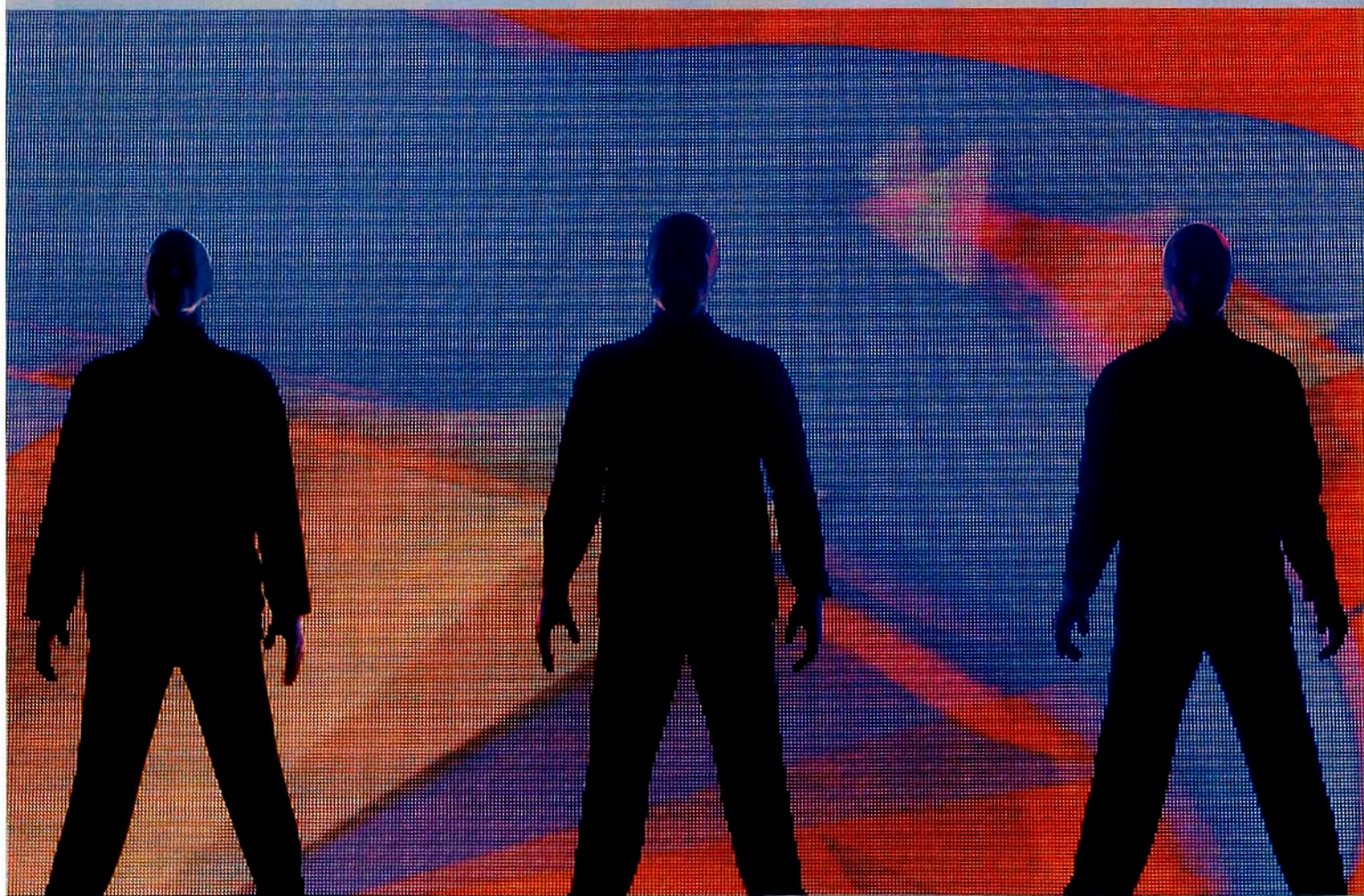# Blue Men Raise the Bar in Vegas

Barco Encore Contributes to Vegas Bluephoria

BY PAUL BERLINER

For the Blue Man Group production, four Encore processors are used, each providing a single high-resolution RGB output (or "destination"). Traditionally, an Encore destination is a direct connection to a projector or an LED wall, but with the Blue Man Group configuration, a "re-entrant" design is used that routes Encore outputs back to the routers themselves, enabling any output to feed any target display.

