

3LCD Benefits - An Overview

There are many benefits to the way that 3LCD projection technology creates and projects an image. Together, they mean outstanding picture quality...

Accurate colours without colour break-up

LCD technology enables each panel to reproduce up to 8 levels of brightness per colour, resulting in 24 bit colour – 16.7 million true colours on screen. The way in which the 3LCD projection system projects the component red, green and blue colours simultaneously gives you colours that are clean and accurate, with no colour break-up.

This compares favourably with the way that colours are reproduced by DLP projectors. In the DLP system, colours are reproduced using a colour wheel that spins at high speed, and separates the primary red, green and blue colour signals when light is shone through it. This can lead to a phenomenon known as the "rainbow effect", in which the viewer sees colour striping when they look away from the centre of the object on the screen.

High Contrast

In the business or education environment high contrast, viewed under normal lighting is meaningless. However, in darker environments such as in home cinema, higher contrast means added punch and added impact.

High contrast used to be the domain of other technologies but advances in LCD technology have meant that Hitachi's 3LCD projectors are now capable of outstanding contrast levels. LCD projectors currently have a contrast ratio of up to 2000:1. However, Hitachi's new home cinema projectors expect to double this figure.

High Brightness

Brightness is the most crucial factor in the projection equation. Again, Hitachi's 3LCD projectors pass the test with flying colours, achieving brightness ratings as high as 4500 ANSI Lumens with 1" LCD panels.



HITACHI
Inspire the Next

3LCD Technology Explained

HITACHI
Inspire the Next

HITACHI DIGITAL MEDIA
Hitachi Europe Ltd

Design and specifications are subject to change without notice.



The Natural Choice

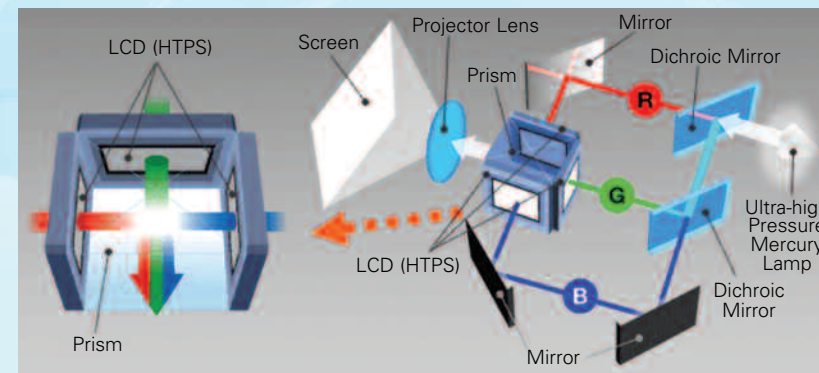
Welcome to a new age of compact affordable projectors, offering unprecedented levels of performance for home and business use.

For years, engineers have been improving the size and performance of projectors, which previously used CRT or single panel LCDs. Both technologies were simply too big, too bulky, and too expensive for the majority of consumers. Hitachi has rewritten the projector rulebook, with a new range of compact, high-performance 3LCD projectors that redefine the art of projection.

Why 3LCD?

In a 3LCD projector, images are created by shining a bright light through tiny poly-silicon LCD panels, measuring as small as 0.5" across and composed of 750,000 pixels (in the case of XGA). Outstanding colour performance is guaranteed by a system of dichroic mirrors that break up the white light into its component red, green and blue colours. Each colour passes through an LCD panel and is recombined before being projected onto the screen. The 3LCD system results in bright, clean and accurate colour reproduction, and exceptional image quality.

3LCD

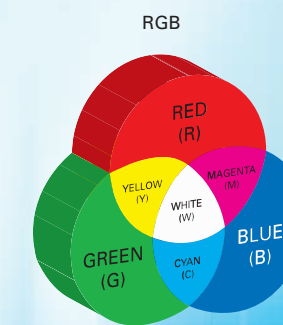
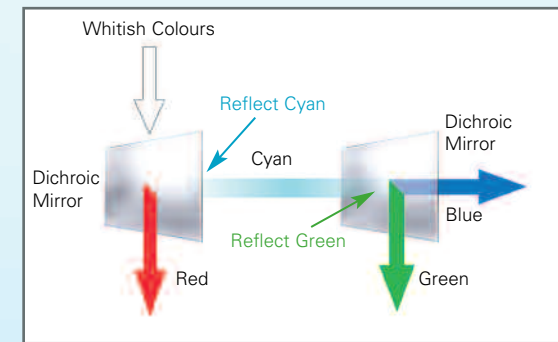


3LCD Benefits in Detail

It's one thing to claim better picture quality for a projector, but with Hitachi's 3LCD projectors there's real substance behind the claim. There are sound engineering reasons why Hitachi 3LCD products outperform other projection technologies...

Naturally Brighter

Projectors using 3LCD technology are up to 25% more efficient in brightness, compared with other technologies, such as DLP. This means using a lower power lamp for a given brightness, with less heat, less fan noise and higher energy efficiency.



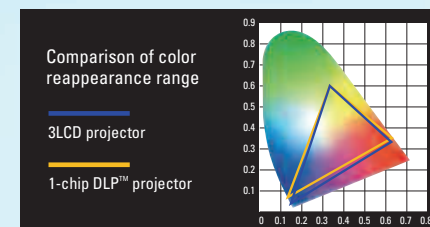
Comparison of colour reproduction/brightness

Naturally Better

If you combine the benefits of superior greyscale, high brightness, high contrast and great colour reproduction, you would expect a more natural, more realistic-looking picture. With Hitachi's 3LCD projectors, that's exactly what you get.

The intricate pixel structure of the latest LCD panels used in Hitachi's 3LCD projectors is invisible to the eye. Smooth, seamless colour transitions, reproduce true 24 bit colour (16.7 million colours in total) faithfully and convincingly.

This is a far more natural way of reproducing colour than the "colour sequential" dithering method employed by DLP technology, which at best can only reproduce 6 levels of colour (262,000 colours in total). The superior greyscale achieved by the 3LCD system also means more life-like reproduction of the dark areas of an image that are usually the most difficult to reproduce accurately.

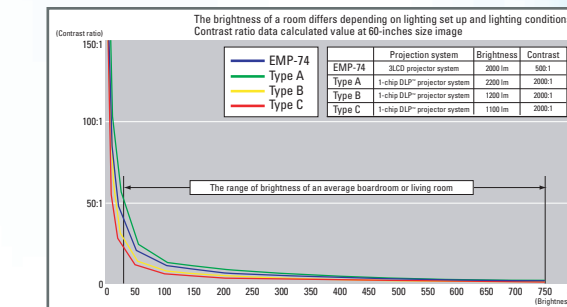


Naturally Easier

Colour reproduction in the 3LCD system is completely natural, with the component red, green and blue colours each handled by a dedicated LCD panel. All three colours are constantly being projected, as in real life.

As the images from a 3LCD projector are more natural and more life-like, they are easier on the eye, even after watching for a sustained period of time.

Contrast Ratio



Naturally More Reliable

Unlike most competing projection technologies, Hitachi's 3LCD projectors have no moving mechanical parts or spinning motors in the light control system. Less moving parts mean less opportunity for things to go wrong, which makes Hitachi's 3LCD projectors among the most reliable projectors you would find anywhere.

LCD Technology – the future

LCD technology is constantly improving – smaller panels mean smaller and lighter projectors. New inorganic LCD panels show no decrease in performance with use, giving you even longer life projectors.

Comparison of gradation



3LCD



1-Chip DLP™