

# HURRY BACK!

Walt Disney Imagineering continues to reanimate haunted attractions

By Craig Causer

As each October approaches, there's a proliferation of haunted attractions designed to scare the bejesus out of willing visitors. "Get out!" is often the unwelcoming operative term in such environments, followed by visitors' screaming and scrambling out of danger. But for more than 55 years, one iteration of the haunted house has thrived with a more welcoming approach—Disney's Haunted Mansion. Created to meld elements of apprehension, spookiness, humor and whimsy, Disneyland's Haunted Mansion and Walt Disney World's The Haunted Mansion have shown that, crafted carefully, horror can be hospitable.

The original Haunted Mansion, which opened in Anaheim, CA, in August 1969, features Greek Revival architecture, which is easily identifiable by its columns, portico, decorated cornice and balconies

Photos: ©Disney



with iron railings. In October 1971, The Haunted Mansion was unveiled in Orlando, FL, to resemble a Dutch Gothic style reminiscent of lower Hudson Valley, NY, to fit the Colonial America setting of the Liberty Square area of the park. Exterior illumination techniques vary between the two due to both the divergent architecture and their locations in each park.

“The exterior façade of California’s Haunted Mansion attraction is illuminated in a considerably more subtle manner than Florida’s,” explained Kent Sheranian, manager, Show Lighting Design, at Walt Disney Imagineering (WDI). “Because the Disneyland attraction is located so closely to other facilities with a ‘real-world’ story, like the Tiana’s Palace and Harbour Galley restaurants, a more realistic feel is warranted to not create a visual dissonance within the neighborhood.”

At Disneyland, the illumination of the façade is accomplished by using colored glass gobos in LED-based, outdoor-rated, profile spotlights, which are placed on a tall pole hidden within the canopy of a large tree near the attraction entrance, creating a “moonlight through the trees” feel on the façade. The lower levels of the façade are illuminated using the ambient light provided by decorative light fixtures that also illuminate queue areas. WDI admits that it is not a very complicated or high-tech design choice, but often the simplest solutions provide the best results.

“The Haunted Mansion at Magic Kingdom... has a foreboding presence, which can be seen from different vantage points throughout Liberty Square,” said WDI’s Senior Show Lighting Designer Joshua Iscovich. “We take advantage of that at night by employing theatrical lighting techniques to help tell our story. We use narrow-lensed, controllable, LED floodlights to accent the various pieces of ornamentation high up on the façade. We employ wider-lensed LED flood units [to emulate] washes of gentle moonlight from specific directions and angles. Physically attached to the façade, we rely on large decorative fixtures and practical light in windows [and] use warmer color temperatures in those fixtures to bring contrast to the architecture. The balance between the warmer practical and more-saturated theatrical systems of light keeps the façade grounded in the 17<sup>th</sup> century world of Liberty Square, but with hints of the experience that awaits our guests within.”

To get to the bowels of both mansions, guests navigate through a queue, which hints that the



1. Exterior illumination of Walt Disney World’s The Haunted Mansion.

2. Imagineers maintain a “low-tech” character and attitude in the use of fixtures and how they are programmed.

3. Pepper’s Ghost: a classic parlor trick that employs light and reflection to bring the ballroom to life.

4. Each scene has several layers of lighting, revealing details in a specific sequence to enhance storytelling.

experience is more than your run-of-the-mill “jump-scare” attraction. “Perhaps, The Haunted Mansion’s best magic trick is how it manages to blend humor and apprehension through the entire experience,” noted Iscovich. It employs gothic-style decorative fixtures through the queue to help reinforce the time and place in which the story is set. Colored glass is used in queue fixtures to give the light a heavier mood than is witnessed outside the mansion grounds. The goal is to provide illumination that is stately and somber—but not scary or unwelcoming—for guests of all ages.

