

Build an Ocean on the Land by Lighting Control

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A case study of the application of Lite-Puter Architectural Lighting Control System in National Museum of Marine Biology and Aquarium in Kenting, Taiwan



National Museum of Marine Biology and Aquarium in Kenting, Taiwan (NMMBA)

Kenting National Park

Kenting National Park, established in Jan.1st, 1984, is the first national park in Taiwan. It is located on the Hengchun Peninsula with three sides surrounded by the sea (the Pacific Ocean on the east, the Taiwan Strait on the west and the Bashi Channel on the south), embracing both land and maritime environments. The park is well-known for its unique landscape, including uplifted coral reefs, oceanic natural resources, natural monsoon forests and coastal tropical rainforest. Because of the diversity of climate and topography, this area incubates a wide variety of botanic species. Each winter, a lot of migratory birds from the north stay here. Besides, the colorful coral in the deep sea adds an excellent view for the National Park.

National Museum of Marine Biology and Aquarium

The National Museum of Marine Biology and Aquarium is located in the Kenting National Park. The exhibition can be divided into two parts. The first one models high mountain stream, middle river, the water's edge, reservoir, South Bay reef and the Pacific Ocean, embodying the special waters of Taiwan. The most absorbing demonstration is the 5 meters high and 16 meters wide view window in the Pacific Water Square, displaying the vastness of the ocean. The second exhibition room, the Coral Kingdom Pavilion, focuses on the coral ecology in the South China Sea, introducing different corals from shallow sea to deep sea. The most unique part here is an underwater tunnel tour of 80 meters long. People can enjoy the beautiful coral world in the tunnel without diving into the sea.

Conditions for the Exhibition System

Lighting control equipment is the core of this exhibition system. It has to meet the requirements of public lighting, display lighting, interior artistic lighting, and the sound/lighting synchronization of multimedia. The major lighting control system for NMMBA is provided by Lite-Puter in Taipei, Taiwan.



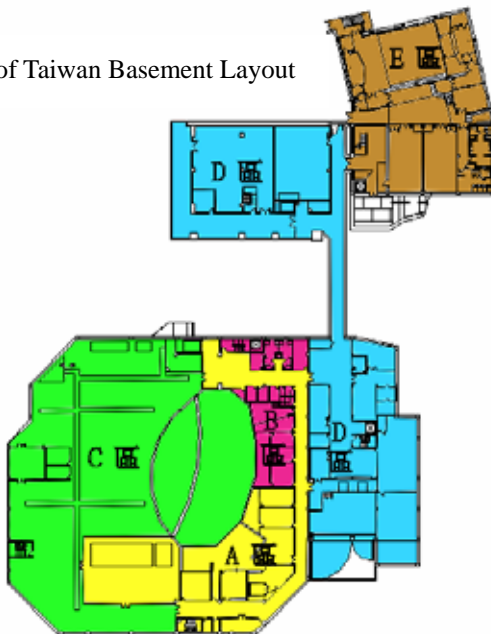
The two main sections in the museum are the Waters of Taiwan and the Coral Kingdom Pavilion. The requirements are as follows:

The Waters of Taiwan: includes high mountain stream, middle river, the water's edge, reservoir, South Bay reef, Pacific Ocean and so on. Total 19 zones, 516 channels.

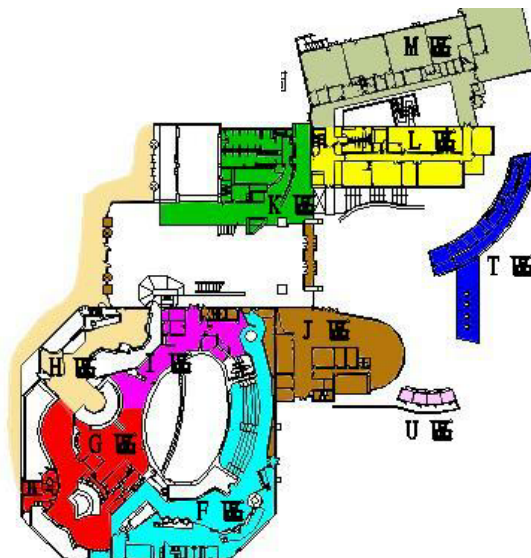
The Coral Kingdom Pavilion: Total 14 zones, 271 channels.

The Waters of the World focuses on South Pole waters including: penguin section, seabird section, seal section, yellowfin tuna section and etc. Total 4 zones, 60 channels.

