bluum | SONY

NEW LASER PROJECTORS

Intelligent
Settings

Introducing Sony Laser Projector's new Intelligent Setting that will make brightness and optimal image quality last even longer

Behind the development of the Intelligent Setting for the Laser (Light Source) Business Projector

In 2013, Sony introduced the projector industry's first 3LCD Laser Projector and has since furthered its development. It can be used as soon as it is turned on and does not require lamp replacement.The 3LCD laser projector is now the mainstream of the projector market.Sony's laser projectors are equipped with various internal sensors working with high precision control. There are temperature sensors, set position sensors, and lens mounting sensors to ensure safe and stable operation, brightness sensors and color sensors to maintain high image quality for extended periods of time, as well as various sensors that ensure brilliant monitoring and control.

In order to further develop the laser light source projector, we continued research on the following issues. Compared to a lamp projector, the issue with brightness decay is improved drastically for a laser projector. However, there is room for improvement to make the brightness of the projector last longer by further advancing the temperature control inside the projector. Another issue is the constant brightness mode. When the constant lighting phase ends, brightness decreases remarkably. The brightness of the laser light source decreases gradually as time passes. On the other hand, the current of the projector is gradually increased to make the brightness constant. With this method, however, the load on the projector gradually increases, which is why brightness decreases remarkably after the constant lighting phase

is over. There is also room for improvement to make the brightness of the projector last longer by innovating the projector brightness and current controls.

Regarding the ways projectors are used, on the other hand, our customers have gone from projecting text-based footage to projecting an increasing variation of content in the present, including colored graphs, colorful high definition still images, and even videos. Methods of use are also expanding into exhibition-type projection of videos and still images for things other than presentations.

Because the optimal image quality settings differ depending on what our customers are using the projectors for, the existing image quality settings menu is difficult to optimize. This was also a point we deemed an important issue to be improved upon. With that, we worked towards developing an operation method according to the way our customers use projectors that could make brightness and optimal image quality last longer.
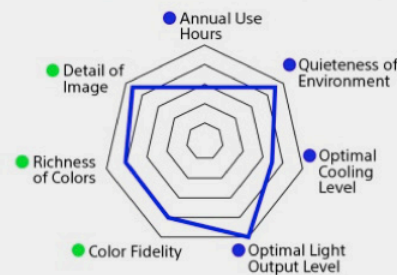
Deciding on the Intelligent Setting framework for the Laser Light Source Business Projector

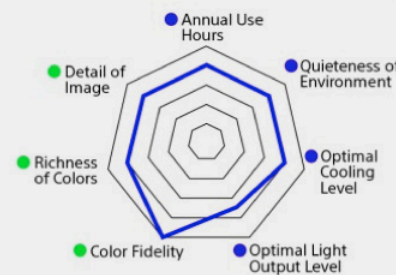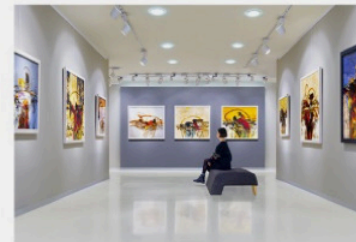**Important factors when increasing luminance efficiency and stability** are the amount of time in use per year, the temperature cooling controls inside the projector, and the output of the light source. The time in use per year can be determined with the general amount of time in use for each method of use.

As for cooling, up until now, there has been the high altitude mode in addition to the normal settings, but these result in noise and limit usage. In accordance, we designed a system that automatically optimizes the output of the light source so that the appropriate temperature cooling control level can be calculated automatically based on the time in use per year for each method of use and the quietness of the surroundings. The load also does not increase over time and the brightness lasts even longer.
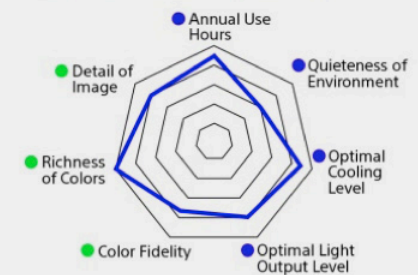
Meeting room & Classroom	Museum	Entertainment

Radar chart axes: Annual Use Hours, Quieteness of Environment, Optimal Cooling Level, Optimal Light Output Level, Color Fidelity, Richness of Colors, Detail of Image

● Key elements in optimizing light output and cooling level

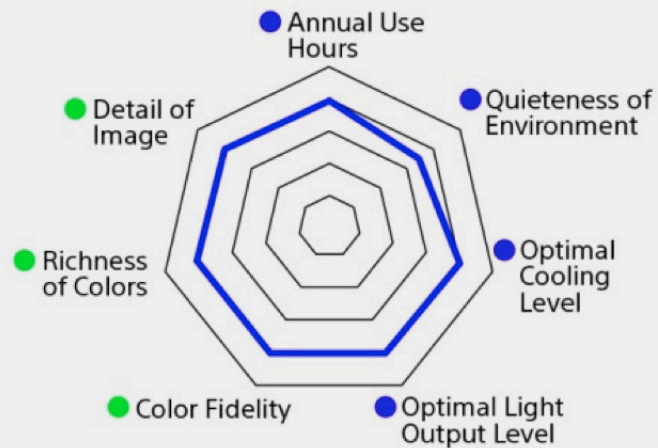● Key elements in optimizing image quality

This is a proposal that can only be made by Sony, which introduced the first 3LCD laser projectors and, over the course of 5 years, came to understand many of our customers' circumstances and needs, accumulating the know-how needed for the long-term, stable operation of a projector.