At Disneyland, the more-obvious mix of humor and apprehension doesn’t occur until guests have entered the interior of the attraction, where odd things begin to appear. As a well-maintained mansion rather than the more-traditional dilapidated haunted house, the exterior of the Disneyland attraction plays things considerably more conventionally than its interior, and the style of the lighting reflects “real-world” character. While there are humorous nods found in the sculptural elements in the queue, such as many pun-filled epitaphs on tombstones, the accent lighting for props in the queue area stays within a traditional “moonlight” story palette, Sheranian said, but with a color choice that shifts a bit more green than might normally be used—to make the area feel a just a little “off”—with a slightly creepy edge to it.





At the time of this issue of *LD+A*'s publication, Haunted Mansion in California was in the process of completing work on an expanded queue and grounds with enhanced theming. Storytelling using decorative "themed" lighting fixtures is the primary way that WDI incorporates unique lighting in the new outdoor queue.

"We have selected many fixtures that feel generally normal in their form but may have small oddities included in them like faces in their castings, figurines incorporated into their design or odd forms in their shapes," explained Sheranian. "In one of the new garden areas, we have designed a fixture that references Madame Leota's crystal ball. Each area of the new queue has a unique story, and the lighting fixture selection reflects those stories, from lampposts with bas-relief flowers cast into them in the Magnolia Park area outside of the attraction walls to the gothic-style fixtures within the new mausoleum area."

As "foolish mortals" are welcomed into the mansion's foyer by the voice of the Ghost Host, the attraction begins to unleash classic parlor tricks, many of which have been mystifying people before

The illumination of Madame Leota's floating head is a balancing act—too bright and suspension wires are revealed, too dim and the elements are hidden.

the idea of a theme park was ever conceived. Illuminating ghastly portraits, floating objects and dancing apparitions involves a control system, with dimmer racks and a lighting controller running the interior lighting, as well as a processor integrated into Disney's larger park-wide lighting control system running the exterior lighting. Due to the age of the attraction and its classic nature, the level of complication regarding light fixture and controls selection is not very high. "We want to avoid making the show feel high-tech, and so, while some of the technology we use may be very current, we try to maintain a very 'low-tech' character and attitude in the way we use the fixtures and how they are programmed," Sheranian said. WDI employs line-dimmable, LED-based fixtures with color filters—as opposed to data-driven units—since so much of the lighting in the attraction remains at set levels throughout the operating day. With older Disney attractions like Haunted Mansion, there is a simplicity to the character of the lighting, and introducing a more modern character to the lighting design can take the focus away from classic scenic elements and place it onto the lighting, so designers



are careful in their technology upgrades to try to maintain the initial, simple look and character of the original lighting.

Beneath this "simple" visual character, however, lies efficient technology. Advancements in LED UV technology during the last decade have been installed throughout the attraction, providing a considerably longer-lasting UV output than the previous 400-W ceramic metal halide fixtures. Another advantage is that the fixtures generate almost no heat, Iscovich added, which provides a more consistent show for guests, as well as being more sustainable for Disney's maintenance teams. The lighting in Haunted Mansion at Disneyland was upgraded from halogen- or metal halide-based fixtures to LED-based sources in 2020, and the old control system that was built up over the years out of many eras of control—from autotransformer dimmer banks to Disney-built flicker dimmers to household rotary switch-type dimmers—was changed to a consolidated dimming system.

Whether it's the Anaheim iteration or its sister site in Orlando, the mansions play with the time-tested haunted attraction tradition of balancing

Front lights on changing portraits must be placed at the right levels and timed perfectly for successful scrim-like effects.

darkness with just the right amount of illumination. Disney directs the guests' view by highlighting important elements while keeping dark the areas they don't want them to see. The goal is to maintain a feeling of mystery, which diminished light levels help achieve by making the edges of scenes fall off into shadow.

"With a heavy visual effects-laden attraction like Haunted Mansion, we need guests' eyes to adjust fairly quickly to low-level illumination, and so we reduce the levels in the attraction to minimally safe levels as soon as guests enter the attraction proper," said Sheranian. "The time spent in the Stretching Room and Portrait Hallway scenes allows their eyes to adjust fully by the time they enter the ride vehicles and be able to perceive the show in the appropriate low-level conditions."

