Over the past period, hospitality venues such as hotels have been evolving at a rapid rate. This has been brought about by a new focus on the UX (user experience) and how it could be optimized. Land based hotels as well as ship based, have evolved their design and level of finish so as to create a captivating and memorable experience for its guests. Well conceived and managed properties command loyalty from their patrons providing a sustained and growing business model. Attention to detail in how the experience is formatted can make the difference between creating a loyal customer or loosing them to another brand.

This concept has been the driving force in the formatting of Revolution Acoustics technologies. Music influences emotion and can incite a sense of well being supporting the UX. Technology should serve the user seamlessly, invisibly, and without any vestiges other than the benefits.

“We believe that technology is at its very best, at its most empowering, when it simply disappears.”

John Ive, Chief Designer, Apple Keynote, 09.10.13

Audio has been in a constant state of evolution for decades. In the 70’s speakers were typically large prominently displayed pieces of equipment. A tipping point was reached and the market tastes moved in the opposite direction to less visible in wall speakers. Technology progressed and even speaker grills were no longer tolerated. The market then moved to speakers built into the walls shrouded by a thin overcoat of layers of hand applied plaster, but this has exposed numerous liabilities and was characterized by weak performance. There has been a need to rethink everything in order to solve the many problems.

Looking at conventional cone type speaker architectures, they are dated technologies with their own legacy weaknesses which we have had no choice but to accept to date. They beam high frequencies along their center axis, and by way of this, distribute a limited and compromised audio experience in the room. In addition, SPL (sound pressure levels) roll off logarithmically, disappearing just when the listener was starting to enjoy the experience. In short they do not deliver at a distance which reduces their value proposition. Contrasting the lack of function when listening at distance, when listening up close conventional speakers act as overly loud aggressive point source emitters. Again the UX suffers needlessly and can be summarized by a manic and undesirable experience as the user transitions from overly bright audio, to acoustic shadows as sound diminishes laterally and at distance.

SSP6 Multiducer™

Recently all this has changed in a significant fashion. The significance is not only due to finding a way to resolve the functional issues, but also the value proposition. Revolution Acoustics has addressed this multi tiered problem set with an incredibly simple, patented response. The solution changes how humans interact with sound resolving the legacy issues end users have been forced to accept and delivers a user experience which cannot be matched.
Designing and delivering whole room audio has been nearly impossible mandate to fulfill because of the legacy issues with conventional speaker technologies. The Revolution Acoustics SSP6 Multiducer™ (multifunctional transducer) offers simple solutions to these once difficult problem sets. Some benefits include:

- The new for factor: **Invisible**
- Ultra fast installation.
- Perfectly even SPL and frequency response everywhere.
- Far fewer drivers needed with better coverage.

We will discuss direct applications within the hotel, but to grasp the benefits, it is important to better understand the improvements.
A) Lifestyle Solution

Revolution Acoustics is able to deliver a true lifestyle solution by quickly installing into or into walls, ceilings, furniture, or onto glass and floors as well as many other materials, turning them into massive acoustic planar radiators. Bending wave physics causes these surfaces to emit full frequency audio everywhere on the panel. Additionally planar (not conical) sound waves result. Planar radiation of sound from large surface effectively creates a speaker with a diaphragm of tens of feet.

This changes everything is in audio.

More than resolving issues in how sound is propagated in space, it can be leveraged to change infrastructure as well as other historical problems in a hotel environment.

Ergonomic Audio™

The patented technology of the SSP6 Multiducer™ combined with massive planar radiator surfaces being created has henceforth changed the art and science of audio. Authoritative, accurate sound is now possible, and for the first time, is able to take the physiology and sensitivities of the listener into account.

If a listener approaches a wall being driven using a SSP6’s Multiducer, only a small percentage of the for example, 100W being driven will enter the listener’s ear canal. The rest of the power is being used to drive other parts of the wall which to not impinge upon the listener’s ear. The harsh phenomena of acoustic scalding, indicative of cone type speakers, is resolved at last. In fact as the listener approaches the wall a fairly consistent level of sound is being heard. Revolution Acoustics refers to this as Ergonomic Audio™ as the machine (speaker) is at last designed to interact ergonomically with people.

