

Portland Playhouse Renovation

In this case study, we look at what great lighting means for a historic church-turned-community-theater, the Portland Playhouse in Portland, OR. With a unique but increasingly common set of needs, the Playhouse had a complex set of lighting challenges that needed to be overcome. We show how Luxium's unique house-lighting solution helped the Playhouse achieve the lighting results they were looking for.

The Challenge - Brilliant Lighting Beyond the Stage



What defines great lighting in a public venue? Mostly, it's lighting which adapts and enhances or redefines a space to delight the visitors and occupants.

At the Portland Playhouse, a community theater in Portland OR, the challenge was to remodel a church space into a performing arts space while accenting historical architectural features and providing an intimate and enriching experience for actors and patrons.

For the theater lobby that means setting the mood and accenting building architecture to enhance the audience experience. For an art gallery area, it means highlighting works of art and having paintings revealed in their true colors. For a workspace, it's promoting focus without fatigue and adapting to multiple kinds of uses. For the audience space it means creating an immersive experience that improves the show.

Furthermore, lighting requirements change for different activities and throughout the day, as natural light cycles affect our moods and energy levels.

For the Playhouse managers it was important to have lighting that could be used both for the 'house' as well as the stage. For this kind of dynamic house lighting requirement the renovators wanted to install a system with a wide range of lighting capabilities to compliment the shows while also making it easy to transform the space into a place that is beautiful and inviting to the audience during other times.

The Portland Playhouse is also a beautiful & historic building, with a fine curation of local artworks spread throughout the building. For the building and its artwork to look at its best, a balanced and broad-spectrum white light was critical for bringing out the right colors from artworks like paintings, photographs, and tapestries.

With a variety of activities to support and lots of natural lighting in the foyer and hallways, plus stained-glass windows preserved from the



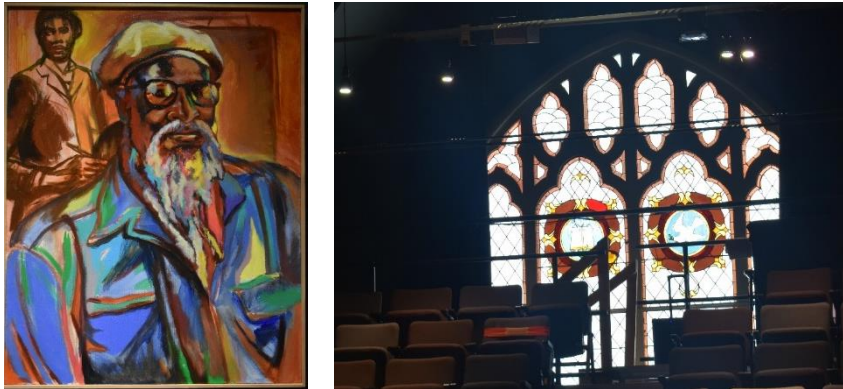
The church-turned-theater, Portland Playhouse.

original church structure, the Playhouse's lighting also needed to be easy to change throughout the day, and with the seasons. Thus the design also includes using a central theater control system for real-time operation and automation with pre-set effects.

Finally, Portland Playhouse is also a community supported theater, making cost of installation and operation a particularly strong player in choosing a solution.

As a result, the need was for a lighting system to give designers & users flexibility, performance, and ease-of-use. Like most performance-oriented venues, budget was also a concern.

The bottom line is that lighting systems need to provide high-quality illumination and be versatile and easy to and operate in order to get the most out of the space. That means flexible lighting configured to meet the illumination needs of each space over time.



Artwork Gallerv & stained-glass Windows at Portland Playhouse.

The Solution

To get the right results the designers wanted to overcome many problems with typical house lighting solutions. Many systems intended for use as houselights have at least a few compromises, such as:

- Color Rendering Index (CRI) is not high enough (often 70, rarely over 80 or 82)
- CCT White light range is not broad enough (in general house lights are factory set, e.g. chosen to be 3000K with no possibility of change)
- Control cannot be over-taken directly. (many prefer DMX control for house-lighting)
- Full gamut adjustment to show saturated or pastel colors is not available
- Hard to make use of commercial fixtures and infrastructure like recessed cans and track systems
- Limited dimming performance usually has visible stepping and no low levels below ~ 10% of full
- Extremely expensive (well north of \$500-\$700 per fixture, plus high installation costs).

Given the limitations of other lighting systems, the Portland Playhouse chose to work with Luxium Lighting after discovering that Luxium's house-lighting system would do the job, with features simply not

available in other lighting systems. With a variety of options, designers can choose from a range of fixture styles and control methods to make a solution that works best.

