

Sony develops Pico projector module with high-definition resolution and focus-free image projection

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Pico projector module

Sony Corporation today announced the development of a pico projector module equipped with Sony's independently-developed image processing system, that uses laser beam scanning (LBS) to realize crisp, beautiful high-definition resolution and "focus-free" projection, regardless of the distance or angle from the projection surface. By combining this module with Wi-Fi components and a battery, it can realize a compact, pocket-sized projector which can be used to project images from products such as smartphones or tablets, focus-free and in even higher resolution, on any flat or curved surface such as a wall or desk.

Currently, modules mounted on battery-driven pico projectors use a

panel system, which generally have VGA (640 x 480) or WVGA (800 x 480) resolution. In addition, most of these pico projectors have usage limitations depending on the distance of the projector from the projection surface, such as requiring focus adjustments, or projection from a front-on angle.

This newly developed module is composed primarily of a semiconductor laser, MEMS (Micro Electro Mechanical Systems) mirror, their respective drivers, and a video processor to control the video signal processing and image output. It adopts a LBS system that incorporates a semiconductor laser as the source of light, whereby the [laser beam](#) is reflected and controlled by a MEMS mirror to scan and project the image. By developing a video processor that ensures the semiconductor laser and MEMS mirror can be controlled with the utmost precision, Sony has achieved high-resolution HD image quality that surpasses VGA and WVGA, which are the current mainstream resolution for battery-driven pico projectors. Furthermore, the advanced light-harvesting capability and directness of the laser beam ensure that the projected image remains in focus, regardless of the distance or angle from the projection surface. This module can project clear images to a screen size of approximately 40 inches from a projection distance of one meter, and approximately 120 inches from a distance of three meters. Furthermore, optical technology developed by Sony has been used to achieve a reduction in laser speckle noise (noise from specks in the image), which had previously been a challenge for LBS systems. This module also delivers beautiful, crisp projection with a wide color gamut and higher contrast compared to conventional panel systems. In addition, it is equipped with an independently-developed distortion correction circuit which corrects screen shapes such as rectangles that can be distorted into trapeziums when projected from certain angles to their original shape.

Sony will continue the development of this module to achieve even more compact size and intense brightness, and aims to bring it to market for

use in pico projectors and other devices with projector functionality.

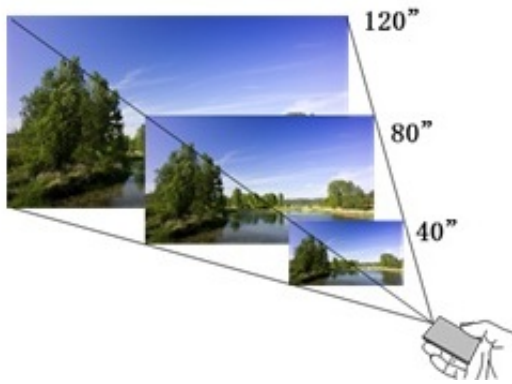
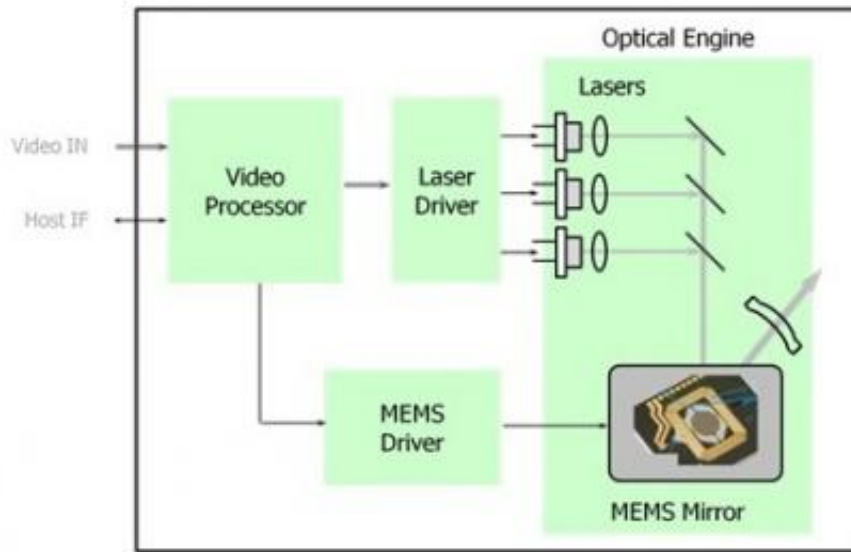


Image of "Focus-free" projection

Main Features

1. Achieves high-resolution HD
2. The independently-developed image processing system featuring LBS realizes crisp and beautiful image projection
3. "Focus-free" regardless of the distance or angle from the projection surface, enabling easy projection onto flat or curved surfaces, such as walls or desks
4. Wide color gamut, high contrast
5. No residual image lag even for videos with rapid movements
6. Equipped with distortion correction circuit technology which corrects distorted screen shapes such as trapeziums when projected from an angle, to the original rectangular shape
7. Compact dimensions (52.5mm length x 63.0mm width x 7.2mm height)



Main configuration of the pico projector module

Provided by Sony Corporation

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