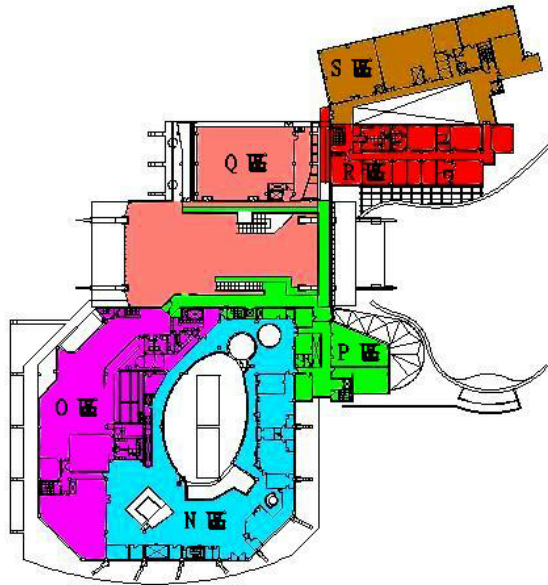
The Waters of Taiwan Basement Layout



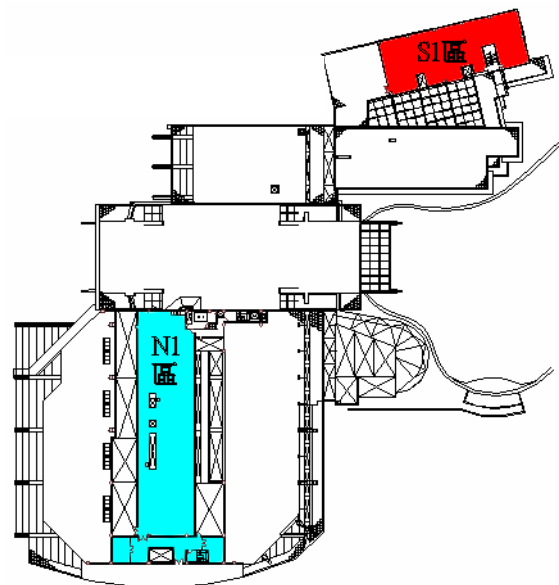
The Waters of Taiwan First Floor Layout



The Waters of Taiwan 2nd Floor Layout

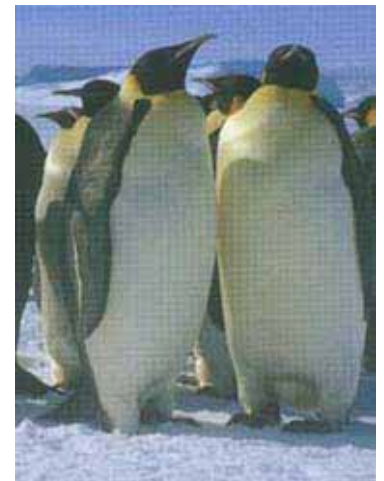


The Waters of Taiwan 3rd Floor Layout



There are many zones and channels in the museum. For the purpose of maintaining different ecology, the requirements for lighting control in the museum are quite demanding. In order to take good care of these protected animals, the interior designer chooses Lite-Puter's lighting control system to simulate the lighting environment of different waters.

The penguin section is the most popular area in NMMBA. The penguins need the environment of South Pole. Not only the temperature has to be kept under -5 constantly all of the year, but the illumination environment is also vital for keeping penguins' regular biological clock. For example, Lite-Puter simulates the illumination with blue light for the daytime and amber light for the dawn. Moreover, the lighting schedule has to vary every day. In this way, penguin's physiological status can be balanced and satisfied.



Total Solution for the Exhibition System— Lite-Puter Architectural Lighting Control System

Rich and colorful lighting effects

Various lighting effects and lighting control methods can make the ecology in the museum full of various artistic achievements. Colorful lighting grants the museum vitality and makes the exhibition more vivid, more artistic and more enjoyable to tourists. According to different time, usage and effects, Lite-Puter's lighting control system enables the corresponding scenes and achieves artistic quality.





Easy maintenance

Lite-puter lighting control system is made of modular devices. The system can control the lighting automatically and also allow manual controls. The parameters for preset lighting scenes were recorded in the control equipments in digital form. It is very convenient to set and change those data. Lite-puter's control system makes the maintenance and management of the lighting in the museum simpler.

Light source protection

Make the lamps live longer can not only save a lot of money, but also reduce a lot of labor to change lamps. It can cut the operation cost in lighting system and maintain it more easily. Some lighting sources, like heat radiation light sources or gas discharge lamps, are easy to be damaged by instable electric voltage. Lite-puter lighting control system can help to stabilize the voltage effectively and prolong the life of light sources.

Energy saving

Through the preset functions of lighting control system, users can set different brightness and manage the lighting environment as a whole, which can save energy and electricity efficiently. The system can automatically execute the desired brightness at a specific point of time or in a specific period, ensuring that the least lighting energy is used to reach the required lighting effect. The electricity saving can be 30% to 40%.

Conclusion

Lighting is the essence to build the atmosphere. The atmosphere is the essence of mood. Mood is the essence for life's living. The lighting control systems used by Kending National Museum of Marine Biology & Aquarium have brought the lighting control technology into full play. Lite-puter has integrated life and technology successfully to achieve an ideal environment for the protected ecology.

Lite-puter can light on your heart!