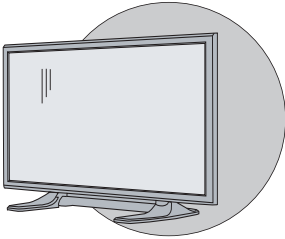


A CONSUMER GUIDE: CHOOSING THE RIGHT LARGE SCREEN DISPLAY FOR YOUR HOME

BY
NEC Solutions America



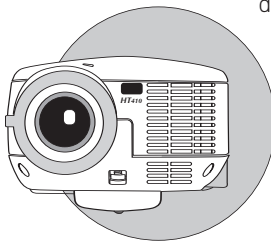
ARE YOU LOOKING TO TRANSFORM YOUR BASEMENT INTO A HOME THEATER?

Have you been dreaming about converting the living room into a decorative yet usable space? The couches, window treatments and paint are certainly important. But, selecting the right large screen display to complete the room may be the most critical task ahead whether you are a first-time buyer of the technology or home entertainment aficionado.

Today, there are an abundance of display choices available for the home beyond traditional TVs. A flood of new technologies -- such as flat screens and lightweight projectors can be found in a wide range of screen sizes and prices to fit virtually every room of the house.

Consumers are increasingly smitten by the beautiful, brilliant images and sleek, flat-screen designs offered from plasma displays. Their sleek profile and extremely wide viewing angle addresses the functionality requirements of rooms with minimal space, such as a living room, loft or even a bathroom. Plasma displays meet the rigorous requirements of the most discerning home theater enthusiast, with brilliant image quality, accurate image reproduction and amazing brightness and contrast.

A PROJECTOR can offer the same vibrant, larger-than-life viewing experience as going to the movies while being considered an attractive, practical display option for consumers. Many home entertainment projectors are available in a compact, contemporary design that can be discreetly mounted to a wall or ceiling, but are adaptable enough to be removed from the room for other uses, like projecting the latest sci-fi thriller on the garage door for neighborhood movie night.



HERE'S THE REAL BEAUTY OF LARGE SCREEN DISPLAYS: due to their broad signal compatibility, they offer capabilities that span far beyond a traditional TV, such as high definition television, cable and satellite display. They can also be used for gaming, digital pictures, computers and more. Research indicates that large screen display products are here to stay. According to Home Theater Research Group, the plasma display market is projected to grow 70% annually over the next three years and IDC predicts that home theater projectors are expected to move from 9% of the overall projector market in 2004 to 20% by 2008.

WHAT'S ATTRIBUTING TO THIS GROWTH?

HIGH DEFINITION CONTENT. Since all broadcasting is expected to be digital by 2006, a display product with HDTV compatibility future-proofs the investment and eliminates concerns about technology obsolescence. Likewise, display technology has played a significant role in progressing the emergence of media and content, such as DVD's, which enhance the overall viewing experience.

MORE INFORMATION AND BROADER ABILITY. The increased popularity and use of large screen display products has led to a plethora of information about them. Along with increased awareness, projectors and plasma displays have become more accessible and can now be purchased from the web, through a professional installer and even in a local consumer electronics retail outlet.

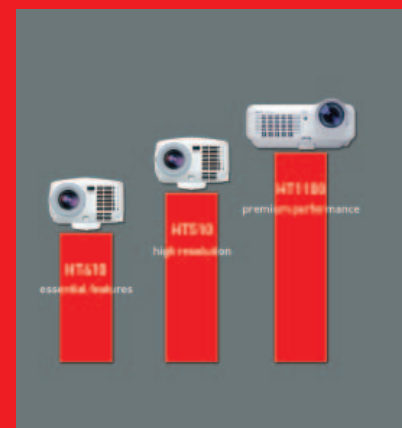
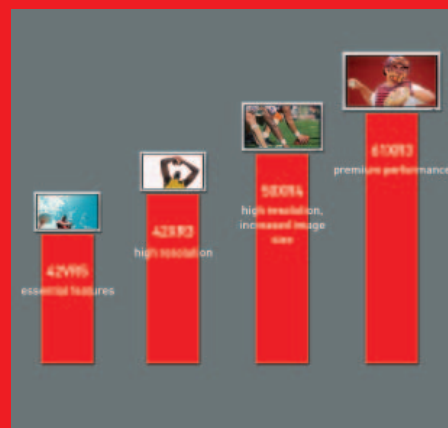
COCOONING. Americans are spending more time at home and using display technology to connect with family and friends. Projectors and plasma displays enable families to view "big screen" movies together, share digital photos with long-distance relatives or invite the neighbors over to watch a favorite sporting event.

