

Bright Idea: Using Laser Projectors to Enhance Houses of Worship

By: Rich McPherson



A house of worship's purpose is to bring people together to share a positive message about faith, and when a facility is able to serve its members more effectively using technology, it translates to higher attendance and positive word-of-mouth – keeping current members coming back and encouraging new ones to join.

To meet these goals, many houses of worship constantly reevaluate their technology lineup to ensure it successfully engages the community and benefits the staff, and as new offerings hit the market, it's important to understand the advantages of breaking away from the status quo.

One example of this is in the realm of digital signage. Houses of worship have been using digital display technologies like projectors for decades, but some might not be familiar with the latest type: laser projectors.

What is a Laser Projector?

Laser projectors are similar to a conventional lamp projector with one big difference: They use a combination of either blue laser diodes with yellow phosphor, or red and blue laser diodes with green phosphor as the light source. At the very high end, RGB laser is also available, which creates an expanded color space, including BT2020. Each projector uses a multitude of laser diodes that offer built-in redundancy to prevent black screens. Their qualitative brightness superiority and potential for energy savings, combined with the significant reduction of maintenance cost, makes it likely that they will eventually replace lamp-based projection systems as the primary projection light source in the future (69% of installation market expected in 2019, [according to Futuresource](#)).

Laser projectors have several key advantages over lamp-based projectors that make them ideal for a house of worship:

- **Longevity:** A typical large-venue projector lamp will last approximately 2,000 to 3,000 hours, whereas a laser projector can last 20,000+ hours (depending on the brightness setting), even within a 24/7 operation.
- **Low Maintenance:** This longevity translates into less required maintenance over the life of the projector. There is no need to ever change a bulb (because there are no bulbs), and filters (if applicable) require less cleaning, because a laser projector runs cooler and does not require a large fan. The filters only need changing every 5,000 to 20,000 hours of operation (depending on the model), and some projectors are completely filter-less.
- **Less Heat:** Laser projectors produce less heat internally and therefore do not require the same amount of cooling, which results in fewer ventilation requirements. Laser projectors also do not produce UV light, which preserves the LCD panel inside.
- **Quiet Operation:** With newly developed fans inside the projectors, they run much quieter than lamp-based models – usually around the volume of a whisper.

- **Consistency:** Laser systems inherently have a longer and steadier brightness that decreases at a much slower pace over time than lamp-based systems. Additionally, colors look as good on the last day of use as they did on the first.
- **Instant On/Off:** There is no need to wait for a lamp to restrike or brighten if the projector is accidentally turned off.
- **Constant Brightness:** Users have the ability to tailor the image to their environment while keeping the brightness consistent for thousands of hours.

Considerations Before Purchasing

When looking to invest in a laser projector, be sure to take into account:

Ambient light: There is a type of projector for any lighting condition, from the dimmest spaces to the brightest outdoor environments, but if a lot of light will be directly hitting the screen during viewing times, it is important to invest in a higher brightness model.

Structure: Ensure that projectors can be safely mounted, and that the structure of the building can support the desired size and weight without needing additional construction.

Projector size: While sometimes laser projectors can be heavier and bulkier than their lamp-based counterparts, that is not the case across the board. Some laser projectors are just under 20 pounds, making them ideal for tight quarters or in older, historical structures where remodeling or new construction is not an option.

Placement: A facility installing a projector must also consider the "throw" distance, or the distance from the projector to the projection surface, to ensure content will be viewable. Sometimes issues with projector placement can be solved using a short throw or long throw lens to increase or decrease image size.

Cost: While the upfront cost of laser projectors may seem a little higher than lamp-based projectors, it's important to think in terms of total cost of ownership. Laser projectors need less maintenance, use less energy, do not require lamp replacement and last longer – meaning that a laser option is often significantly less than a lamp-based projector over their respective lifetimes.

There is another way to think about cost: While cutting-edge technologies like laser projectors in a house of worship will not yield the same kind of monetary return on investment that a retail store would get from digital advertising signage, for example, they can have a more significant, intangible effect. Attendees will see the investment the facility has made to enhance their enjoyment of and participation in services, helping them feel more comfortable and welcome – and keep them coming back week after week.

About the author:

Rich McPherson, senior product manager at NEC Display Solutions, has more than 25 years experience in the projection industry. He oversees product roadmaps for projectors, along with sales and marketing.