



AN IMMERSIVE HOME THEATRE EXPERIENCE

THE PANAMORPH LENS

Today, all the excitement in the world of home theater seems to be centered around large HDTV screens. We see them displayed from floor to ceiling in big-box retail stores and promoted all over in the Sunday ad circulars that come out every weekend. The appeal is easy to understand as these displays provide excellent image quality in sizes ranging anywhere from 40 to 90 inches, measured diagonally. However, no matter how big they are, these HDTV displays still suffer from one major limitation when it comes to watching movies: an incorrect aspect ratio.

By Michael Beckerman

The aspect ratio of a display is a ratio of its width to its height. Today's standard HDTV's have an aspect ratio of 16:9. Although this is considerably wider than the original 4:3 aspect ratio that was used in traditional, tube style televisions that had been marketed from the dawn of the TV era until just a few years ago, it is still nowhere near as wide as the cinema screens found in movie theaters.

Anyone watching a movie at home on their HDTV, in the actual format the director intended them to see it in, is forced to view the film at a reduced size with black bars above and below the image. This is due to the difference between the aspect ratio of their HDTV (16:9) and the much wider aspect ratio that most movies are filmed at (2.35:1).

So, what's the solution to this problem? Projectors! But that's just part of the answer. The full solution is realized when a proper home theater projector is coupled with a Panamorph anamorphic lens. Paring these two devices together results in a displayed image that is a full 33% wider than what is typically seen on an HDTV screen or from an HD projector by itself.

Although technically very similar to business projectors commonly found in offices today, home theater projectors are specifically designed and optimized to be used in a home theater setting. However, even these specially made projectors designed to help create a big screen, theater-like experience in the home still suffer from the same aspect ratio limitations of standard HDTV's. The Panamorph lens, when used in conjunction with a properly equipped home theater projector and projection screen, expands the movie's image back to full cinematic size in the home. Doing this allows film enthusiasts to enjoy the exact same movie watching experience that the director intended them to see in the theater, right in the comfort of their homes.

When combined with a larger size projection screen, also sized to the proper 2.35:1 theatrical aspect ratio, a Panamorph lens is capable of providing home theater viewers with an image that is a full 80% larger overall than that seen on a standard HDTV or HD projector display. Projection screens in this theatrical format are available from manufacturers such as DNP Screens, Steward Screens, and Screen Innovations.

How big of a room is required for this type of a set up? Panamorph lenses are designed to provide optimal performance and image accuracy when used at a distance of between 14.5 ft. and 17.5 ft. from the screen. Realistically, these lenses can actually be used anywhere from 12 to 22 ft. from the screen without any noticeable loss of image quality.

This may all sound expensive, but it doesn't have to be. Panamorph,

a company headquartered in Colorado Springs with over 30 years of experience in optical design and manufacturing, has partnered with a number of home theater integrators across the country to bring their innovative display solutions to market. One of the very best of these, Quality Audio Video located here in Colorado, specializes in helping clients get the absolute most out of their home theater budget.

Home theater projectors that are compatible with the Panamorph solution start under \$5,000 for entry level models. Those with the most advanced features are often priced in excess of \$10,000. Some of the companies presently providing compatible home theater projectors in this price range include Digital Projection, JVC, and Epson. Panamorph's image expanding technology is recommended with projectors that are mounted to the ceiling. Compatible ceiling mounts designed to be used in conjunction with the Panamorph solution are available from companies such as Chief Manufacturing and OmniMount.

Today, the only way to get a true home theater experience where what is seen on the screen is exactly what the director intended, is to use a home theater projector in combination with a Panamorph lens. These, and other related home theater solutions are exactly why companies like Quality Audio Video, are in business today. To be able to help home theater enthusiasts, who really want to get the most out of their movie watching experience, really see the "big picture", right from the comfort of their homes.

To find out more about how to craft an ideal audio/video, home theater or home automation solution for your home or business, contact Quality Audio Video either by phone at (720) 323-7878 or through their web site at GoQAV.com.

Panamorph Lenses are available through:
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Traditional HDTV
16:9 Aspect Ratio

Projection Screen using Panamorph Lens
2.35:1 Aspect Ratio