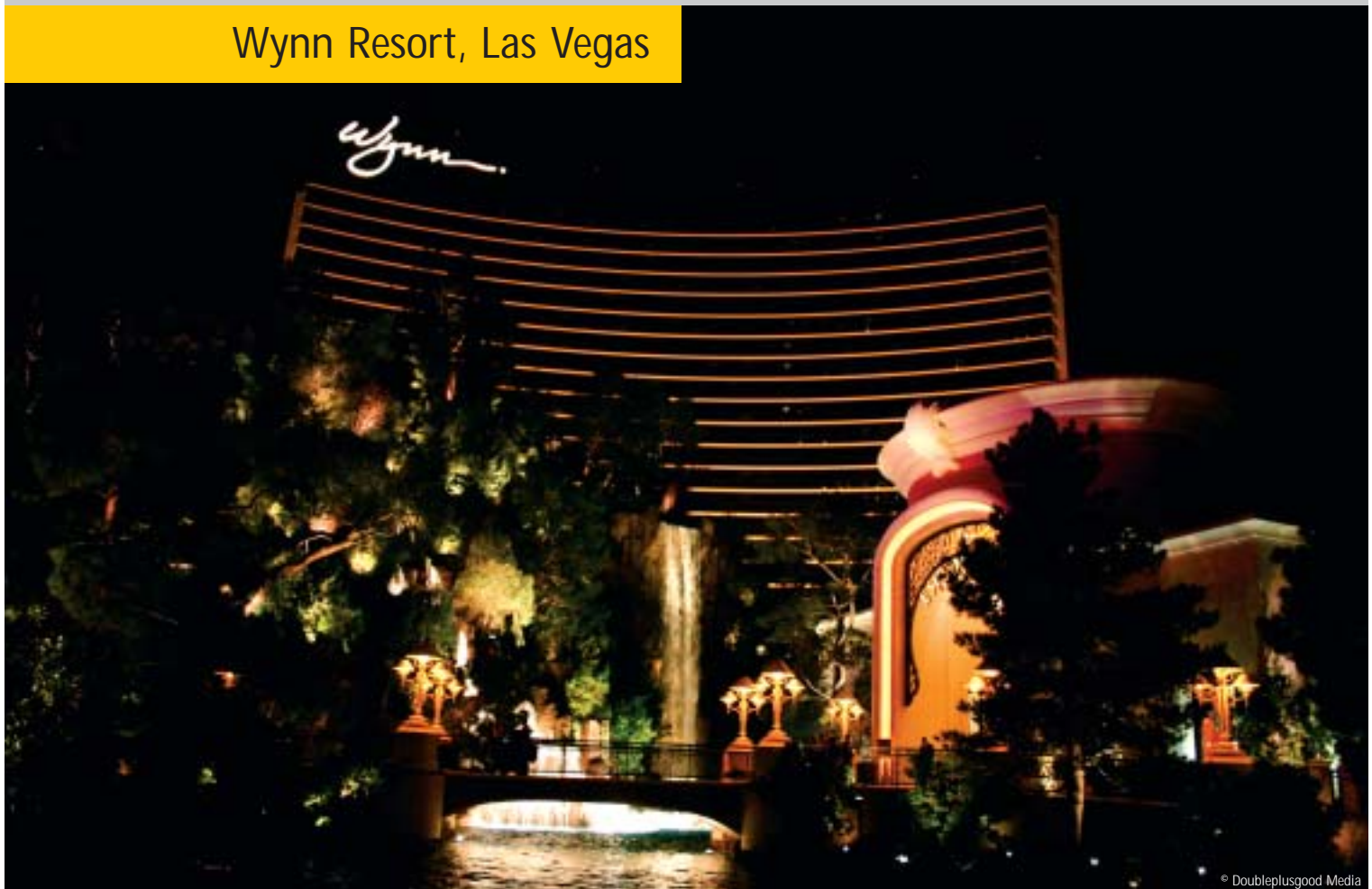


grandMA

Case Study

Wynn Resort, Las Vegas



■ grandMA – total control

Wynn Resort

Wynn Resort Hotel & Casino, Las Vegas

The first choice to control multi-media shows at the Wynn Resort hotel and casino in Las Vegas: only grandMA consoles can meet all network and performance requirements

With building costs of approx. 2,7 billion dollars, 2,716 rooms, suites and villas, 10.000 m² (108,000 sq feet) for gambling, a height of 156 m (512 feet) and an especially flamboyant interior and exterior design, the Wynn Resort is THE place to be in Las Vegas! Building Mogul Steve Wynn has incorporated a curved front to this magnificent hotel, which is also the setting for the massive and free spectacular shows. The most important performance areas are referred to as the "Lake of Dreams" and the "Club Lake". The MA Lighting grandMA consoles are the only consoles that meet the complex demands of these unique multi-media shows.