Photos by Ken Howard © Blue Man Productions, Inc.

Blue Men Raise the Bar

Bluephoria: a primal, offbeat, and completely childish feeling of elation, brought on by three bald men in blue.

On October 10th, 2005, the innovative and creative Blue Man Group (www.blueman.com) opened its spectacular new show at The Venetian in Las Vegas. Using a new 1,760 seat theater built expressly for this show, the staging surpasses all previous Blue Man Group performance venues (including Berlin, Toronto and Chicago) in both complexity and multimedia theatrics.

Positioned stage right and 35 feet in the air is a video control system that switches the show's cameras, background graphics, front and rear projectors, LED walls, video routers and digital disk playback systems—Barco's Encore Presentation System.

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Encore is a format-independent presentation system that enables users to manipulate RGB, SDI, HD and analog video inputs simultaneously and entirely within the digital domain. In addition to widescreen outputs, the system supports multiple "single screen" outputs in both RGB and DVI formats. Operators can scale and transition sources, create keys and special effects, perform keyframe-based moves, and store complete system setups in banks of memory presets. Encore's hardware consists of modular video processors and a controller, of which two models are available: the 64 input LC and the 24 input SC—the model chosen for this show.
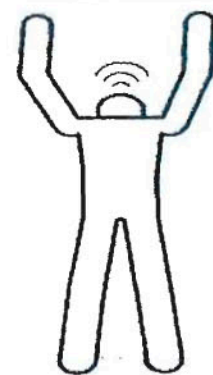
The Daktronics ProStar video display has a viewing area of eight feet high by 15 feet wide with a 10 millimeter (0.39 inches) center-to-center pixel spacing. The rectangular video display is hung in the center of the stage and may be flown up or down from out of sight to stage level.
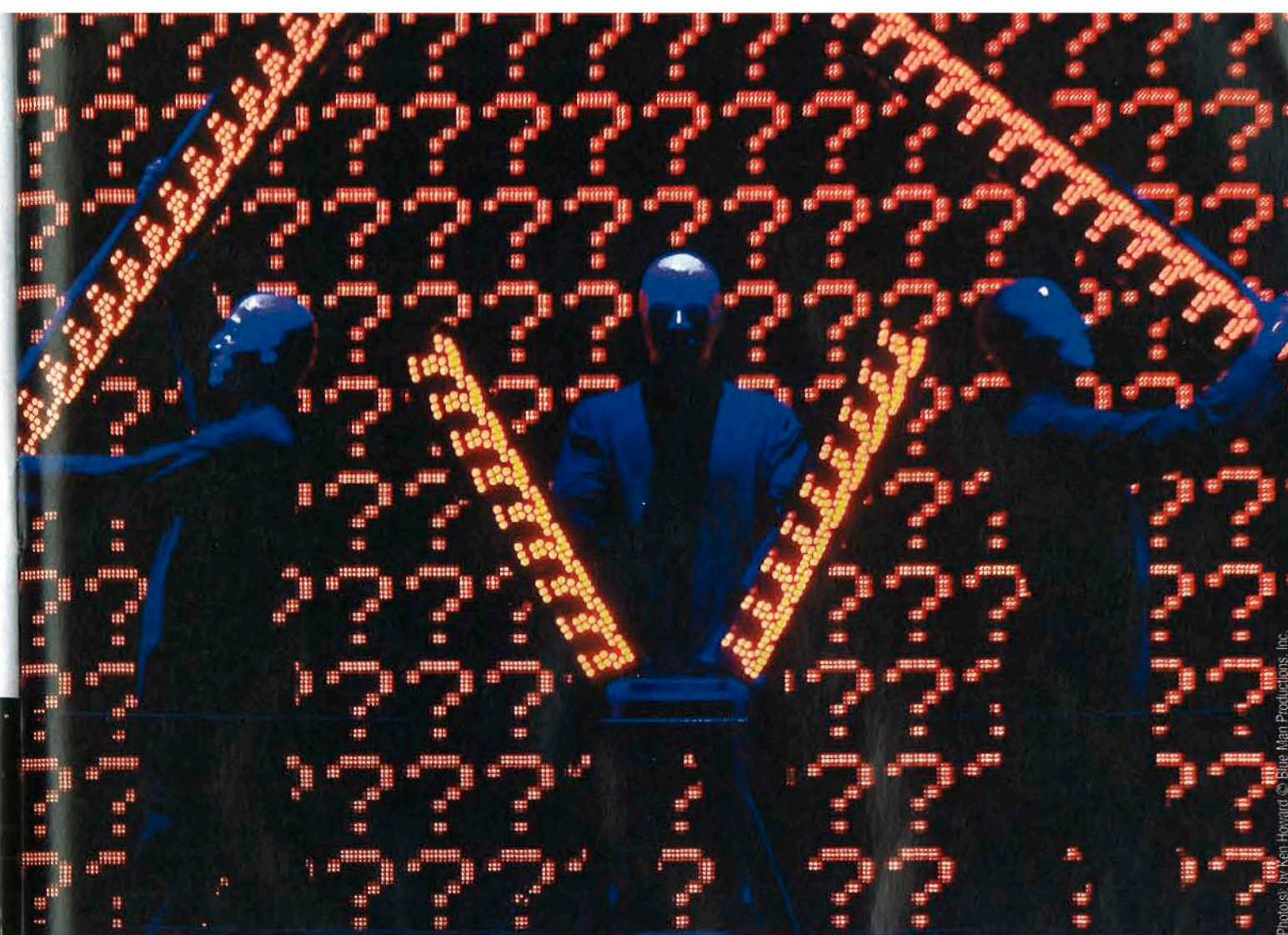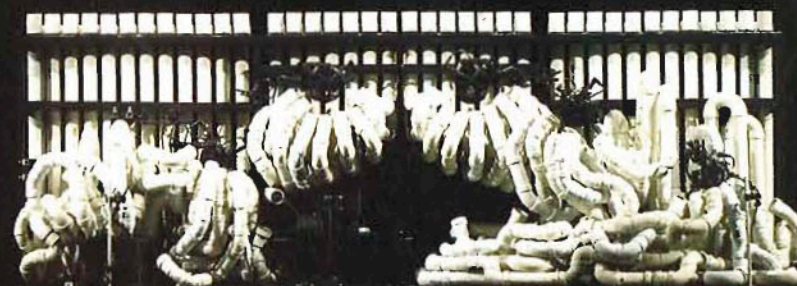
On the Vegas stage, destination displays include three LED walls plus "fly-in" front and rear projection screens. To the left and right of the central LED screen, two "abstract" spiral LED screens are also used. Inputs to the Encore system include robotic cameras, live cameras, high-resolution graphics from Catalyst media servers, and digital playback from Doremi V1 videodisk recorders. Encore also controls the system's analog and digital routers.

'Preset"s The Key

According to show technicians, the key to the success of the show's video support is Encore's "preset" capability, a function that enables users to design an entire "look," store it in a memory register and recall it to preview as required. A single preset has the ability to store PIP size and location, transition rates, moves, source assignments and special effects. The function is similar to a video production switcher's effects memory, but the main difference is that Encore's presets are resolution independent—

seamlessly combining RGB, HD, SD and analog sources. Without presets, a show of this complexity could not be switched in real time.

