubtedly due to the horn type speaker architecture; this is especially noticeable with the mid-range and treble.
- Bass and sub-bass lack depth.

o NEGATIVES (continued):

- Audio quality is *cripplingly* dependent on the quality of the source material; for example, CD quality audio sounds grossly disproportionately poor in comparison to HD / uncompressed audio.
- The speakers are bulky and very heavy and impossible for a single person to install.
- A/V Processor is essentially a Lexicon MC-12, finished in black, with a “JBL Synthesis” label stuck onto it, and then a few thousand bucks added onto the price. There is absolutely nothing to justify it being significantly more expensive than the Lexicon MC-12, since they are essentially identical.
- Exorbitantly overpriced; and hence appalling value for money.

o CONCLUSION:

- Far from being awful JBL’s flagship Everest audio system simply doesn’t perform anything like as well as the marketing spiel and some (not entirely unbiased) third party reviews have indicated. I was expecting it to perform significantly better than it does, and hence found myself to be bitterly disappointed.
- Audio performance, whilst better than average, does not live up to the hype or justify a price tag which would require most people to double-mortgage their homes in order to raise sufficient funds to purchase it.
- Whilst acoustic performance is indeed the best out of the JBL Synthesis range, which is appropriate given that it is JBL’s flagship system, it stills most notably suffers, albeit to a lesser extent, from the sharpness and harshness that is somewhat infamously apparent with the rest of the range. As a result, we have the ludicrous situation wherein one of the most expensive audio systems currently available rapidly induces ear fatigue when the system is played at Cinema Reference Levels. It’s akin to serving a Michelin-star gourmet food dish wherein the pastry is burnt, in that no matter how good the other components are the whole dish is ruined.
- Whilst the speakers suffer less of the stereotypical ‘horn sound’ than other horn type speaker brands, the ‘honkiness’ is still noticeably present and to the extent wherein it is both distracting and irritating.
- Costing a cool £1/4 million JBL’s flagship home cinema audio system theoretically should represent the ultimate in audio quality. However, the unfortunate truth is that it spectacularly fails in this regard, and hence serves as one of the best examples relating to audio equipment wherein ‘*more expensive*’ does **not** equate to ‘*better*’.

- Score:

AUDIO QUALITY:	4.5
<i>Of which:</i>	
Clarity & Accuracy:	6
Dynamics:	7.5
Ambience:	6.5
Volume Capability:	3
Ear Fatigue:	3
Versatility:	1
<i>Space</i>	
VALUE FOR MONEY:	1
OVERALL:	3.3

7) KLIPSCH:

- Equipment:

- **Speakers:** 3 x Klipsch KL-650-THX LCR (LCR); 4 x Klipsch KS-525-THX Surround (Surrounds)
- **Subwoofers:** 4 x Klipsch KW-120-THX Subwoofer; with 2 x Klipsch KA-1000 2-channel subwoofer amplifier
- **Pre-Amp/Processor:** Sherbourn PT-7020A
- **Power Amplifier(s):** 1 x Sherbourn PA 7-350



- Price (RRP):

£17,250

- Review:

- POSITIVES:
 - Impressive clarity; with a decent helping of fine detail.
 - Good audio projection; with wider than average sound stage.
 - Speakers have high sensitivity; and so place a lesser load on the amplifiers to produce Cinema Reference Level audio.
 - Good dynamics; with fast and clean bass and sub-bass.
 - Fair ambience; good surround sound envelopment and room in-filling, although somewhat vague and imprecise.
 - Respectable bottom end; with excellent bass articulation and dynamics, but slightly lacking in depth.
 - Installation friendly speaker designs.
 - Comparatively inexpensive.

○ NEGATIVES:

- Moderately 'honky'; somewhat inaccurate and bright, with the potential to sound harsh, indubitably due to the horn type speaker architecture. Consequently can be fairly fatiguing on the ears.
- Audio quality is heavily dependent on the quality of the source material.

○ CONCLUSION:

- Out of all the audio brands auditioned, Klipsch's flagship range has most in common with the JBL Synthesis Everest system; however, it is interesting to note that whilst the JBL Synthesis Everest system commands a price tag of £1/4 million, this audio system costs only £17,250.
- Easily fills even very large rooms with low distortion, detailed, high volume sound; albeit it can be a bit inaccurate and bright sounding due to the horn type architecture.
- Delivers pretty impressive sound, with regards to both quality and quantity, at a fraction of the price as compared with other audio systems.

- Score:

AUDIO QUALITY:	4
<i>Of which:</i>	
Clarity & Accuracy:	5
Dynamics:	6
Ambience:	5
Volume Capability:	3
Ear Fatigue:	3
Versatility:	2
Space	
VALUE FOR MONEY:	6
OVERALL:	4.7

6) PARADIGM:

- Equipment:

- **Speakers:** 2 x Paradigm Reference Signature S8 (L & R), Bi-Amped; 1 x Paradigm Reference Signature C5 (Centre), Bi-Amped; 4 x Paradigm Reference Signature ADP3, Bi-Amped (Surrounds)
- **Subwoofers:** 2 x Paradigm Reference Signature SUB 2; with Paradigm Perfect Bass Kit (PBK) room correction
- **Pre-Amp/Processor:** Anthem AVM 50V
- **Power Amplifier(s):** 2 x Anthem P2; and 2 x Anthem P5



- Price (RRP):

£70,050

- Review:

○ POSITIVES:

- Nicely detailed treble; and clean mid-range.
- Tight and fast bass; with *extremely* deep and ear-shatteringly dynamic sub-bass, amongst the deepest and most impacting that I have ever heard. The Paradigm Reference Signature SUB 2 subwoofer is incredible.
- Excellent timbre matching between the L/R and Centre speakers. The integration of the dedicated centre speaker with the left and rights is perfect, which is very rare when it comes to using a differential speaker for the centre channel.
- Wide soundstage.

- POSITIVES (continued):
 - Very good ambience; with excellent surround sound envelopment.
 - Great dynamics.
 - Pretty versatile; not hugely dependant on quality of source material.