Staging and Imaging

The wide coverage of accurate frequency audio and even SPL have the effect of causing the sweet spot to become the whole room and not just the space equivalent of one or two seat cushions. For stereo sound, staging and imaging are enhanced as the sweet spot is no longer a very limited areas in the room. When installed, what is important is to spread the SSP6 Multiducers apart more that one would for a cone driver. If the left wall is being driven by an SSP6 for the left channel and the right wall by an SSP6 for the right channel, then there will be excellent staging and imaging through out the room. The massive radiating surfaces produce planar sound waves over at least a 25’ length of the wall and by way this and wide polar dispersion, the room is filled with comfortable yet authoritative sound pressure levels with distinctly articulated sound fields but at a whole new human level as the SSP6 is not a point source emitter.

Home Theatre

Home theatre can be easily delivered using the SPP6 Multiducers™ while rendering surprising results. Standard 2 minute installation per Multiducer makes this cost effective where the installation can now become a significant profit center. SSP6’s can be used for the front channel, left, right and even satellites. Depending on the amplifier being used more powerful amp relates and personal taste, a subwoofer can be used to punch up frequencies below 45 Hz if desired.

Auto Balance

Counter intuitively, If an listener approaches a wall being driven using the SSP6’s for example, only a small percentage of the lets say 100W being driven will enter their ear canal. The rest of the power is being used to drive other parts of the wall which to not impinge upon the listener’s ear. In fact as the listener
approached the wall a fairly consistent level of sound is being heard. This is very unlike cone speakers. The second SSP6’s (channel B) ability to hold its SPL over large distances means the listener will sense its presence and detail, even if close to the SSP6’s driving channel A. By way of this, the sweet spot is opened up significantly in scope rendering the effect of an “auto-balancing” sound everywhere in the room.

**Value Proposition**

As a direct result of the management of the simplifiers energy better than any point source type speaker (cone or plaster in types), and propagate massive planar radiating full frequency sound waves. Two Revolution Acoustics SSP6 Multiducers are able to replace 6 and up to 8 conventional speakers depending on the installation. There is less equipment to install and often no holes to cut. Even with far fewer drivers being used, the user experience is vastly improved.

**B) The Hotel Suites**

The hotel suite is meticulously designed to focus in the user experience. All amenities must serve strategically for this purpose. Hotel guests supplement their experience by watching television, movies and should have access to “their” music in an ideal scenario.

There are numerous places the SSP6 can be installed in order to upgrade the user experience with little cost within the hotel suite. Open living rooms, beds, bathroom, tubs and showers offer these opportunities.

Televisions or sound bars use cone type speakers which are point source emitters and create the legacy issues previously stated. To make matters worse, with the advent of LED televisions, the picture quality has improved but the sound quality has diminished in that there is no longer space to house conventional speaker drivers. The sound is often played at elevated levels in an attempt to reach the bed with sound. This often causes other issues such as sounds communicated to adjacent rooms. But there are solutions to this problem where less expensive flat panels can be installed and where the audio experience would be better positioned:

**Headboards**

Revolution is in the enviable position to create an immersive audio experience where 100% of hotel guests frequent: their bed. Using the headboard as an acoustic radiating soundboard allows the guests to enjoy a near home theatre experience in the comfort of their bed. As our SSP6 Multiducers are able to create immersive soundspheres enveloping the guest. Excellent staging and imaging is felt and true immersive sound augment the viewing and listening experience in ways never imagined.

Other problems are resolved in that the local sound pressure levels are decreased as the listener is directly in the soundfield and does not need high SPL, so there is less tendency to transfer stray noise to adjacent rooms, while the listener perceives the experience to be theatre like. The guest can also enjoy their own music wirelessly described as follows:

**Wireless Personal Music**

Adding a Bluetooth receiver to the suite’s amplifier permits the guest’s to listen to their personal music on their smartphone. Via a simple Bluetooth connection, they will be able to tailor the experience their own taste.
Hotel Suite Living Room

For multiroom suites, high level interior design does not permit any box speakers. In-wall cone type speakers expose the guests to the legacy problems of this type of speaker architecture. The user experience changes as Revolution is able to create even sound pressure and even frequency response in the living room area, with optimized volume levels everywhere – and invisibly so the interior design statements are unmarred. No longer will there be loud speakers working to force sound into the space. Whole walls and ceilings radiating comfortable sound change the human experience.