The Shows

The "Lake of Dreams" show uses massive lighting and video projections and LED-effects: e.g., on a 5-floor high waterscreen and 4,008 LED fixtures with RGB colour mixing forming a gigantic array in the lake at a depth of 1.2 m. The show also employs scenic elements such as robotic puppets and a giant lady's head that emerges from the lake, as a complement to the virtual images. The lighting system of the "Club Lake" consists of more than 150 moving lights and more than 1,000 conventional luminaries. It is linked with the "Lake of Dreams" installation via the control network. Every day 20 shows take place, each lasting 30 minutes. They are programmed as "Major" and "Minor" shows; SMPTE time code is used for the Major shows and looped sequences are used for the Minor shows.

The Requirements

The lighting control system had to meet the three critical requirements listed below:

1. All discrete shows have to be stored in separate cuelists and then organized in only one show file to avoid the need to reload the file during the evening. Once the shows in the cuelists are signed off and approved they have to be protected against accidental overwriting; and security to prevent live-access for further programming has to be guaranteed.
2. Sufficient memory capacity in RAM as well as support for high speed data transfer on the network.
3. The control system must be able to support different network protocols and output them simultaneously in real time.

The Solution: grandMA consoles fully meet all these demands

1. A grandMA console is able to store 500 timecode shows organized in independent single cue lists. With "User Rights" and "User Profiles", and with the help of the "Lock" function, specific users can be assigned with defined and limited access to the system. This provides a clear distinction between "programming" and "operating" rights.
2. The grandMA consoles come standard with 256 MB of RAM. To control the Wynn's attractions 16 DMX universes are required, so MA's NSPs (Network Signal Processors) were used. NSPs also



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help to increase the system's overall capabilities; within the network each NSP is equivalent to an additional grandMA console, so that the system's processing bandwidth and speed can be increased to easily process the vast data of large shows and output more universes of Ethernet DMX (upto 64!).

3. The grandMA consoles, replay units, NSPs and onPC controls are linked together using 100 MBit Ethernet. To communicate they use the MA-Net protocol that enables the system to output data across all DMX universes synchronous and in real-time without latency. The lighting control desks are integrated in a complex show control system and share different data on diverse protocols; they also have to work with different network protocols (e.g. for dimmers). With the grandMA consoles this can be realized without any problems.

The Equipment

The lighting control system for the "Lake of Dreams" includes two grandMA replay units (one in full tracking back up mode) as well as four NSPs. Similarly, two grandMA replay units and further NSPs are used for the "Club Lake". In both systems you have direct live access via grandMA onPC or grandMA remote control for modifications and adjustments to the show.