- NEGATIVES:
 - Slightly bright and harsh, and a smidgen clinical; likely contributed to by the metal dome type tweeter and mid-range cone designs.
 - A bit ear fatiguing, especially when the volume is set to Cinema Reference Levels.
 - Ambience, whilst very good, does suffer from a few flaws; the surround sound envelope has a few blind spots and the audio positioning is imprecise and a bit fuzzy.

- CONCLUSION:
 - Paradigm's flagship Reference Signature home cinema audio system is without a doubt one of the better audio systems out there.
 - The SUB 2 subwoofer is an exorbitantly impressive monster of a subwoofer with *outstanding* performance. If only the rest of the audio equipment was on par with this, then it would be an absolutely astonishing audio system; as it stands we have to settle with one that is pretty good.

- Score:

AUDIO QUALITY:	5.5
<i>Of which:</i>	
Clarity & Accuracy:	5
Dynamics:	7.5
Ambience:	6.5
Volume Capability:	4
Ear Fatigue:	4
Versatility:	6
<i>Space</i>	
VALUE FOR MONEY:	5.5
OVERALL:	5.5

5) MK SOUND:

- Equipment:

- **Speakers:** 3 x MK Sound S150 (LCR); 4 x MK Sound S150T (Surrounds)
- **Subwoofers:** 2 x MK Sound MX350
- **Pre-Amp/Processor:** Sunfire Theater Grand Processor TGP-401
- **Power Amplifier(s):** 1 x Sunfire Theater Grand Power Amplifier TGA-7401



- Price (RRP):

£17,955

- Review:

○ POSITIVES:

- Excellent ambience; the MK Sound S150T Tripole Surround speakers are *very good* indeed.
- Above average clarity and refinement; with pretty good sound separation.
- Good versatility; audio quality is not heavily dependent on quality of source material.
- Very good value for money.

○ NEGATIVES:

- The MK Sound S150 speaker used for the front LCR channels, whilst not bad, comparatively is a bit underwhelming; however, it isn't very expensive either, so in this particular instance you pretty much get what you pay for.
- A tad harsh when played at Cinema Reference Levels.
- Lower bass and sub-bass are somewhat wanting. The MK Sound MX350 Subwoofer suffers from slightly disappointing performance as compared with the M&K flagship subwoofers of old.
- Mediocre dynamics.

○ **CONCLUSION:**

- When you over-sell something, in the event that the product under-delivers, disappointment is inevitable; and that's the crux of the issue in this particular instance.

MK Sound's marketing spiel makes some extremely bold claims, such as: *"the choice of professionals"*; *"World-class studios choose MK Sound. Hear it the way they hear it"*; and *"MK are used by the world's finest film makers, including: Warner Bros, 20th Century Fox, Universal, Paramount, DreamWorks, HBO, Skywalker Sound, Disney, THX, DTS, Dolby Labs, Sony Music, Sony Pictures and Lucasfilm"*.

Such marketing claims clearly imply that MK Sound's audio equipment is the very best currently available. Consequently this creates very high expectations; wherein lies the problem, because, to put it bluntly, the audio performance does not live up to these very high expectations, and hence one inevitably feels disappointed.

However, if we choose to ignore the marketing spiel for a moment and examine the facts, it becomes clear that whilst MK Sound's home cinema audio system may not be the very best currently available, it is without a doubt the best home cinema audio system that you can buy for £18,000.

- The MK Sound S150T Tripole Surround speaker especially stands out as being exceptional; in fact, it is without a doubt one of the best conventional-type home cinema surround speakers currently available.

- **Score:**

AUDIO QUALITY:	5
<i>Of which:</i>	
Clarity & Accuracy:	5
Dynamics:	4
Ambience:	7
Volume Capability:	4
Ear Fatigue:	4
Versatility:	6
Space	
VALUE FOR MONEY:	7.5
OVERALL:	5.8

4) PRO AUDIO TECHNOLOGY:

- **Equipment:**

- **Speakers:** 3 x PRO Audio Technology SCR-12sm, Bi-Amped (LCR); 4 x PRO Audio Technology SCRS-26im, Bi-Amped (Surrounds)
- **Subwoofers:** 2 x PRO Audio Technology LFC15sm; and 2 x PRO Audio Technology LFC14sm
- **Pre-Amp/Processor:** Datasat RS20i
- **Power Amplifier(s):** 1 x PRO Audio Technology DPA502; 4 x PRO Audio Technology DPA202; 1 x PRO Audio Technology PMA4242; and 1 x PRO Audio Technology PMA9942



- **Price (RRP):**

£101,040

- **Review:**

○ **POSITIVES:**

- Practically unlimited volume potential due to very high amplifier power and speaker sensitivity; capable of outputting enough sound to explode your ear drums; and will easily cater for even the largest of home cinemas.
- Huge power handling capability means it is almost impossible to overload or damage the speakers.
- Super all-round clarity and accuracy; lots of fine detail and pretty impressive sound separation.
- Little ear fatigue when audio is played at Cinema Reference Levels.

- POSITIVES (continued):
 - Very good dynamics; there is an impressively low amount of background noise, with only a modicum of hiss and/or hum being noticeable if you place your ear within close proximity of a speaker. The bass and sub-bass are tight and pack a decent punch.
 - Good ambience; in-fills the room with sound pretty well; impressive surround sound envelopment and positioning.
 - Speaker design is such that installation is pretty simple and easy.
- NEGATIVES:
 - All the speakers must be Bi-Amped.
 - Audio quality is somewhat influenced by the quality of the source material; uncompressed audio sounds great, compressed audio not so great in comparison.
 - Expensive.
- CONCLUSION:
 - It's horns Jim, but not as we know it... PRO Audio Technology's flagship home cinema audio range seemingly offers all of the benefits associated with horn-type speakers, including high speaker sensitivity, excellent clarity and good dynamics, but without the usual negatives, such as 'honky' coloured and inaccurate sound, and harshness. In fact, somewhat uniquely, I actually completely forgot that I was listening to horn-type speakers. PRO Audio Technology have achieved audio excellence using horn-type speakers, and eliminated the acoustic flaws that typically plague horn-type speakers, where even the most expensive home cinema audio systems, such as JBL Synthesis, have failed. This achievement in itself is nothing short of miraculous.
 - Expensive, however, as far as conventional type home cinema audio equipment goes, to an extent you do get what you paid for. Accordingly, unlike far too many expensive high-end audio systems, what we have here is an expensive brand of audio equipment which actually lives up to expectations. In fact, PRO Audio Technology's flagship home cinema audio system is one of the best 'conventional-type' audio systems that I have ever heard; and with regards to all horn-type home cinema audio systems specifically, in my opinion, it is the undisputed king.