Bathrooms

The bathroom is a showcase for luxury. High degree of finish in this area of the hotel provide a great opportunity to shift the user experience. Bathtubs and showers can now provide a luxurious immersive sound experience as well. For that matter the whole bathroom can become an entertainment venue for the guests. Affixing the SSP6 to the outside of the bathtub shell and transforming it into a high fidelity speaker, the bather is immersed literally into a deep rich soundfield. The experience is magical. This application has been vetted with Jacuzzi, where their tub shells were transformed into high fidelity stereo systems.

Glass panels forming showers, or the ceiling can literally shower sound onto the hotel guest. Other applications can be mirrored televisions used as vanity mirrors where the sound can be felt everywhere in the bathroom evenly unlike conventional speakers. The guest will never be able to even point at a speaker as acoustically they will not be identifiable let alone visually. Revolution has relationships with providers of these products and can fill the bathroom with music or sound for the mirrored television.

C) Common and Public Spaces

Lobby’s

The moment the hotel guest enters the lobby, they are enveloped in the very distinct visual message as designed by the interior design teams. They can also be nurtured with a soundscape designed to start stirring emotion and initiate a rich and tactically designed user experience. As the Revolution Acoustics technology is not a point source emitter, dissonant reflections in marble clad lobby’s are not an issue. The sound can be sensed everywhere and no one will be able to find where the sound is coming from, visually or acoustically. Its not magic, just good science and engineering resolving many legacy issues.

Corridors

By the same token, as guests move through the hotel’s common areas such as hallways, they can be immersed in consistent sound as they walk. Never before have people had this experience as everything in nature is a point source emitter. The days of manic hot and cold audio experiences are gone, with a consistent and enveloping user experience being the new standard.

Retail

High end hotels are the coveted targets of luxury brands to have a retail foothold. The SSP6 is already used extensively by the worlds leading retail brands such as Prada, Louis Vuitton, Miu Miu, Dior and Gucci in many stores globally. Enveloping the client with an immersive and consistent signal will have the effect of elevating the client’s sense of well being, putting them into an optimized mindset to purchase. Dissonant sound has the opposite effect sometimes driving the client out of the store. The return on investment on any SSP6 installation is substantial.
Restaurants

As with retail, restaurants can be showcased to round out the hospitality experience. Music is an essential element in the restaurant’s strategy definition. How often have we all been seated close to a speaker in a restaurant where the dining experience is rendered confrontational? As we try to share the moment with a significant other, or a business colleague we are forced to speak over the sound system having been seated in proximity to a speaker. The speaker is turned up so it can render sound deeper into the restaurant, but this reinforces all of the previously stated legacy issues of cone type speakers.

The SSP6 resolves all of these issues providing an immersive experience where everyone seated, regardless of their table placement in the restaurant has a near perfect audio experience. Even SPL and full frequency response everywhere. The interior design once again is also unmarred.

Outdoor Environments

Terraces, patios, poolside and even gardens can benefit from the soundscapes created by the SSP6. The depth in which the SSP6 propagates sound is orders of magnitude better than the any cone speaker due to the new physics used. Certified waterproof to an IP65 level creates a passport for outdoor invisibly. Restaurants with adjacent patios will benefit form sound both inside and outside when glass is being driven.

Spa

Immersive audio with well selected content will have the effect of relaxing the hotel guest enjoying a spa experience. Installed on the outside walls of the spa, coupled with IP65 waterproof certification, allow the SSP6 to provide an excellent spa experience without the worries of speaker degradation. Low sound levels need not have losses. Reflective tiled spaces will not create bothersome and annoying room modes as the SSP6 is not a point source speaker. The spa experience is at last optimized.

Conferencing

Meeting rooms and conference or presentation areas can also benefit from SSP6 technology. All in the room will benefit from even should levels and near perfect acuity. The SSP6’s have been measured to have an excellent value on the Speech Transmission Index (STI). An additional bonus is there are virtually no microphone feedback loops. The presenter may be at any point in the room and avoid these hard to solve technical issues while removing the need for expensive feedback suppression electronics.

Summary

Audio in the hospitality sector is forever changed. As much as the Revolution Acoustics SSP6 Multiducer has been claimed to be a disruptive technology, the truth is it is an enabling technology. Hotel guests can now be immersed in a perfectly controlled sonosphere within the boundaries of the hotel property. The user experience is optimized and brand loyalty is supported. Products with a difference that make a difference.