SCREEN SCHOOL - HOME THEATRE GUIDE

IT IS GREAT FUN BUILDING A HOME THEATRE OF YOUR OWN. ON THE OTHER HAND, THERE ARE MANY MINOR OR MAJOR DECISIONS TO BE MADE BEFORE YOU CAN SIT DOWN AND ENJOY A LUXURIOUSLY LARGE PICTURE. WE HOPE THAT THIS GUIDE CAN PROVIDE ANSWERS FOR MOST QUESTIONS CONCERNING PROJECTOR SCREENS.

PICTURE FORMAT

Which format should you choose? Now it is usually quite easy, the most common is to use the widescreen format 16:9. The "old" video-format 4:3 is not used that often any more. The one question that CINEASTER shall think about is if they want the same format as in the theatres; 2.35:1. But if you use that format for watching "ordinary" tv you will have big white fields both to the left and to the right of the picture!
Most people with a video projector also have a TV-set at home, and -frankly- a TV is good for watching the news. But when it comes to concerts, sports events and movies, don´ t we all prefer a large picture?

What about your own television habits? What would you like to watch on a big screen? If the answer is movies and movies alone, the obvious choice is the 2.35:1-format. But if you watch a lot of regular TV-programmes or play video games with a normal TV-format, then the 16:9 might be a better choice. It is worth mentioning that most people consider 16:9 to be the real home theatre format. According to sales statistics, 95% of users choose the 16:9-format and only 10% go with other formats.

OR NO FORMAT AT ALL?

The average user prefers a black border around the picture for better contrast. Others might think that there is no point choosing a certain format since movies come in all kinds of different formats anyway. Some are 16:9, and another one is 2,35:1. These users can buy a screen without any black borders at all. Many manufacturers supply such screens.

BLACK REVERSE SIDE

The reverse side of a screen is either white or coloured black. A black reverse side prevents light from reflecting on the screen from behind. Opacity on our screens is 95%.

CORRESPONDING FORMATS ON THE PROJECTOR AND THE SCREEN

When you have made up your mind about screen format, buy a projector with a corresponding standard picture format. Dissimilar formats lead only to compromises regarding set-up and tuning. Most retailers will give you the same advice, and there is a reason for it.

KINGPIN SCREENS

WHAT ABOUT SIZE?
Home theatre enthusiasts think big, and that is they way to go with home cinema ;-). Having a three-meter wide picture is awesome, but is your room big enough? A three-meter wide screen in the 16:9-format is 1,69 meters high.
The picture must be comfortable to look at. The best way to check is to first buy the projector and watch a couple of movies on a white bed sheet. Try out different sizes and soon you will realize which one is the right for you. If you need to turn your head while watching, then the screen is too big. Buying too big a screen is a common mistake.
Normally, the optimal set is a screen whose width is half of the distance between the viewer and the screen. In other words, if your screen is 200 cm wide, you should watch from a distance of approximately four meters.

HOW HIGH?
It is also important to place the screen at a suitable height in comparison to the viewer´ s position. The screen should not be placed too high, something that occurs especially with big-size screens. Ideally, the screen should be placed so that an imagined horizontal line from the eyes of the viewer would hit the screen at about 1/3 of its total height seen from underneath. This might be a problem if the home theatre room also doubles as a living room and has furniture. Practically, 80-110 cm from the floor is a decent position of the screen´ s bottom border when watching.

HOW DARK?
A projected image is much more sensitive to surrounding light than a TV-set. After all, home theatre is about having a cinema theatre at home. And in a real theatre, it is always pitch-dark. Black colours are black only because the absence of light. If there is daylight or lamplight in your theatre room, this will reflect on the screen and make the black turn grey. The more light,the worse the picture. Therefore it is clever to always turn lamplights off, and buy a special curtain that blackouts daylight from the windows. A lightproof curtain is more expensive than an ordinary one, but on the other hand it is very effective in keeping daylight away. Your theatre room can be turned completely dark even on the brightest summer day if the curtain is properly installed.

WHAT KINDS OF SCREENS ARE THERE?
Three different kinds of screens are available for home users; manual- electric- and frame screens. All different options have their pros and cons.