- **Score:**

AUDIO QUALITY:	6.3
<i>Of which:</i>	
Clarity & Accuracy:	7
Dynamics:	6.5
Ambience:	6
Volume Capability:	7
Ear Fatigue:	7
Versatility:	4
Space	
VALUE FOR MONEY:	4.5
OVERALL:	6.2

3) WISDOM AUDIO:

- Equipment:

- **Speakers:** 2 x Wisdom Audio Sage L150i, Bi-Amped (L & R); 1 x Wisdom Audio Sage P38i, Bi-Amped (Centre); and 4 x Wisdom Audio P20m, Bi-Amped (Surrounds)
- **Subwoofers:** 2 x Wisdom Audio S90i
- **Pre-Amp/Processor:** ADA Cinema Rhapsody Mach IV
- **Power Amplifier(s):** 8 x Wisdom Audio SA-1 (amplifiers); and 1 x Wisdom Audio SC-1 (controller)



- Price (RRP):

£126,000

- Review:

- POSITIVES:
 - Amazingly clear, fast and accurate mid-range and treble.
 - Impressive audio separation and definition; with individual sounds distinguishable from each other even with the most acoustically challenging source material.
 - Good dynamics; with tight and fast bass and sub-bass.
 - Superb ambience; with comprehensive in-filling of the room, practically flawless surround sound envelopment, and accurate audio positioning.
 - Huge soundstage; the line source type speakers with planar magnetic drivers produce a much wider than normal sound stage and minimises the sound reflections off the floor and the ceiling that typically occur with point source type speakers.

○ POSITIVES (continued):

- Extremely high power handling due to the speaker architecture, resulting in a very good volume capability and a highly unusual situation wherein the speakers will happily handle pretty much any level of amplification that you throw at them; high speaker sensitivity means that the amplifiers don't have to work as hard to achieve a given volume.
- Very good volume capability; the same high standard of audio quality is maintained right up to and even *above* Cinema Reference Levels, with little ear fatigue.
- Excellent versatility; even compressed CD quality audio sounds good.
- Install neatly in-wall without requiring much depth.

○ NEGATIVES:

- High power consumption (each amplifier has the potential to draw up to 1.25 kW; and a 7.1 channel audio system can consume up to 11 kW) means the system is not especially 'green' and you will likely pass out in shock when you receive your electrics bill.
- All speakers in the range must be bi-amped.
- Very expensive.

○ CONCLUSION:

- Both line source type speakers and planar magnetic drivers have in fact been around for several decades. Hence, in reality Wisdom Audio haven't invented anything new. However, what they *have* done is taken old technology, brushed off the cobwebs, and revamped it to great effect; and in doing so have created something extraordinary.
- Very good, but also very expensive. In all respects an excellent sounding audio system that sets a high benchmark for home cinema sound; but at a cost of well over a hundred grand one that will burn a serious hole in your wallet.

- Score:

AUDIO QUALITY:	7.5
<i>Of which:</i>	
Clarity & Accuracy:	8
Dynamics:	6
Ambience:	8
Volume Capability:	7
Ear Fatigue:	8
Versatility:	8
<i>Space</i>	
VALUE FOR MONEY:	4
OVERALL:	6.3

2) JAMES LOUDSPEAKER:

- Equipment:

- **Speakers:** 3 x James Loudspeaker 808BE (LCR); 4 x MK Sound S150T (Surrounds)
- **Subwoofers:** 1 x James Loudspeaker EMB21 Series 2
- **Pre-Amp/Processor:** Sunfire Theater Grand Processor TGP-401
- **Power Amplifier(s):** 1 x Sunfire Theater Grand Power Amplifier TGA-7401



- Price (RRP):

£35,580

- Review:

○ POSITIVES:

- Impressive all-round clarity and accuracy; very good sound separation and fine detail in abundance. The James Loudspeaker 808BE, used for the LCR audio channels, utilises beryllium dome type tweeters; however, unlike the Paradigm speakers, there is none of the brightness that can plague metal dome type tweeter designs.
- Excellent ambience; the MK Sound S150T Tripole Surround speakers are very good indeed, in fact, they are without a doubt one of the best conventional-type home cinema surround speakers currently available. Coupled with the James Loudspeaker 808BE for the LCR audio channels, which has good audio projection, the room is awash with three dimensional sound with no holes or blind spots within the surround envelope.
- Superb dynamics; with impressively fast, tight and deep lower bass and sub-bass; and little background noise. The James Loudspeaker EMB21 subwoofer is quite simply astonishing, and is without a doubt one of the best performing subwoofers that I have ever auditioned. The James Loudspeaker 808BE speakers perfectly compliment the EMB21 and the combination packs an extraordinarily dynamic punch.
- Optional bi-amp capability for the James Loudspeaker 808BE LCR speakers.
- Good versatility; audio quality is not greatly dependent on quality of source material.

○ POSITIVES (continued):

- The James Loudspeaker 808BE speakers, used for the LCR audio channels, have high sensitivity (95 dB) and high power handling (up to 300W per channel) meaning that they can effortlessly output tremendous sound pressure levels, filling even the largest of home cinemas.
- Speaker design is such that installation is simple and easy. The James Loudspeaker 808BE In-Wall speaker, used for the LCR audio channels, is only 98mm deep, which means it is ideally suited for installation into standard 2x4 walls and a greater amount of valuable floor space is retained.
- Very good value for money.