Some of Iscovich's favorite things about The Haunted Mansion are the little details that allow a guest's imagination to fill in its own plot points about the show. "To help coerce your imagination, we keep a rhythm of areas that are illuminated and those we let fall into darkness," he revealed. "We might occasionally program a flicker from a light





fixture to momentarily reveal an object. A great example is how we wash some walls with light, allowing you to clearly see eyes and faces in the wallpaper. A moment later, in the darkness, you may momentarily catch a glimpse of a chair with a face in it. The fun is asking yourself, ‘Did I just see that?’”

Like magicians, Imagineers never want to reveal their tricks. One of the biggest challenges in creating Haunted Mansion attractions is addressing different elements in a scene. The balance between the foreground scenic elements and the “ghost” elements is critical in many of the scenes with special effects: if the foreground is too bright, it diminishes the visibility of the “ghosts,” but if it is too dim, you begin to see the mechanics of the “ghost” figures. In the Endless Hallway and Séance Circle scenes, if the light on the floating candelabra or Madame Leota’s floating ball is too bright, you begin to see the suspension wires, but if the light is too dim you can’t see the elements well enough. The front light on the changing portraits in both the Portrait Gallery in the queue and the Attic scene must be at just the right level and timed perfectly in their programming for the scrim-like effect to work properly.

“We want you to see the show and only the show,” Iscovich said. “In the case of the lighting design, that means only seeing our practical fixtures

Exterior illumination of Disneyland Paris’ Phantom Manor.

which play a role in the story. It was important to the original team that all other sources remain hidden from view, and we honor that to this day. That presents many unique challenges. For anything overhead, we light in direction of travel, so the guests and the Doom Buggies are always facing away from the light source. We try to leverage floor and corner pocket positions as much as possible. We hide light fixtures in all sorts of props and fun places. In fact, we work closely with our props team in our design phases so they can design custom props to hide our light fixtures.”

The popularity of the Haunted Mansions at the domestic parks eventually spawned a new vision in Paris: Phantom Manor. Launched in 1992, several scenes from Haunted Mansion were reimagined to create a darker theme for the European crowd. Phantom Manor is set in the Old West and focuses on a doomed wedding and a frightening evil spirit, the Phantom. According to Ezra Hommel, principal, Show Lighting Design at WDI Paris, Haunted Mansion is very abstract compared to Phantom Manor, which is more story driven. During the attraction’s refurbishment in 2019, WDI pushed the lighting design toward a more-realistic cinematic direction. Specific color palettes, gobo patterns and intensity settings created a proper balance



between what is physically shown within the scene and where the imagination from guests takes over.

Cultural differences also influenced the lighting design. Within the theme of Phantom Manor, it was important to understand the relationship between light and human interpretation. The attraction includes a more dramatic, sinister and scary setting with major influences and inspiration coming from European stories such as *The Phantom of the Opera* and many gothic legends. For Phantom Manor, the choice of color, direction and shadow has a profound effect on perception, and it triggers more specific feelings elicited from the tales that are unique to the region.

“One of the tasks for a lighting designer is to study the light in several environments and reflect that in the lighting design to evoke an emotional response for the viewer,” Hommel explained. “Light, shadows and darkness contribute to setting the space to convince the viewer they are there. Light is responsible for when or what you want the viewer to see and how they feel about it. Each scene has several layers of lighting, revealing the scenery and characters in a specific sequence to enhance the storytelling in the attraction. Every layer is built with its own lighting equipment type to achieve the desired lighting purpose for the specific setting within the interior Victorian-style manor, exterior

Left: Illumination in the Paris attraction helped establish a more dramatic and sinister setting.

Right: Exterior illumination of Hong Kong Disneyland’s Mystic Manor.



graveyard, catacomb and canyon scenes.”