The main locations of usage as well as methods of use of projectors are used for corporate/ university presentations, exhibitions in museums and the like, and attractions at entertainment facilities. The optimal cooling level and light source output level for the purpose of making the brightness and image quality last longer are automatically calculated based on the average time in use for each and the quietness of the surroundings. Please see the following graphs. The appropriate image quality (color fidelity, saturation, and amount of detail) was also set for each method of use.

Furthermore, there is a setting where multiple projectors can be used together using Edge Blending.

This is a setting that calculates the appropriate cooling and light source output from the general time in use and the quietness of the environment. It also ensures that the color is uniform for the multiple projectors.

Multi Screen

- Key elements in optimizing light output and cooling level
- Key elements in optimizing image quality

The Intelligent Setting menu

It takes the form of simple choices on the UI screen, but it is here that a plentitude of know-how has been incorporated on easily maintaining optimal image quality for the long term according to the method of use selected. When the location and method of use are selected, the screen will display that the settings are being updated, as shown below.
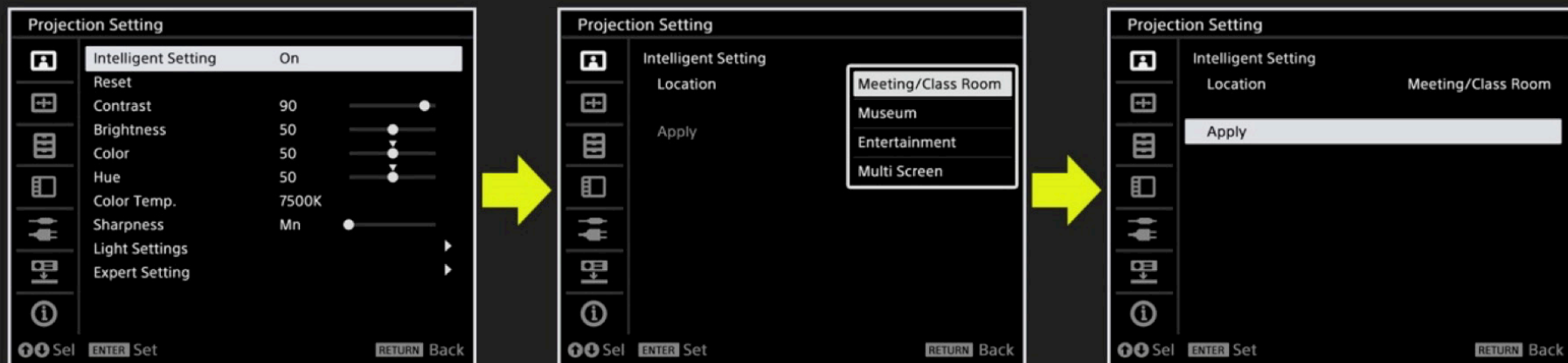
A simple introduction of the settings for each method of use is as follows.

In the case of methods of use in conference rooms/classrooms, it is important that text and images are easy to see from a location a distance away from the screen in a bright environment, and that the temperature cooling controls do not hinder conversation.

With Reality Creation as the image quality engine and Sony's picture optimization, know-how, incorporated, Sony's 3LCD laser projectors provide a stable balance of rich color expression, color gradation, and color fidelity, even in a bright ambient location. Whether it be with still images or video, visual expression with an outstanding high-resolution feel can be obtained.

Conference and presentation examples

Regarding the methods of use for museums and entertainment facilities, the annual time in use is long for both, and bright and colorful settings are needed for entertainment facilities. On the other hand, for museums, there is low ambient light, and color fidelity is important. In regard to temperature cooling controls, the quietness of the environment is considered. For entertainment facilities, cooling is enhanced, while a balance of quietness and cooling is used for museums.
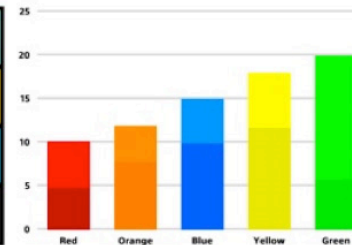
Image quality that works great in conferences and classrooms

1. Test and images are clear and easy to see even in a bright environment
2. Excellent balance of color fidelity, brilliance of color, and color gradation in bright environments
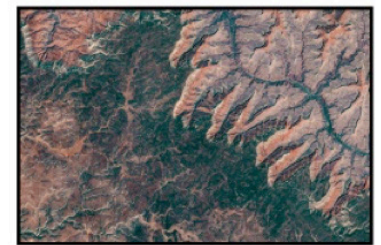3. High-resolution feel with Reality Creation
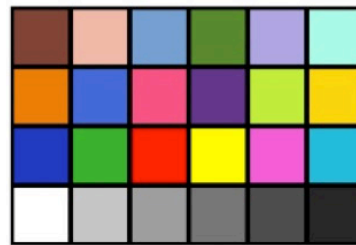
Color fidelity　**Color gradation and brilliance**　**High-resolution feel**

In the case of the Multi-Projection setting, priority is placed on the color matching of the multiple projectors. Thanks to the Intelligent Setting and the new panel, brightness and image quality will last longer than before, even for long-term use.

As introduced above, the Intelligent Setting is a novel concept in the projector industry as a valuable new feature that will revolutionize the laser projector.

Below are settings for museums, entertainment facilities, and multi-screen.

Notes:

1. In addition to what is mentioned above, definition, sharpness, etc. are also adjusted to fit each method of use.

2. It is possible to further adjust the image quality after selecting the Intelligent Setting.

These high brightness 3LCD laser projectors offer stunning image quality with excellent reliability.

Ideal for auditoriums, lecture theatres, halls and larger venues, they're also great for teaching in brightly lit classrooms.

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