○ NEGATIVES:

- The James Loudspeaker EMB21 subwoofer must be positioned in-room; and given its size it's pretty conspicuous.

○ CONCLUSION:

- This audio system is slightly out of the ordinary in that it combines speakers from two different brands, specifically James Loudspeaker for the LCR and Subwoofer channels, and MK Sound for the surrounds.

The rationale behind this was to combine the exceptional MK Sound S150T tripole surround speakers with LCR speakers and Subwoofer from James Loudspeaker that are vastly superior in audio quality to their MK Sound counterparts; and thereby create the ultimate conventional-type home cinema audio system.

So, did theory translate into practice? In short, yes it most certainly did.

Firstly, the James Loudspeaker EMB21 is a behemoth of a subwoofer with gargantuan 21-inch drivers... let me repeat that... *21-inch* drivers! Where two number MK Sound MX350s failed miserably, a single James Loudspeaker EMB21 subwoofer performed astonishingly, dishing out impressively fast, tight, deep and dynamic lower bass and sub-bass effortlessly, and with very little cone movement. It is without a doubt one of the most impressive subwoofers currently available.

Secondly, the James Loudspeaker 808BE in-wall speaker used for the LCR channels delivers audio performance in spades.

The result is one of the best conventional-type home cinema audio systems currently available.

- Score:

AUDIO QUALITY:	7.3
<i>Of which:</i>	
Clarity & Accuracy:	7.5
Dynamics:	7.5
Ambience:	8
Volume Capability:	7
Ear Fatigue:	7.5
Versatility:	6.5
<i>Space</i>	
VALUE FOR MONEY:	7
OVERALL:	7.2

1) STEINWAY LYNGDORF:

Finally, we come to the end of my journey in ascertaining which brand of home cinema audio equipment currently holds the title of being the absolute best. Fortunately, there is no 'photo finish' or ambiguity in this regard; without question or doubt the hands down winner is STEINWAY LYNGDORF.

I was privileged to audition not one, but two complete STEINWAY LYNGDORF home cinema audio systems; and I will now review each of these in turn as follows:

S-SERIES SYSTEM:

- Equipment:

- **Speakers:** 5 x Steinway Lyngdorf S-15 (LCR and Surrounds)
- **Subwoofers:** 2 x Steinway Lyngdorf Model LS Boundary Woofer
- **Pre-Amp/Processor:** Steinway Lyngdorf P1 Surround Processor
- **Power Amplifier(s):** 4 x Steinway Lyngdorf A1 Digital Amplifier



- Price (RRP):

£42,390

- Review:

Background & First Impressions:

I had been aware of the STEINWAY LYNGDORF brand of audio equipment for some time, but had never got around to auditioning it due to the fact that their least expensive audio system, until recently, was equivalent in cost to that of a fleet of luxury cars; and hence has been quite simply beyond the economic reach of most people.

However, that all changed with the recent launch of their new S-SERIES range, which promised to offer the same standard of audio quality as their other ranges but at a much more affordable price, thereby making the STEINWAY LYNGDORF brand of audio equipment accessible to many more people and not just the super-rich.

Suffice to say when I arrived at the UK's STEINWAY LYNGDORF demonstration rooms at GECKO, their UK distributor, I was both excited and anxious to audition STEINWAY LYNGDORF's new entry level audio equipment range.

I was greeted by Rob Sinden, GECKO's Managing Director, and shown into the room which housed the STEINWAY LYNGDORF S-SERIES home cinema system, seated myself in the primary listening position.

Rob apologised for the other speakers lying around and explained that he had only just installed this room's S-SERIES audio system and in doing so had displaced another system's audio equipment and that this was what was lying around the room. He gestured towards the front of the room where I noted some tiny bookshelf type speakers plonked on the shelf adjacent to where the impressively large, deep and solid looking S-SERIES LCR speakers were situated. I said not to worry; then Rob powered up the system, and disappeared off to make me a coffee.

Movies:

The movie clip he'd chosen to play me first was the Gun Fight scene from Open Range. I will forever remember that moment as if it had been burned into my brain, because it was akin to an epiphany. What I experienced can only be described as absolute audio perfection; it was sublimely extraordinary, and I will never, ever forget it.

In short, there was nothing less than all-round outstanding clarity and accuracy, staggering realism, phenomenal dynamics and perfect ambience; all coupled with absolutely zero ear fatigue, which given the scene in question essentially entails a bunch of men shooting at each other with guns and rifles is nothing short of amazing.

As I was still reeling from the sheer majesty of what I had just experienced, Rob returned with my cup of coffee, paused the movie and then said "Yes, it *is* rather good, isn't it?" wherein I believe he'd guessed I was impressed from the fact I was grinning from ear to ear like a kid who's just been given a bucket of sweets.

I told him "*That* is the most incredible audio system I have ever heard" pointing at the impressively large, deep and solid looking LCR speakers; to which Rob first looked puzzled, and then grinned saying "Um... those speakers aren't what you've just been listening to... *those* are" pointing to the tiny bookshelf type speakers sitting on the adjacent shelf.

It was then that I suffered what can only be described as a 'brain malfunction'. Rob chuckled and then asked "Are you OK?" which was probably because I was sitting there slack-jawed like I'd just had a seizure.

To put things in perspective, how do you think you would react if you saw a Chihuahua open its mouth, but instead of a yap out came the roar of a lion? Well, the sound that emanates from the STEINWAY LYNGDORF S-SERIES speakers is larger than any other brand of speakers that I have heard to date, even the largest, heaviest and most expensive; and yet each speaker has dimensions of just H260 x W200 x D79mm. It is as if the speakers break the laws of physics. To be honest I still haven't got used to how it is physically possible for such incredible sound to emanate from such a tiny little speaker.

