

Georgia AV Club of Atlanta Epson meeting notes

Introduction

A large part of the pleasure of viewing a large image is the difference in size between the smallest objects and the largest. This is analogous to dynamic range in music – the difference between the softest passage and the loudest.

Front projection produces a stunning large image at a fraction of the price of a 80 -100 flat panel

Large Commercial movie theater screens are 60 - 90 wide - good choice for viewing large scale action movies (e.g. Thor, Transformers). Smaller screens (30 – 60') are fine for independent films.

Exciting private home theater begins on a screen of 120" diagonal and larger. It's the minimum size at which human beings (including musicians) can appear life size. The largest size screen that an Epson HT PJ can support is 150 – 160". At this maximum size the image can be much brighter than the finest commercial movie theater in Georgia.

Techniques to increase image brightness:

1. Move the PJ closer to the screen. All HT PJs have a zoom lens. Relocate your PJ closer and the zoom aperture will dilate and more light will illuminate the screen.
2. Line up the PJ level with the top of the screen. This is the correct angle that will "bank shot" the image off the screen to the viewer's eyes
3. Use a good quality screen that is a bit more reflective. One gain (also called unity gain) is the starting point. 1.1, 1.2 and 1.3 gain produces a brighter image with no distracting artifacts.
4. Darken the room. It doesn't have to be completely black. Think of a large bonfire on the beach, when does it look most beautiful? At dusk and just after dark, when the background of the ocean is still visible.

Ambient light or well lighted rooms destroy image quality. The performance difference between a \$20,000 and a \$3500 projector will be leveled.

A 2000 lumen PJ is perfect for most home theaters. But, if the room has a lot of background light it becomes a shouting match between the PJ and the ambient light, sort of like a noisy restaurant where you have to talk louder to be heard. PJs "talk louder" by having a higher light output (lumens). In that case higher lumens 3000+ would be useful.

For extended viewing the HT must be comfortable for maximum enjoyment. Here are some tips on how to reduce fatigue factors:

1. The image can be too bright. If so reset the "power consumption" mode from "Normal" to "ECO". You can also lower the "contrast" control which adjusts the white level. Or you can relocate the PJ further back from the screen which will reduce the light output.
2. Obvious, but important is have comfortable seating.

3. Head and neck fatigue are affected by the “vertical viewing angle” which is how high the center of the screen is above eye level (while seated). Mount the screen so that the center is between 5 and 15 degrees above your eye level to minimize muscle discomfort.
4. Low intensity lighting in the room is recommended for safety sake and to sometimes mitigate the intensity of a big screen. Just be sure to have any lighting directed away from the screen and never in the same direction as the PJ.

Movies and TV images come in three basic shapes. The 4:3, quasi-square shape of old tube televisions, the 16:9 rectangle of high definition TV and the elongated rectangle of Hollywood movies called ‘scope’ or 2.35:1 aspect ratio. All quality home theater PJs can display all three types without any special adjustment.

Each picture shape or aspect ratio was demonstrated at the meeting:

1. Gentlemen Prefer Blondes 4:3
2. Tony Benet and Friends (with Diana Krall) 16:9
3. Battleship 2.35:1

Just like a world class 2 channel audio system, front projection home theater quality is limited by the weakest link in the chain. It starts with the content (performance) and every component that involved is important.