

VIDEO PROJECTORS FOR THE CLASSROOM:

TOWARD A NEW TCO MODEL



Breaking the Cycle of “Replace and Spend” for Video Projector Applications

While video projectors have always been the AV display mainstay for classrooms (as well as for corporate meeting rooms), the endless lamp replacement cycle for lamp-illuminated projectors leads to high TCO (total cost of ownership), regardless of the initial price point of the projector. But new advances in solid-state illumination—specifically in the form of 3LCD laser illumination—are breaking this expensive lamp-replacement cycle and yielding significant savings for all projector owners, including schools and universities. New-generation laser-phosphor projectors (commonly called “laser projectors” by the public) are not only lamp-free, with the resulting improvements in TCO, but they also deliver more consistent brightness levels and better color performance.

The 3LCD Laser Projector and the New TCO Math

Conventional lamp-based projectors have two significant Achilles' heels. First, the lamps need to be changed regularly regardless of whether or not there is outright lamp failure. The decay in light output before total lamp failure degrades the image onscreen and the viewing experience suffers from a negative shift in color accuracy and saturation as a lamp ages. Second, the cumulative cost of replacing lamps in lamp-based projectors includes both material and labor costs. Owners must consider both costs when calculating the true TCO of a lamp-based projector. The projection industry has been tasked with breaking the lamp replacement cycle by providing more long-life illumination solutions. The best result of that effort is the introduction of the 3LCD laser phosphor projector—known to users as the “laser projector.” These new-generation laser projectors are the future of lower TCO, high-lumen video projection with optimal color accuracy. And they are here, now.

There is perhaps no better way to illustrate the breakthrough in laser phosphor technology than with the advances made by Sony, a leading projector manufacturer. Sony's 3LCD Laser Light Source projectors incorporate a laser light engine and achieve up to 7,000 lumen (lm) exceptional Color Light Output. Sony's unique light engine uses a blue laser as its light source, which excites a phosphorous material that in turn creates full-spectrum light. The light is delivered to a 3LCD optical system that projects constant, vibrant RGB color. Laser-phosphor projectors fully support the higher color gamut needed for 4K.

From a TCO perspective, the primary best practice for reducing ongoing video projector costs is to take full advantage of the key attribute of laser projectors: their 20,000-hour illumination life. This exponential increase in lamp life translates to real money saved over the life of the projector. For a typical lamp-based projector in the 3,000–5,000 lumen range,

the cost of 20,000 hours' worth of lamps (with an average lamp cost of well over \$250 per lamp) translates to hard dollars that the user must add to the initial purchase cost of the projector in order to arrive at an accurate TCO for that lamp-based projector installation. (And, in fact, many lamp-based projectors use two lamps per projector for their light source, resulting in a cost of \$600–\$900 per projector each time lamps are changed.) Compare that to the cumulative lamp replacement costs of a 3LCD laser projector run over the same life span: \$0.00.

And there is another bonus for all users of laser projectors: laser projectors better support the higher color gamut needed for 4K and UHD.

“When we first introduced our new Sony laser projectors, the main focus was on the obvious TCO advantages—the cost savings from not ever having to replace a projector lamp,” says Sander Phipps, senior product manager at Sony. “But as we launched it, everyone realized the other advantages. For example in larger universities, one, two, or just a handful of people provide AV support for whole campus—and they fear the call from the professor saying, ‘Help, the projector doesn't work!’ The failure rate for laser projectors is negligible, and so staff is freed up to do more important work. Also, in larger lecture halls there are often multiple projectors in the same classroom. With lamp-based projectors in that multi-screen configuration the projected images match the first day, but over time the pictures degrade in quality, and what's worse, each one degrades differently. With laser projectors, on the other hand, the image is very repeatable, month after month, year after year. Install them, they power up instantly, and over time they don't drift in color or brightness”.

For more information: sony.com/laser or sony.com/edu.

NO WAITING — INSTANT ON AND OFF

The VPL-FHZ700L and VPL-FHZ55 laser light sources turn on and off instantly, unlike conventional lamp projectors that need time to warm up and cool down, wasting valuable time in the lecture or that very important presentation. No waiting anymore.