After I had recovered from my initial shock I took the STEINWAY LYNGDORF S-SERIES audio system through the rest of my audition process.

The Drum Sequence from House of Flying Daggers was played next.

Again, I was astonished by the outstanding clarity and accuracy; treble, mid-range and bass were all flawlessly crystal clear and one hundred percent accurate. Each ribbon and pebble hitting the drums sounded incredible real and the fine detail is unlike anything I have ever heard before.

What I experienced can only be described as absolute audio perfection; it was sublimely extraordinary, and I will never, ever forget it...

Furthermore, when it came to the culmination of the sequence wherein the antagonist throws an entire container full of pebbles at the drums the acoustic separation was flawless, in that I could hear every single individual sound perfectly and distinguishably from each other. It was not like I was watching a movie; it was as if I was witnessing this scene happening live in front of me, in real life.

Following this I had Rob put on the Main Titles and Opening Sequence from Star Trek VI: The Undiscovered Country.

This is one of the most audio-system-challenging segments of source material, which is why I have used it for years for testing audio systems. The fact that it comprehensively tests multiple audio quality subcategories simultaneously means that it will usually highlight even the smallest of flaws within an audio system's performance. Accordingly, this was likely going to be the most demanding test that I would be putting the STEINWAY LYNGDORF S-SERIES audio system through.

The first thing that tremendously impressed me was that when the studio logos appeared on the screen there was silence; there is no soundtrack throughout the studio logos, so there is supposed to be silence, however when I say there was silence, I mean that there was *absolute* silence. Usually, I would hear at the very least *something* coming from the speakers, whether it be a faint hum or hiss of background noise; here there was *nothing*, just complete and utter silence.

I looked quizzically at Rob and just as I opened my mouth to ask "is the sound switched on?" the opening titles began and lo and behold so did the orchestral title music. I had just about enough time to utter "*whoa*" in response to the extraordinariness of the absolute silence I had just experienced, before it struck me that the orchestral music which had just started playing didn't sound like I was listening to it emanating from loudspeakers; it was as if I was sitting in the middle of the orchestra that was playing the music. I was completely enveloped in the music all around me and it sounded astonishingly real.

The clarity, accuracy, ambience and dynamics were quite literally spine-tingling, and I suddenly found myself having Goosebumps and chills; and this was having only got as far as the studio logos and the opening title music! "*Double whoa*" I thought to myself.

With the title music reaching its climax, I was then quite literally hit in the face by the subsequent explosion and whoosh of the energy wave that flawlessly swept through the room. There is a point within this scene wherein Captain Sulu exclaims "My... God!" and I found myself thinking exactly the same thing.

Then came the Lobby Scene from The Matrix. The dynamics were absolutely incredible; I could quite literally 'feel' the slam when Neo smacks the security guard squarely in the chest with a martial arts open-palm strike. The sound separation was perfect; with every single sound individually distinguishable, from the crystal clear bass-line of the backing music track to the tinkle of every single shell casing audible as it hits the stone floor. It was so good that I found myself wanting to watch the entire movie right then and there.

Music & Versatility:

After the movie demos I moved onto the music source material.

First of all I put on Dire Straits Brothers In Arms SACD track Money For Nothing. Suffice to say that where the Procella Audio system failed miserably with regards to this particular piece of source material, the Steinway Lyngdorf S-SERIES audio system was nothing short of exorbitantly magnificent. Its musical accuracy is faultless. I closed my eyes and found myself getting chills up my spine again.

Next, I carried out some testing of the system's versatility by putting on some CDs to evaluate how the system coped with compressed, as opposed to uncompressed, audio source material.

The clarity, accuracy, ambience and dynamics were quite literally spine-tingling, and I suddenly found myself having Goosebumps and chills

I used a diverse array of CD audio tracks, including: POSITION MUSIC: Orchestral Series Volume 6 – Juggernaut; ESCALA – Palladio; SUCKER PUNCH: Movie Soundtrack – Sweet Dreams; and X-MEN FIRST CLASS: Movie Soundtrack – Frankenstein’s Monster.

Every single track sounded incredible. To put matters in perspective, the audio quality of CD-quality / compressed audio source material played on the STEINWAY LYNGDORF S-SERIES audio system far exceeds that of the very best that I have heard other systems’ play HD / uncompressed audio source material. It really is *that* good.

Background Noise Test:

My testing of the STEINWAY LYNGDORF S-SERIES audio system’s background noise took what was already a surreal experience even further into the realm of bizarre.

As per usual the audio source material was switched off, and then the volume knob was set to zero... nothing... I couldn’t hear anything at all; no hum, no hiss, nothing. I stood up, walked over to one of the speakers and put my ear to the front of it... still nothing. Then Rob turned the volume knob up to maximum... I could not believe it... still nothing! No hum, no hiss, no background noise whatsoever! “The system *is* switched on isn’t it?” I asked Rob. In answer, he turned the volume knob down, then pressed play on the Blu-ray player’s remote control... and wham!; audio at 90dB emanates from the speakers and hits me in the face. “Yes, it’s switched on” he says smirking. I’m just thankful he turned the volume down first...

So, in short the STEINWAY LYNGDORF S-SERIES audio system has a complete absence of any background noise; even when the volume knob is set to maximum. Never have I ever experienced such a thing with regards to audio equipment. It is therefore wholly unique in this regard.

Volume Capability & Ear Fatigue:

The volume capability of the S-SERIES audio system is practically limitless. Firstly, despite the tiny size of the STEINWAY LYNGDORF S-15 speakers the S-SERIES audio system outputs more sound than even the largest and most expensive of other audio systems.

It is the only audio system that can truly lay claim to the fact that it is entirely devoid of any potential whatsoever for inducing ear fatigue when played at Cinema Reference Levels; but what’s completely bananas is that when the volume is increased to *above* Cinema Reference Levels, there *still* isn’t any ear fatigue.

Uniquely the STEINWAY LYNGDORF S-SERIES audio system represents the absolute in volume capability; with no induced ear fatigue whatsoever, even when played at volumes *above* Cinema Reference Levels and/or for prolonged periods.

