



CASE STUDY

LIGHTING THE WAY FOR OEMS



WHY DO MAJOR OEMs WORK WITH AMERICAN BRIGHT FOR LED INTEGRATION?

In this case, great engineering technical support and clear consistent communication through a long and winding path of product development.

INTRODUCTION

The most commonplace example of the transformation that can come from automation is the self-service point-of-sale (POS) checkout, where all the tasks of a retail cashier have been replaced with electronic human-to-machine interfaces (HMI).

An international manufacturer of self-service kiosks had a long legacy of providing reliable electronic systems for retailers, but now faced new challenges in develop-

ing complex hardware products that stayed on the cutting edge with slimmer profiles and forward-leaning aesthetics.

For their newest line of self-service POS stations, the company enlisted American Bright not just as a supplier of high-quality LED components, integrated lighting solutions and design services, but also for its value-added engineering guidance.





THE GOALS

Self-checkout requires the retail customer to immediately understand how to engage with the machine, whether for scanning merchandise or conducting payment transactions. For this, indication and illumination from Light Emitting Diode (LED) technology provide important user cues. Lighting effects also make up an essential part of the product’s aesthetic presentation and sales appeal.

In such a large product development project, the criteria for technical decisions can be complex. Lighting might have a different set of considerations from the hardware team looking to optimize for electronic per-

formance, durability, and accessibility, from the software team tasked with programming the discrete addressable components, and from the designers of user experience who scrutinize the impact of color, intensity, and machine response.

As such, the lighting solution in terms of components and configuration can be a moving target. More questions arise given that several engineering options exist in each case. American Bright’s in-house LED specialists listened to the diversity of client concerns and provided several options and samples to evaluate.



CHALLENGES AND SOLUTIONS

At the beginning of the client project, it was thought that most of the self-service kiosk lighting could be delivered through American Bright's standard product offering of [light strips and rope lights](#). However, over the course of development a new more customizable approach to lighting requirements emerged. The debate toggled back and forth during a two-year development path delayed by the Covid-19 pandemic.

The original course was to utilize the standard RGB+W (red-green-blue+ white) LEDs in the light strip. The addition of a white LED gives purer white light for brighter illumination.

Project managers began to consider the advantages of a newer technology — [RGB+W with built-in IC](#), which included a full spectrum of color options for status indications, alerts, and user interactions. The IC allows for independent control of each LED in the strip for more precise color mixing and sequencing.

[Using addressable LED light strips](#) gave the client a degree of strategic advantage. It could incorporate the same hardware in the lower-end implementations to support backwards and forwards compatibility and establish an easy-upgrade path for future changes that could support additional colors and behaviors.

After several design changes over the course of the development, the customer decided to use an RGB+IC addressable LED light strip along with the addition of a connector on the end of the wires.

American Bright understood the fluid nature of complex OEM projects and provided physical samples of both approaches to evaluate during prototyping. American Bright also flew its applications engineer and director of sales to the client's headquarters to explain the implications of each alternative to the engineering teams.

BUSINESS SUCCESS

At the end of the successful kiosk project, the client reported that American Bright had provided “the best encapsulation and finished product of all our other suppliers.”

American Bright experts made sure they understood the wider objectives of the client and kept in close contact throughout the process. When customers choose ABOC for LED components, modules, light strips and rope lights, custom solutions, assembly, and testing, they receive fast and comprehensive response to de-

sign questions from an organization that prides itself on great customer service.

With its decades of experience in LED engineering and knowledge of the latest trends in the technology, American Bright’s collaboration helps clients find the right lighting solution to meet their lighting requirements — even if that solution changes over time. Make American Bright your first choice for creative, cost-effective, and high-tech lighting designs.



