

# Home Theatre / Media Room Design 101

## A 10 Point Planning Tool to Create your Ultimate Home Theatre

### 1. Budget

Did you know that the **allocation of resources** in your budget is *more important* than the size of your budget? A successful project outcome is directly related to how, specifically, you choose to spend your money. To achieve the best results possible, consider the following:

If you're working with a **fixed budget**, direct the budget resources to the areas of the project that will be more costly to change in the future. For example, structural and acoustical elements can be a lot more costly down the road than electronic equipment upgrades.

### 2. Screen Size

“Suspension of disbelief” is the goal of every film artist. What exactly does this mean? Ideally at no time during the presentation of the film should you the viewer be aware of your physical surroundings. Fully present, inside the world of the movie characters and totally engaged in their on screen experience, is the ultimate goal.

How can you best experience this suspension of disbelief? To achieve an optimum viewing experience, a main factor to consider is the size of the screen in relation to your seating area. As the screen image fills more of your peripheral vision, the less you observe of your physical viewing environment. It becomes much easier to suspend your disbelief!

A bit of background...

Over the years, the film and television industries have completed many studies on the **ideal screen size** to help achieve the artist's goal. Two key industry organizations provide the following recommendations:

SMPTE (Society of Motion Picture and Television Engineers)

- Minimum seating distance to screen of 1.86 x screen width.

THX (LucasFilm)

- Minimum seating distance to screen of 1.53 x screen width.

Do you have personal viewing preferences? Note that the above recommendations are based on HDTV content only and do not take into consideration the varied and personal viewing preferences of the general viewing public. Some of us prefer a center seat at a movie theatre and others an aisle. However, these guidelines provide a very good place to start.

### **3. Room Acoustics**

This is another element that ties in with the goal of achieving suspension of disbelief. Just as we can be distracted from the screen by our visual senses, the perception of noise in our environment can also impact our viewing experience. Everyday sounds such as footsteps, running water or neighbours mowing grass can all potentially break the suspension of disbelief moment.

Another very important factor that affects the quality of your sound system is what is referred to as the “acoustical footprint” of the room itself. Simply put, too many reflective surfaces and/or the opposite, too dead acoustically (i.e. too many soft materials and very little reflective surfaces) will adversely impact the listening experience.

Did you know that the lack of attention to acoustical footprint can make a well-engineered sound system perform way below its capacity? On the flipside, an average engineered sound system may appear to be much higher quality.

### **4. Airflow**

You can't enjoy a great home theatre experience if you're falling asleep! Poor airflow and air exchange will induce drowsiness far quicker than a properly engineered air conditioning system. Because the home theatre space is usually a multi seating area, fairly air tight, and includes heat-generating equipment, it is important to consider the airflow within the theatre space, as well as the air conditioning system which has been installed.

### **5. Lighting**

Lighting is also a crucial element in attaining the artist's goal of suspension of disbelief. Any ambient light that is directed onto the viewing screen will compromise the picture quality. Also, ambient light in the viewer's area will affect the viewer's ability to see all the details in the darker elements on the screen.

If windows are an important part of the space, they should be fitted with complete blackout shades. Multi zone lighting within the space offers an ideal design for a home theatre. This feature will allow for different lighting scenes for the varied viewing

environment and activities within the space, such as family TV viewing, dedicated movie viewing, room cleaning, etc.

## **6. Equipment Location**

Be mindful of creating visual distractions. Installing electronic equipment with bright panel lights beneath the screen on shelves and/or in glass front cabinets will create a serious visual distraction for the viewer.

Since most functions are accessible via remote control, the bulk of the equipment in today's home theatres can (and should) be located outside of the space proper. An exception may be some of the source components such as DVD players, gaming consoles and floor standing speakers.

## **7. Room Colours**

Did you know that your brain's ability to determine a particular colour is influenced by all the colours present within your peripheral vision at the time of viewing?

If the ultimate goal of a home theatre room design is to experience all the colours the artist created with optimal clarity, then it's essential to give thought to the colour of a) the space around the screen and b) within the area of our peripheral vision. Choose a colour as neutral as possible. Black or a darker shade of grey is ideal.

You may be thinking, "Didn't burgundy with gold trim work well in the old classic theatres?" Keep in mind that these spaces were actually converted from musical performance venues into black and white movie theatres! Exercise caution if you're considering replicating the obvious and understandable emotional connection with these theatres. Consider the very vibrant colour content of today's HD video media.

In a front projection application it is also important to give attention to the amount of light that will be reflected onto the ceiling from the screen, and in turn reflected back onto the screen. With this in mind, a white finished ceiling is not recommended.

## **8. Seating**

Get comfortable! When considering seating for your Home Theatre or Media Room, it's very important to remember the obvious fact: this is your home. While commercial theatre seating is usually laid out in rows with non-adjustable components and shared armrests, you certainly don't need to duplicate this design in your own space.

This type of seating design may work well for the once a month or year the average person visits a movie theatre, but your home is a much more intimate and relaxed environment. Your seating choices should reflect this.

Consider adjustable seating and group seating styles for long term comfort. Ideally, all theatre seating design and layout should include seating that allows for center screen viewing for at least one person and/or shared by two people.

## **9. System Control**

Keep things simple. Ease of system use for all of family members is paramount to the experience of enjoying a home theatre system/media room. A capital “F” for fun and function rather than frustration is the *only* way to a very enjoyable home theatre experience for everyone!

To that end, a universal remote control which allows simple one button push access to all of the features of the system and the room is highly recommended as part of the project budget.

## **10. System Calibration**

A home theatre system is a custom engineered creation. It is not a one size fits all product and comprises several products from a number of different manufacturers. The end goal is to have all of the equipment in the system work to their engineered potential and provide your best experience and return on investment. This includes the space itself which, as mentioned above, is an integral part of the overall experience...

Put it all together and the bottom line is that **audio and video calibration of both the system and the space is essential** to ensure the engineered system provides the right experience and the maximum return on investment.

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