How STEINWAY LYNGDORF Audio Systems Work & Why They Are Superior:

So, how is it possible that the STEINWAY LYNGDORF S-SERIES audio system delivers audio performance so superlative and vastly superior to all other brands of audio equipment?

The answer to this is somewhat complex, being a combination of several key factors, which I will cover now each in turn; however, the most fundamental of which boils down to the fact that when it comes to audio equipment design and operation STEINWAY LYNGDORF have decided not to follow the rest of the herd, but instead to go off in their own direction, and do things in a different way entirely.

As such, the way in which STEINWAY LYNGDORF audio equipment works is radically different, and significantly more technologically advanced, than every single other brand of home cinema audio equipment. It is in fact no less than a paradigm shift with regards to how audio equipment operates.

**The STEINWAY LYNGDORF
S-SERIES audio system
has a complete absence of
any background noise;
even when the volume
knob is set to maximum...**

The usual way of doing things, which is in fact currently how *all* other brands of home cinema audio equipment operate, is for the digital audio signal to be converted to analogue via a Digital-to-Analogue Converter (DAC) at either the A/V processor / receiver (more commonly) or the source equipment (less commonly); and then the converted analogue signal is amplified by analogue-type amplifiers either built-into the A/V Receiver or as separate power amplifiers; before then being outputted to the speakers.

For simplicity sake, from this point on I will refer to all other brands of home cinema audio equipment that operate in this usual way as “conventional-type” home cinema audio equipment.

STEINWAY LYNGDORF have invented their own way of doing things; and in doing so, have eliminated the flaws relating to the way conventional-type home cinema audio equipment operates that negatively affect audio performance.

With STEINWAY LYNGDORF audio equipment the signal pathway is maintained as digital all the way through the electronics and is only converted to analogue at the output stage. This has a *huge* technological advantage over the way conventional-type home cinema audio equipment works. With conventional-type home cinema audio equipment, when the digital audio signal is converted to analogue via a DAC at the A/V processor / receiver or source equipment, firstly audio resolution is reduced, and secondly the subsequent amplification carried out in the analogue domain introduces noise and further degrades sound quality; whereas, with STEINWAY LYNGDORF audio is maintained at true 24-bit high resolution throughout, no such noise is introduced, and there is no such reduction in sound quality.

This in itself explains the complete absence of any background noise, even when the volume knob is set to maximum; and also facilitates understanding, at least in part, as to why the sound quality of STEINWAY LYNGDORF audio equipment is so vastly superior to all other brands.

If a 21st Century Bullet Train were to partake in a race wherein all the other contenders are 19th Century Steam Trains, the hands down winner with regards to performance would be the 21st Century Bullet Train; and it doesn't matter how expensive and grandiose a steam engine a 19th Century Steam Train has, a 21st Century Bullet Train will *always* beat it hands down with regards to performance, because the bullet train operates in a different way that is more technologically advanced and entirely without the performance limiting flaws associated with the way steam engines operate.

And therein lies the problem with regards to conventional-type audio systems, in that it doesn't matter how expensive and grandiose is the audio system, even say for example it costs a million bucks, the fact of the matter is that because of the fundamentally flawed way that conventional-type audio systems operate (specifically with regards to loss of audio resolution, degradation of sound quality and contamination of the audio signal with noise) a STEINWAY LYNGDORF audio system will *always* be hands down superior with regards to audio quality, because it operates in a different, more technologically advanced way, without the performance limiting flaws associated with the way conventional-type audio systems operate.

This does mean that STEINWAY LYNGDORF audio equipment is incompatible with all other brands. In other words, you cannot cherry pick equipment and partner, say STEINWAY LYNGDORF speakers, with another brand of amplifier or processor. This incompatibility could initially be perceived as a negative; however, upon reflection I think not, because one has to beg the question “*why on earth would you ever want to do so?*” After all, no-one would ever consider attempting, nor wish, to take a steam engine component from a 19th Century Steam Train and jam it into the engine of a 21st Century Bullet Train, would they?

**The way in which
STEINWAY LYNGDORF
audio equipment works is
radically different, and
significantly more
technologically advanced...**

Further to this, there are a number of other key factors which contribute towards why STEINWAY LYNGDORF audio systems deliver audio performance so superlative and vastly superior to all other brands of audio equipment; these are summarized as follows:

- 'Room Perfect' room equalisation; which STEINWAY LYNGDORF describes as *“the most advanced room adaptation technology available”* and I must say that wholeheartedly concur.
- Boundary Woofers; designed to eliminate low frequency audio reflections and provide uniform sound with seamless timing, exceptional dynamics, incredibly sensitive sound pressure levels, and masses of headroom.
- AER (Ambience Enhancing Radiation); described as *“the ability of the dipole tweeter design to disperse the treble in a way that achieves an enveloping and ambient sound throughout the entire listening room”*; which must contribute towards the second to none ambience performance.
- Time domain optimized; all speaker drivers are 'time domain optimized', meaning they are able to follow even the fastest transient in the audio signal with utmost precision, and hence the drivers are supremely fast and accurate.
- AMT (Air Motion Transformer) tweeter architecture; described as utilizing *“the best technology from the two popular high frequency driver types: the ribbon tweeter and the dome tweeter”* for the ultimate in audio performance.

Suffice to say auditioning the STEINWAY LYNGDORF S-SERIES home cinema audio system was mind-blowing, astonishing and extraordinary. Try as I did, I simply could not find any aspect wherein the audio quality is anything less than perfect.

Value For Money:

So, how much does one need to pay to attain said audio perfection? Not anything like as much as you would expect. Despite having vastly superior sound quality to every single other brand of home cinema audio equipment currently available, the STEINWAY LYNGDORF S-SERIES home cinema audio system is by no means the most expensive; in fact, it is a fraction of the cost of some of its competitors, and hence represents absolutely amazing value for money.