The sheer number of presets required for this show posed a technical challenge up front. Jon Kiphart, a systems programmer with Electrosonic (www.electrosonic.com) and the Blue Man Group's video programmer estimated that over 200 presets would be required. The issue was resolved when Ryan Pellicano, Barco's design engineer for Encore, customized the software to provide 500 available presets (a significant increase over the SC controller's 64 standard presets).

"This Las Vegas show is our biggest one yet for Blue Man, bigger than the Toronto show," noted Kiphart. "I talked to Ryan early on in the process, and he knew that it could only be accomplished with additional presets." With a new pool of 500 presets, Jon ultimately used just over 150 for the entire production.

Taking the show's event control to a higher level, all video and graphic elements are run by Barco Events Manager—including the Encore, the Doremi and Catalyst servers, and even the projector shutters. Barco Events Manager is a software application designed for frame accurate device synchronization, and its specialty is the ability to create customizable GUIs that can adapt to any requirement.

With the Blue Man Group production, the use of Barco Events Manager is quite unique. Because one operator runs everything, and because the show is live (and not canned), the operator essentially "plays" the system like a musical instrument, taking live cues in the same way that band members take cues from the Blue Men. Using custom GUIs for each production number, the operator triggers entire sequences of video events - with a single button press.

Scharff Weisberg Inc. (www.swinyc.com) provided systems integration for the Last Vegas Blue Man Group production, and one of their primary concerns was equipment redundancy, particularly when dealing with a

Blue Men Raise the Bar

permanent concert environment such as this. If a surface is projected, there are two projectors available. If a playback device is used (such as the Doremi V1), backups are available.

"I designed a special DDR failure mode using Barco Events Manager software," said Kiphart. "We're really only using five of the six available DDRs. If a failure occurs in a given DDR, pushing a special failover button on the GUI triggers the emergency Encore preset, and DDR number six automatically replaces the failed unit."

Additionally, because of the Encore

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Inputs to the Encore system include robotic cameras, live cameras, high-resolution graphics and digital playback from videodisk recorders.

system's modularity, the operator is able to keep a single Encore processor available as a hot-swappable backup at all times. This feature eliminated the need to purchase an entire second Encore system.

Demanding An Encore

John Ackerman, VP of systems integra-

tion for Scharff Weisberg, discussed several reasons why the Encore Presentation System was selected for the Blue Man Group production. "This is the third design we've created for Blue Man," noted Ackerman, "and in each previous production we used baseband video mixing to drive the projectors. Content consisted mainly of video rolls and cameras, but as our shows became more complex, we found ourselves tying multiple video production switchers together. Once we decided to fully integrate the Catalyst servers, that introduced high-resolution sources and the need to integrate all formats under one roof."

"With Encore, we can manage both SDI and high-resolution sources, and we also have discreet mixing engines available in a single console environment. We're able to address multiple video paths from one control surface, and that

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Blue Men Raise the Bar

made a lot of sense."

"The Encore was an elegant solution," Jon Kiphart added. "In one unit, it provided the switching, the scaling and the ability to move images across the screen easily. Granted, you can do that with a standard video production switcher, but having that ability in a device that outputs RGB was excellent for our purposes with Blue Man."

Jon Kiphart commented on the system's overall utility. "The thing that surprised me the most about Encore was its ease of use. As a control programmer for video, you have to be somewhat of a Swiss army knife, and you get

to know a lot about each video device. Switchers have become very problematic, because their operations are so deep, especially in their menu systems."

"This was one of the easiest devices that I've used in this respect. I was able to get a handle on it fairly rapidly, and once I understood how it worked, it was very intuitive to program and operate."

If you have the opportunity to catch the Blue Man Group's newest production in Las Vegas, take a glance at the video control room 35 feet up. A bit of Bluephoria is created there each day.

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