LOWER COSTS=MORE MAINSTREAM USE. What was once thought to be suited for only a "rich and famous" lifestyle, large screen display technology is now a much more affordable reality for today's conventional household. Many new home builders have even begun to offer display packages as an option so families can begin to enjoy the benefits of the technology from the day they move in.

GREATER INTEREST. Because of their wide range of uses and capabilities, these products are attracting a more diverse demographic. Women, for example, like the decorative look and space-saving functionality of a plasma display, which can add style to a room while remaining up and out of the way of small children.

EASIER TO USE. You don't have to be a "techie" to use a large screen display, in fact, many are as easy to use as a regular TV. With color-coded inputs and cabling, quick start-up menus and intuitive, automatic features and accessories, projectors and plasma displays can now be operated by almost anyone.

A WIDE ARRAY OF NEC DISPLAYS



WHAT TO ASK BEFORE YOU BUY:

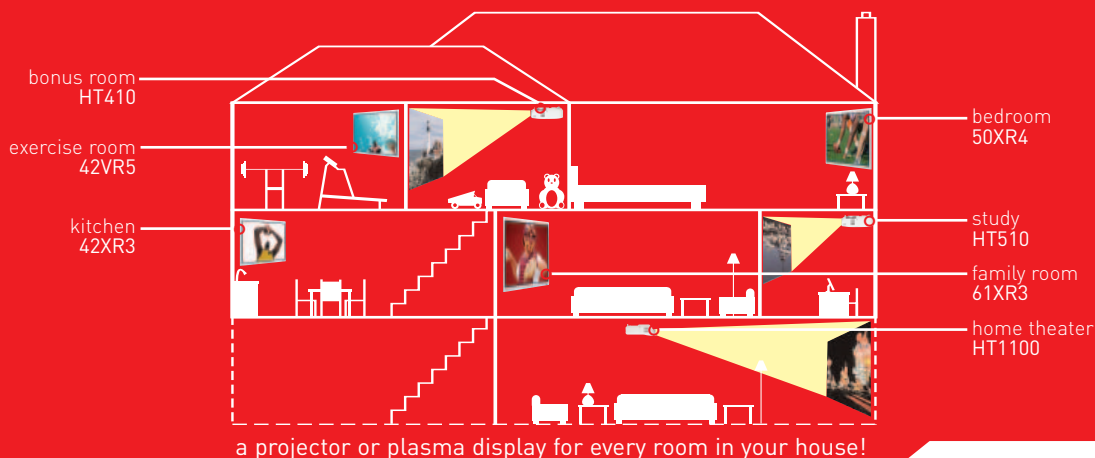
By working through the following three primary qualifiers, you will be in a better position to decide which large screen display is most ideal for your home:

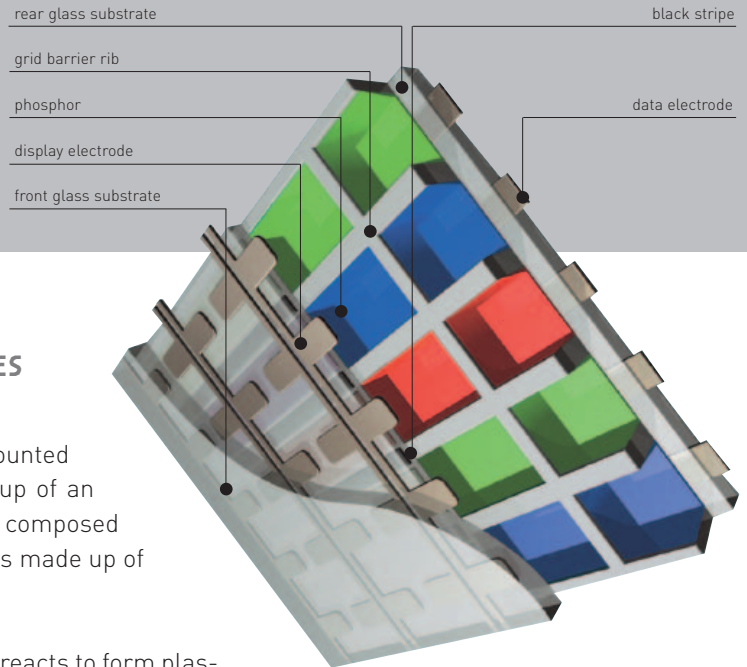
HOW WILL I USE A LARGE SCREEN DISPLAY? Before you make a change, you must have a need. Is your current television about to bite the dust? Have you just moved into a smaller or larger living space? Are you finally getting around to making the basement a home theater? The size of the room and the use of the display will help narrow your choices to products that are most fitting for your situation. Knowledge is power so arm yourself with information – industry association websites such as the **Consumer Electronics Association (www.cea.org)**, product-focused websites like **Projector Central (www.projectorcentral.com)** and even mainstream publications like **PC Magazine (www.pcmagazine.com)** provide statistics, trend and user articles, product reviews and more. You'll also want to search manufacturers' websites to learn more about the actual displays.