Other Salient Points:

It is interesting to note that the S-SERIES is in fact not STEINWAY LYNGDORF's flagship range... it is in fact its *entry* level range. It is also interesting to note that the STEINWAY LYNGDORF S-SERIES system that I auditioned was in fact only a 5.1 channel setup, whereas every other audio system that I auditioned was a 7.1 channel setup. This means that STEINWAY LYNGDORF's *entry* level range with only a 5.1 channel setup has vastly superior audio quality to the *flagship* range of every other brand with a 7.1 channel setup. This fact further demonstrates the extent of just how massively superior the STEINWAY LYNGDORF brand of audio equipment is to quite literally everything else.

Something else which even further distinguishes STEINWAY LYNGDORF from the rest of the competition is the fact that very little (if any) acoustic room treatment is required in order for the audio equipment to perform at its best. This eliminates the significant cost implication of installing acoustic room treatment, which has become an accepted necessity amongst high-end home cinema installations, the cost of which can run into the tens of thousands; and consequently, due to the considerable cost saving achieved by NOT having to install lots of acoustic room treatment, the value for money of STEINWAY LYNGDORF's audio equipment is that much greater.

**Try as I did, I simply
could not find any
aspect wherein the audio
quality is anything less
than perfect.**

Another plus point worth mentioning is that in just a few months' time STEINWAY LYNGDORF will be launching their new A2 model Digital Amplifier which will provide 4 channels of amplification at 200W per channel, versus the A1's 2 x 400W; with an approximate RRP of £3,360 versus the A1's RRP of £3,675. This will even further lower the price bar for accessing the STEINWAY LYNGDORF range of audio equipment, in that an S-Series audio system with 2 x A2 Digital Amplifiers in place of the 4 x A1 Digital Amplifiers, the system cost would be reduced to an approximate RRP £34,800, as opposed to £42,390, representing *even greater* value for money.

SUMMARY:

○ **POSITIVES:**

- Spectacular clarity and accuracy; with crystal clear, astonishingly fast and perfectly accurate mid-range, treble, bass and sub-bass.
- Near absolute realism. Listen to a live piano versus an uncompressed recording of the live piano whilst blindfolded and you probably won't be able to tell the difference.
- Outstanding ambience; fully comprehensive in-filling of the room; surround sound envelopment unlike anything I have ever experienced before; with precisely accurate side and rear channel audio positioning.
- Incredible dynamics.
- Zero background noise, even when the volume knob is set to maximum; no hiss, no hum, nothing.
- Limitless volume capability; will perform equally well in any size of room, even the largest room you can think of; and does not cause any ear fatigue whatsoever, even when played for prolonged periods and *above* Cinema Reference Levels.
- Exceptionally versatile; even compressed CD quality source material sounds fantastic.
- Requires very little (if any) acoustic room treatment.
- Amazing value for money.

○ **NEGATIVES:**

- None whatsoever.

○ **CONCLUSION:**

STEINWAY LYNGDORF have taken the rule book when it comes to audio equipment design and thrown it out the window; and in doing so have created audio equipment that is truly revolutionary, wholly unique, and so technologically advanced and superior in audio quality to the competition it is as if it has been developed by a time-traveller from the future.

If you happen to be of the opinion that you have already listened to the ultimate in high-end hi-fi or home cinema audio systems; the simple fact is that you haven't.

In auditioning STEINWAY LYNGDORF I found that I had discovered what can only be described as the Holy Grail of both music hi-fi and home cinema audio systems.

STEINWAY LYNGDORF have achieved as close to audio perfection as you are ever likely to experience and have become the new Reference Standard for home cinema audio equipment (and as it happens music hi-fi equipment as well) against which all other brands must now be compared; and as of today leads the way with a gap ahead of everyone else the size of which is akin to the Grand Canyon.

I found the experience of auditioning STEINWAY LYNGDORF's audio equipment to be akin to when Neo takes the Blue Pill in The Matrix, in that it irreversibly alters your perspective... forever... specifically, every other audio system that you listen to thereafter will quite simply sound like a bag of spanners in comparison.

- **Score:**

AUDIO QUALITY:	9.8
<i>Of which:</i>	
Clarity & Accuracy:	10
Dynamics:	9
Ambience:	10
Volume Capability:	10
Ear Fatigue:	10
Versatility:	10
space	
VALUE FOR MONEY:	10
OVERALL:	9.9

MODEL M SYSTEM:

- **Equipment:**

- **Speakers:** 3 x Steinway Lyngdorf Model M Center, Bi-Amped (LCR); 4 x Steinway Lyngdorf Model M Left/Right (Surrounds)
- **Subwoofers:** 6 x Steinway Lyngdorf Model LS Boundary Woofer
- **Pre-Amp/Processor:** Steinway Lyngdorf P1 Surround Processor
- **Power Amplifier(s):** 8 x Steinway Lyngdorf A1 Digital Amplifier



- **Price (RRP):**

£101,970

- **Review:**

o **POSITIVES:**

- ALL of the POSITIVES of the STEINWAY LYNGDORF S-SERIES audio system.
- Even *better* dynamics.

o **NEGATIVES:**

- None whatsoever.