In parts of Asia, including China, spirits are revered and not recognized as being spooky, silly or irreverent as in American culture. As a result, when Mystic Manor at Hong Kong Disneyland opened in 2013, it bypassed the undead and focused on a supernatural journey.

Mystic Manor is the home of Lord Henry Mystic, eccentric adventurer, explorer and collector of art and oddities, and it has become regarded as one of the foremost private museums in the world. During the museum tour, Albert, a young monkey and Lord Mystic’s companion, opens a newly arrived artifact, a carved music box reputed to possess strange powers. To Albert’s amazement, an enchanting tune flows from the open box, along with a magical and mystical energy. Whatever this energy touches—artifact, statue, painting—the object springs to life. Albert chases the drifting musical dust from room to room, getting deeper and deeper into trouble and guests follow Albert, sharing his adventure.

The lighting design of Mystic Manor seeks to create the ambience of a private museum as well as the mysterious and mystical ambience of its various rooms. The lighting design, along with the music, builds upon the energy and tension as the ribbon continues to wreak havoc in the museum.





“Haunted Mansions are primarily lit with black light to create the darker and spookier ambience more commonly associated with haunted places,” said Jo Phoa, director, Creative Design at WDI Hong Kong. “Mystic Manor is a primarily white-light attraction, as it seeks not to create a spooky ambience, but the story and ambience of a stately private manor and museum, in which you are on a mysterious and mystical journey. There are common lighting techniques that create an air of spookiness, [such as] low light levels, strobe lights, candles and candelabras, red light. Other common lighting colors that are utilized primarily in the Western culture, and not common to Asian cultures, are green, purple, blue and white. The ambience is typically more enhanced when paired with spooky music and scenic elements.”

**W**hile the varying mansion and manor attractions were constructed with an eye on cultural awareness, one common throughline is energy efficiency. In Phantom Manor, nearly all lighting fixtures

To provide a mysterious and mystical journey, Mystic Manor is a primarily white-light attraction.

contain an LED source. “In this specific dark setting, it was important that design was always faithful to the collaborators and storytelling, which was tough to accomplish with LED technology,” recalled Hommel. “We wanted to realize a similar look and feel as tungsten-based lighting fixtures. It required a lot of testing and adjustments to find ways to mimic the characteristics of tungsten-driven light sources into an LED-based design. The balance of the show isn’t very bright; color behavior, dimming and the lighting backbone system were some of the exciting and fun design challenges within this wonderful project.”

Energy-efficiency also remains at the forefront of the Disneyland Resort as it works toward being carbon-neutral by 2030. In 2020, all the show lighting throughout the entire Haunted Mansion attraction was replaced with LED-based lighting sources, and Imagineers have completed or are working on similar efforts in all the other attractions and facilities throughout Disneyland. At the same time, particularly in Disney’s classic attractions such as Haunted Mansion or Pirates of the Caribbean, WDI is careful to use lighting fixtures with very similar characteristics to the original units to maintain the “classic” look of the attraction.

“LED technology has advanced to a point where it has become a rare instance where we cannot find an acceptable LED-based replacement fixture or lamp, though in some instances we need to pull new lighting control wiring to fixture locations in order to control them properly if they need to dim up from zero live in front of guests,” explained Sheranian. “Haunted Mansion does have some fixtures with this type of requirement, though the majority of the lighting in the attraction does simply remain at static levels. Lamps, especially miniature lamps used in smaller candle-type light fixtures, can still sometimes be tricky, but even there we have usually been able to find acceptable LED-based options.”

Effective illumination has been a linchpin to the decades-long success of these Disney attractions across the world, so much so that even the spirits have taken notice. Take it from the Ghost Host himself.

“And now, a carriage approaches to take you into the boundless realm of the supernatural. Take your loved ones by the hand, please, and kindly watch your step. Oh yes, and no flash pictures, please. We spirits are frightfully sensitive to bright lights.” ©