With Luxium’s consultation and Portland area Lighting Designer, Daniel Meeker, the Playhouse chose a solution that could be easily installed, was super flexible, and would meet the price-point and performance needs of the venue.

During the initial evaluation of the lights from Luxium, Daniel Meeker - Lighting Designer, commented; *“I’m impressed with how easy it is to adjust each light to the right beam angle with diffuser sheets and how well the lights dim down to zero with no flicker. I especially like the ability to quickly set the DMX address for each light with a simple DIP switch or the phone app using bluetooth control”*.

Wanting to allow for use of recessed cans, pendants and track lighting fixtures they chose the ZIGI mini-Pars and ZOBO PAR30 lamps made by Luxium. To meet almost any kind of use the lights were specified in a color-adjustable + tunable white CCT configuration, with wireless DMX control, high-resolution dimming and adjustable beam angles.

The house-lighting solution included:

- 16 – ZIGI-ZG20 full-color mini-PAR for track lights
- 32 – ZOBO-Z3 full-color PAR30 retrofit lamps for can fixtures and pendants
- Wireless W-DMX option on all lights
- TRX1 - Wireless W-DMX transmitter (G5 T1 Blackbox)



Figure 1 ZOBO lamps used as downlight pendants



The ZIGI track light, a uniquely small and powerful full-color track light with wireless DMX.

House Lighting Solution





CASE STUDY

The Track lights were used in the main lobby to downlight the space with the ability to focus on key architectural features like stained glass windows. Since all the lights can be controlled over DMX from the main console it's easy to change the mood of the whole place with adjustable colors and smooth dimming down to zero.

The PAR30 lights were used in the theater as house downlight pendants, in the hallway as recessed can-lights, and over the stage as border and cyc lights.

In some productions, the ZOBOs even take on a 'practical' function in the play. In the recent production of *Fences*, one ZOBO became the interior light glimpsed through the kitchen window and another was used for the porch light, redefining what we mean when we say that ZOBOs light up the stage!

The Result

With a diverse set of requirements, and an eye for perfection, it was pretty clear to Portland Playhouse that run-of-the-mill lighting from commercial and theatrical lighting companies would not suffice. And now after being in almost constant use of a year the whole renovation is a big success.

"We are really enjoy the many ways we can use the lights form Luxium." Says Thyra Hartshorn, Production Manager, Stage Manager and Technical Director of Portland Playhouse, "some lights get double duty as houselights or as cue lights between scenes. Others perform as spotlights for artwork on the lobby and can even be security lights if needed. And it's so convenient to have all the lights operated from the main ETC control console with wireless DMX and wall switches from Fleenor"

In the above, we have outlined that a suitable lighting solution for Portland Playhouse is one which must:

1. Adapt to lighting needs throughout the seasons
2. Provide adjustable saturated colors and high-CRI whites over a range of CCTs
3. Integrate well with interior design and has a consistent look throughout the building.
4. Be Easy to install into new and existing infrastructure without the need to run control wires.
5. Is configurable with DMX512 control system to create effects that engage the theater audience as an extension of the stage lighting.



Zobo in recessed cans for spotlighting artwork

Portland Playhouse now has an integrated house-lighting system that compliments the historic building and enables many creative uses for this community theater space. The high output of the lights – with the industry’s leading efficacy of over 70-lumens per watt – meant that a relatively small number of these lights was enough to effectively illuminate roughly 2500 square feet of main floor-space.

Furthermore, the uniform beam shapes with selectable diffusion and full-color capability means that the entire facility could be color-washed any time a different theme is desired. The art, stained glass, and interior woodwork can now dazzle guests with the help of very-high CRI whites (95+ CRI, 90+ R9), leading to a museum-grade look throughout the facility.

Compared to typical commercial lighting applications, the Portland Playhouse had a more demanding set of needs. However, among its peers and within the archtainment sub-category, the level of performance, usability, and flexibility they required is very common, if not ubiquitous.

For spaces that are looking to deliver the most value to their guests – whether through color-wash effects to match the occasion, high-CRI whites to illuminate artworks and details, or CCT ranges to span the seasonal and daily lighting changes – a system with full-color luminaires and highly-integrated controls is an essential piece of the total solution.



ZIGI mini-PAR lights installed as track lights

Reach out to Luxium Lighting if you are looking for user-friendly, cost-effective house lighting systems with adjustable-colors and high-quality whites from warm to cool with smooth full-range dimming to redefine your venue. Our lighting solutions are an excellent choice for retrofitting theaters, churches, hotels, sores and restaurants – we look forward to your inquiry.

For more information about Luxium:

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