WHICH ACCESSORIES DO I NEED WITH MY DISPLAY? Now that you've selected a large screen display, you can begin to identify which accessory options you will need. Will the display be built into an entertainment center or do you need it to hang flush with the wall? Accessories are a vital part of the installation because they will ultimately maximize what you can do with your display. Most projectors and plasma monitors will require **audio/speakers, a mounting system or floor stand, source equipment such as a set top box and external tuner, and the necessary switchers and remotes** to tie together all the sources and uses for the display. Some manufacturers offer home theater "bundles" with various accessory options to help simplify the process, but resources like those listed above will also provide specific information about all types of display accessories. Again, knowledge is key so take the extra time to read up on the different products and how they can enhance your viewing experience.

WHAT DO I NEED TO KNOW ABOUT INSTALLATION? While many large screen display products are now easy enough for the "do-it-yourselfer" to set-up, most consumers will still require professional help to design, optimize and assemble the display and accessories to maximize their desired effect. Always choose a certified professional installer for the job, as their extensive experience with the technology will assure the best possible result. Most certified professional installers will also recommend displays and accessories for the application, but it's still wise to have a solid understanding of what you want and need prior to contracting with an installer. For a list of professional installers in your area, go to organizations like **www.paralink.org** or **www.cedia.net**.

You are now well on your way toward incorporating the dazzling, stunning images and movie-like viewing experience capable with large screen displays into your home. Enjoy!





WHAT IS A PLASMA DISPLAY AND HOW DOES IT WORK?

Plasma display panels consist of two thin panels of mounted glass found within the screen. The panels are made up of an array of cells, known as pixels, which are tiny pockets composed of compressed gas. Each pixel contains three sub pixels made up of red, green and blue phosphors.

When an electrical current is applied to a pixel, the gas reacts to form plasma, which in turn produces UV light. The light reacts with the phosphors to produce the colors you see on the screen. Because all the pixels emit light at the same time, the viewers never see a flickering screen.

Pixel: The smallest discrete component of an image or picture on a screen (usually a colored dot); "the greater the number of pixels per inch the greater the resolution." -- WordNet ® 2.0, © 2003 Princeton University

LCD AND DLP™ PROJECTOR TECHNOLOGIES. WHAT'S THE DIFFERENCE?

Projectors are categorized into the following two primary technologies, which reference the internal mechanisms used to compose an image:

LCD (LIQUID CRYSTAL DISPLAY) projectors contain three separate LCD glass panels, one for red, green, and blue components of the image. As light passes through the LCD panels, individual pixels can be opened to allow light to pass or closed to block the light. This activity modulates the light and produces the image that is projected onto the screen. LCD advantages include images with deep saturated colors that are sharp and accurate, bright images and low costs for greater affordability.

DLP (DIGITAL LIGHT PROCESSING) Developed by Texas Instruments, the DLP chip is a reflective surface made up of thousands of tiny mirrors. Each mirror represents a single pixel. In a DLP projector, light from the projector's lamp is directed onto the surface of the DLP chip. A color wheel consisting of red, green, blue and sometimes clear segments spins between the lamp and the chip to modulate the color. The mirrors move back and forth, directing light either into the lens path or away from the lens path. DLP technology offers a very high contrast ratio, with less space between pixels (reduces screen door effect) for smoother images, along with fewer components, allowing the projector to be packaged into an extremely compact design.

For more information on NEC's industry-leading large screen displays, please contact us at 800 NEC-INFO or visit www.necvisualsystems.com

The opinions expressed in this document are those of NEC Solutions America, Inc., based on the current state of large screen display technologies as of September 2004.

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