The Design & Programming

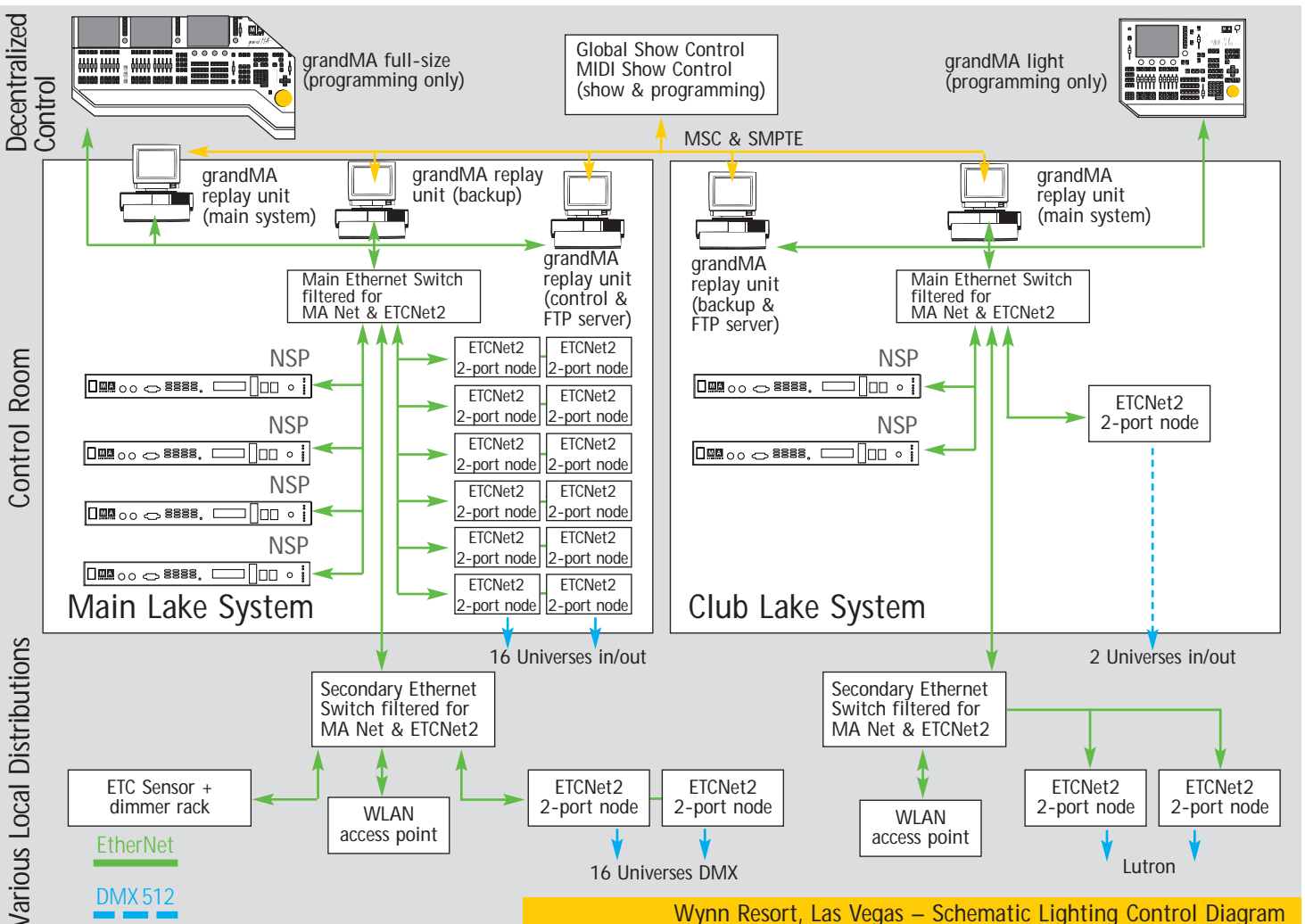
Patrick Woodroffe was the lighting designer for the shows, Patrick Dierson together with Alex Ares (Wynn Resort) were responsible for the programming on one grandMA full-size and one grandMA light. They also used MA "Worlds" that enabled them to work at the same show at the same time, but in different parts of the system. While Patrick Dierson programmed the cues for the moving lights for "The Lake of Dreams" on a grandMA full-size Alex Ares did the cue programming on the grandMA light that triggers the PixelMAD system that in turn controls the LED colour changers in the lake.



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Project team

Lighting Design	Patrick Woodroffe / PWLD
Associate LD	Adam Bassett
Lead Programmer	Patrick Dierson
Asst. programmer / system technician	Alex Ares & Ron Schilling, Wynn Las Vegas
Show Control programmer/operator	Jason Goldenberg, Wynn Las Vegas
Lighting control systems engineer & designer	Paul Franklin for PWLD, Ulrich Kunkel for MA Lighting
Project Manager	Jim Holladay, PRG
project manager	Chris Keitel, Scharff Weisberg
Consoles & technical support	Bob Gordon CEO A.C.T. Lighting & technical support manger
Technical director	Mario Collazo and Joe Cabrera II
Front feature manager	Wyatt DeFreitas, Wynn Design & Development
Front Feature	Danny Murphy, Wynn Las Vegas
Production Manager	Paul Meyers



Company Profile

■ Since its foundation in 1983, MA Lighting has expanded to become one of the internationally leading companies for computer-controlled light consoles, networking components and digital dimming systems. With integrated system solutions and the grandMA product family, international standards were set.

The leading international position of MA Lighting rests on two columns - MA Lighting Technology in Waldbuettelbrunn as the centre for production, research and development and MA Lighting International in Paderborn for marketing, distribution and technical support. Within a global service network, fast customer service and professional sales partners are ready to help users with advice and hands-on support when needed.



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All technical specifications are subject to change without notification.

We do not assume liability for any incorrect information in this case study.