MANUAL SCREENS
The manual
screen is probably the most common. It works like window blinds, it is manually pulled down and locked at desired height. After use it is released back into its cassette. This is a simple and suitable option for many users. The problem is to reach up to the screen without having to use a chair or leaving ropes or sticks hanging from the ceiling.

+ PROS

- Simple construction
- Cheap

- CONS

- All materials rolled up on an axle develop borders pointing forward
- Frequent “pulling and releasing” might damage the screen material
- With no frames, all screens turn wavy, especially big screens

ELECTRIC SCREENS
An electric screen works in the same way as a manual one, except for not having to operate it by hand. Electric screens come with or wihout a wireless remote control. Some electric screens can be connected to the projector and be automatically activated when switching the projector on and off. Electric screens are normally more expensive than manual ones.

+ PROS

- No “pulling and releasing” keeps the screen material intact over time

- CONS

- All materials rolled up on an axle develop borders pointing forward
- With no frames, all screens turn wavy, especially big screens

There is a fabric with ”tab-tension” , a system that includes a ribbon that tightens the fabric and prevents waves to occur.

FRAME SCREENS
If you have the possibility of using a room solely for home theatre purposes, or just want to make certain that the screen surface has no waves, a framed screen is the obvious choice.

+ PROS

- No waves

- CONS

- A 2 m² white screen on the living-room wall is hard to justify interior-wise

WHAT IF MY SCREEN DEVELOPS WAVES?

If the screen surface gets wavy, side-to-side panning in a movie, for instance car chases, might seem a bit jumpy. Otherwise, most people do not find it especially irritating. If you definitely want to get rid of waves, get yourself a framed screen.

All screens rolled up on an axle develop borders that point forward by time. The black borders (2,5cm – 10cm) around the picture area are a way to keep the bent part of the screen outside the actual picture area.

WHAT IS GAIN?

Basically, the so-called gain value indicates how much light is reflected back from the screen. A few years ago, projector lamps were much weaker than today and therefore screens with a high gain value were used. The higher the gain value, the weaker projector could be used. The advantage was that the picture generally got brighter; on the other hand bright images became too bright. This also had an effect on the viewing angle, which became very narrow. Basically, people sitting on the end of the sofa could not enjoy as good a picture as those sitting in the middle.

Now the projectors are much more powerful and the gain value of the screen is not a big issue anymore. Most screens have rather neutral gain values such as 1.0 (absolute neutral) or 1.1. There is also a type of screens that reduce reflection, grey screens, A grey screen has the gain value 0.8 and reduces reflection by 20% of the projected light. Grey screens where very popular 2003-2005 but since most of the projectors now have a good contrast ratio these kind of screens are not that popular anymore.

OTHER MATERIALS

There are numerous other screen materials with certain special qualities, for instance one fabric called “Acoustic” that can be placed in front of the loudspeakers. The fabric has thousands of small perforations that let the sound through with harming sound quality in any remarkable way. There are also several other products, but in this guide we stick to the mainstream options targeted at the average user.

HOME THEATRE AND DOMESTIC PEACE

Money is not enough for setting up a home theatre system. Decorating the living room can in worst case turn into a family dispute. Other persons in the household might prefer a room that is aesthetically and not only technologically appealing. Cords, screens and projectors should be invisible or melt into the room in a perfect way. That is a difficult goal to achieve if you plan to install a permanent framed screen in your living room. It will hardly pass unnoticed or uncommented.

One option is to buy designer items that match a modern and well decorated home. Or you could buy a product that is, if not invisible but at least, discreet. A screen cassette painted white is quite invisible against a white ceiling.

ASSEMBLE YOUR SCREEN

When you have chosen which screen you want and the purchase is done it is time to mount it in your home. There are tree different ways to attach your manual or electric screen on the wall.

1. Integrated mounts in the screen’s cassette with a ring that is fitted on a hook. The hook is placed in ceiling. If you want to place your screen with a little space from the wall there is special brackets for that kind of construction.
2. Integrated screw holes in the end caps. The screens width determines where to place it.
3. Brackets. You place them on the wall or in ceiling and then you “click” the screen in place. These brackets can be placed in optional distance from the screen’s end caps. We normally recommend 10-40 cm from the end caps for best stability.