o **CONCLUSION:**

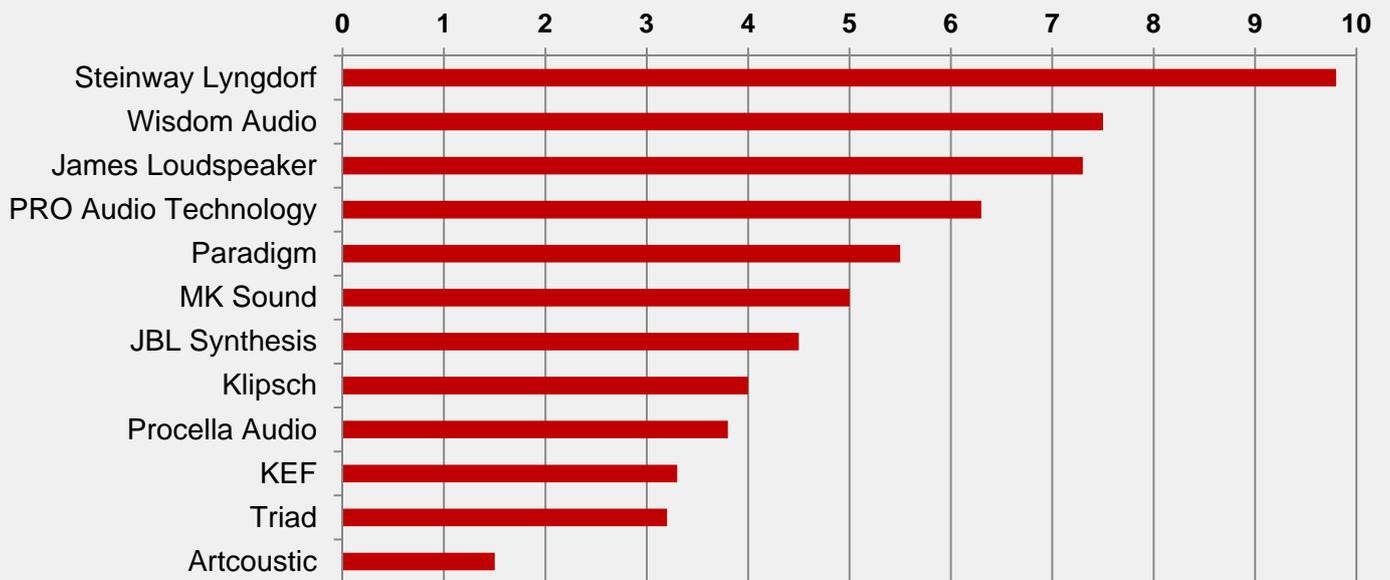
- Quite frankly, in directly comparing the STEINWAY LYNGDORF MODEL M and S-SERIES home cinema audio systems I struggled to notice any discernible difference in audio quality relating to clarity, accuracy or ambience; the S-SERIES audio system was perfect in every way with regards to these, and the MODEL M system was indistinguishably equally perfect.
- *However*, where the S-SERIES audio system has mind-bogglingly incredible dynamics, which at the time of listening I perceived as being 'a perfect 10', when I came to audition the MODEL M system I was forced to re-evaluate that; because, with regards to the dynamics (only) the MODEL M system appeared to impossibly improve upon what I had in the S-SERIES audio system perceived to be perfection.
- Whilst the STEINWAY LYNGDORF MODEL M home cinema audio system does have the edge over the S-SERIES with regards to audio dynamics, it is of course more expensive.
- If you are seeking the absolute with regards to audio perfection, and money is no object, then the STEINWAY LYNGDORF MODEL M home cinema audio system is precisely what you are looking for. However, if you don't happen to have a money tree growing in your back garden, then you should go for the S-SERIES system; which taking everything into consideration is unbelievable value for money.

- **Score:**

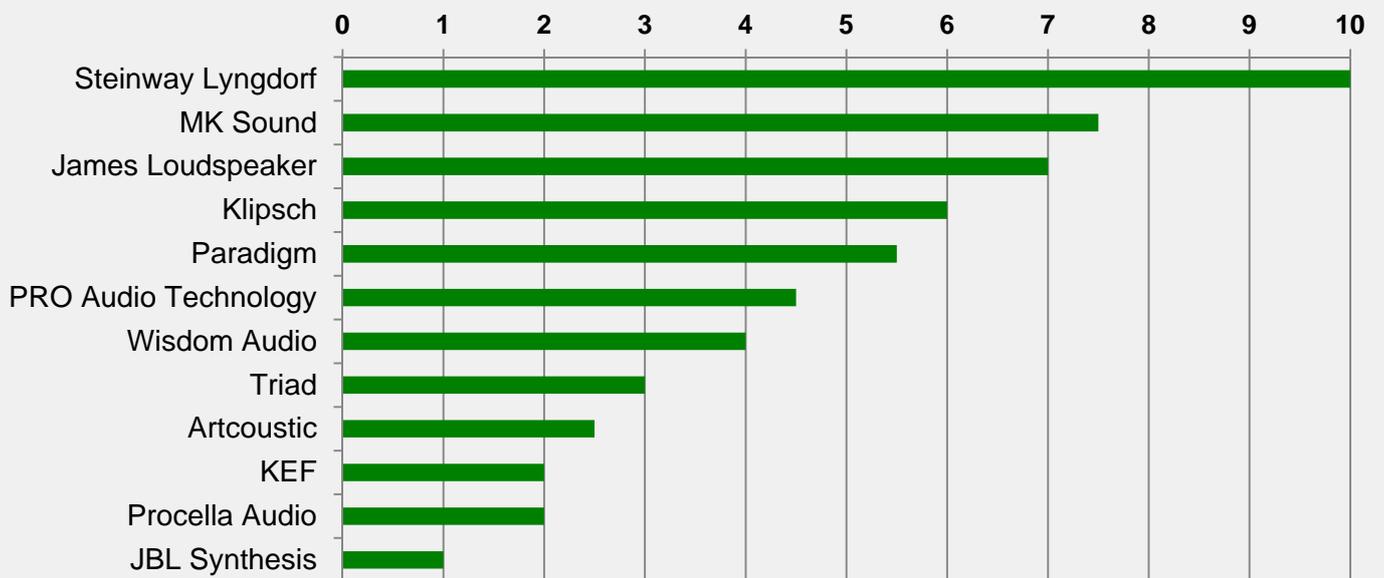
AUDIO QUALITY:	10
<i>Of which:</i>	
Clarity & Accuracy:	10
Dynamics:	10
Ambience:	10
Volume Capability:	10
Ear Fatigue:	10
Versatility:	10
space	
VALUE FOR MONEY:	8
OVERALL:	9.3

MY OPINION - AT A GLANCE:

AUDIO QUALITY:



VALUE FOR MONEY:



OVERALL SCORE:

