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## Katy Perry:

*The Prismatic Tour*





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Getting  
Crazy  
with  
Katy Perry





## The pop star's new tour focuses on many aspects of her flamboyant personality

By: Sharon Stancavage

**K**aty Perry's tours are often adventures into the fantastical. She can take her fans into a world of the absurd and the amusing, in settings that are astonishing.

Guiding Perry's journey on her current *Prismatic Tour* is show director and designer Baz Halpin, of Los Angeles-based Silent House Productions. "Katy is very hands-on, and for the tour she wanted fun and craziness, as always," he reports.

### The show

Halpin has divided the show into several scenes: Egypt, cats, and a "throwback" sequence devoted to the early '90s; there are also "unplugged" and "hyper-neon" sequences, plus an encore. "It's a very personal show to her in the sense that she digs all that craziness," he notes.

The *Prismatic* sequence "has everything to do with light, so her hair, props, and costumes light up," Halpin

reports. In addition, lasers can be found in "This Moment" and "Love Me." Other surprises including effects seen using 3-D glasses.

From there, Perry and her dancers travel to ancient Egypt. "We have the Egyptian horse, which is a Michael Curry puppet, for the song 'Dark Horse,'" Halpin says. "It borrows from her music video a bit. The second song is 'ET'—it's a little joke in regards to the History Channel show *Ancient Aliens*. The pyramids are actually space-ships. Katy loves that show." The song ends with Perry ascending into the sky—via Stage Technologies' eChameleon control—in a classic alien abduction.

The feline sequence called "Catoure," includes the hit "Hot N Cold." "You've got to have a cat section, right? That's her MO, she's a crazy cat lady," Halpin says with a chuckle.

The production then morphs into the '90s section, featuring inflatables from the balloon manufacturer eBlimp,

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as well as Perry in a massive dress marked by yin and yang symbols. “Katy wanted to have a yin-and-yang dress,” says Halpin. “She was very specific about it. So we had to figure out how on earth we were going to make it work. We knew we had the cake lift, we knew we could do that, it was just figuring out the logistics of getting it out and then getting her into it.”

The hyper-neon sequence is filled with neon imagery and costumes. It leads into the finale, which features “Birthday,” with Perry flying from the B stage, and “Firework,” which is laden with effects. Props for the production came from Show FX and D.A.S Design Works, both of Santa Fe Springs, California; Braun Productions, based in Las Vegas; and Scappoose, Oregon-based Michael Curry Design.

### Scenery

Perry was directly involved in the scenic design. “At one point,” says Halpin, “we were sitting having dinner, and she drew a triangular screen and triangular thrust and said, ‘I want this to go really far out.’ I said, ‘How far?’ She said, ‘All the way to front of house.’ We ended up making this incredible, gargantuan stage—the B stage alone is 30-something feet deep and 20' wide at the widest point. We marked it out with tape on the floor of the dance studio, and Katy thought it was great.” The outside thrusts are

65', while the length from the furthest point upstage to the tip of the B stage is 155'.

The challenging scenery was handled by the experts at Lititz, Pennsylvania-based TAIT. Halpin explains, “We have two toaster lifts left and right, we have an upstage prop lift, and we have four back lifts with slip stages. In the center portion of the stage is a lift that can rise up 14' and rotate. On the thrust going down to the B stage we have four travelator conveyor belts that are approximately 24' long and are bidirectional; they are laid side-by-side. On the tip of the triangle on the B stage, we have a three-section cake lift, which also rotates; it has an LED screen on it as well.”

For Perry's entrance at the top of the show and her exit at the finale, Halpin says, “We have a hydraulic three-leaf pyramid within the stage floor that fits around a scissor lift. The leaves of the triangle pyramid rise out of the floor and close up. There's a lift that goes down that she can get on; she gets in and it opens up to reveal her.” The lotus also has an all-LED floor.

The stage floor pyramid is nothing compared to the approximately 75'-wide-by-38'-tall triangular LED screen featuring 50 Clay Paky Sharpys. “We went to Tait with the idea of a screen that could move up- and downstage, and also separate into three parts,” the designer explains.







Above: The Egyptian sequence. The horse is a puppet by Michael Curry. The pyramids are later revealed to be spaceships. Previous page: "Katy needs every sort of gag, or every prop, or every effect, and it has to be the best it can be," says Halpin.

## Lighting

In addition to the units already mentioned, there is a bevy of equipment over the stage. Above the stage are three diagonal trusses on either side of the pyramid, as well as straight trusses going from stage right to left. "We also have 100' trusses over the audience, following the footprint of the thrusts," Halpin notes.

"We have hundreds of [Philips Vari\*Lite] VL3500 Wash FX units, lots of Sharpys and Sharpy Washes, lots of Chroma-Q Color Blocks, Solaris Flares, and GLP impression X4s that we use as kickers. They're our little workhorses." Also featured are Martin Professional MAC Vipers, as well as Vari-Lite VL3015s and VL3515s; the rig is supplied by Chicago-based Upstaging.

Halpin uses this gear to create some remarkable effects. For example, he says, "These include UV hair, costumes, and props in 'California Gurls.'"

## Controls

Programming for lighting and video was handled by associate designer Eric Marchwinski via a complex, multi-faceted system that touches almost every aspect of the production. "I was interfacing with just about every

**"At one point, we were sitting having dinner, and [Perry] drew a triangular screen and triangular thrust and said, 'I want this to go really far out.' I said, 'How far?' She said, 'All the way to front of house.'"**—Halpin

department—backline, cars, props, automation, audio, and video," he says. "I basically took some signal from or sent some signal to pretty much all of those departments in one way or another."

That signal was physically carried between the stage and front of house by a complex fiber network. "Since I was going to be programming video as well as managing content and driving a lot of things from a central location, we specified a 10GB ring fiber network to handle all control protocols to and from FOH," Marchwinski says. That network is comprised of control snakes running stage left, stage right, and cross stage; each snake has several switches.



The triangular design of the set was a direct result of the star's input.

He explains, "Each switch is VLANed out into six separate networks and we've designated each network for a different protocol and a different department," Marchwinski notes. The networks are assigned to MA Net, Art-Net, content management, LD router control video, lasers, and Tait. He adds, "We have this central fiber backbone that runs the entire show, and it would take an act of God to bring the show down—you would have to cut both pieces of fiber on both sides of the arena at the same time for something to stop working."

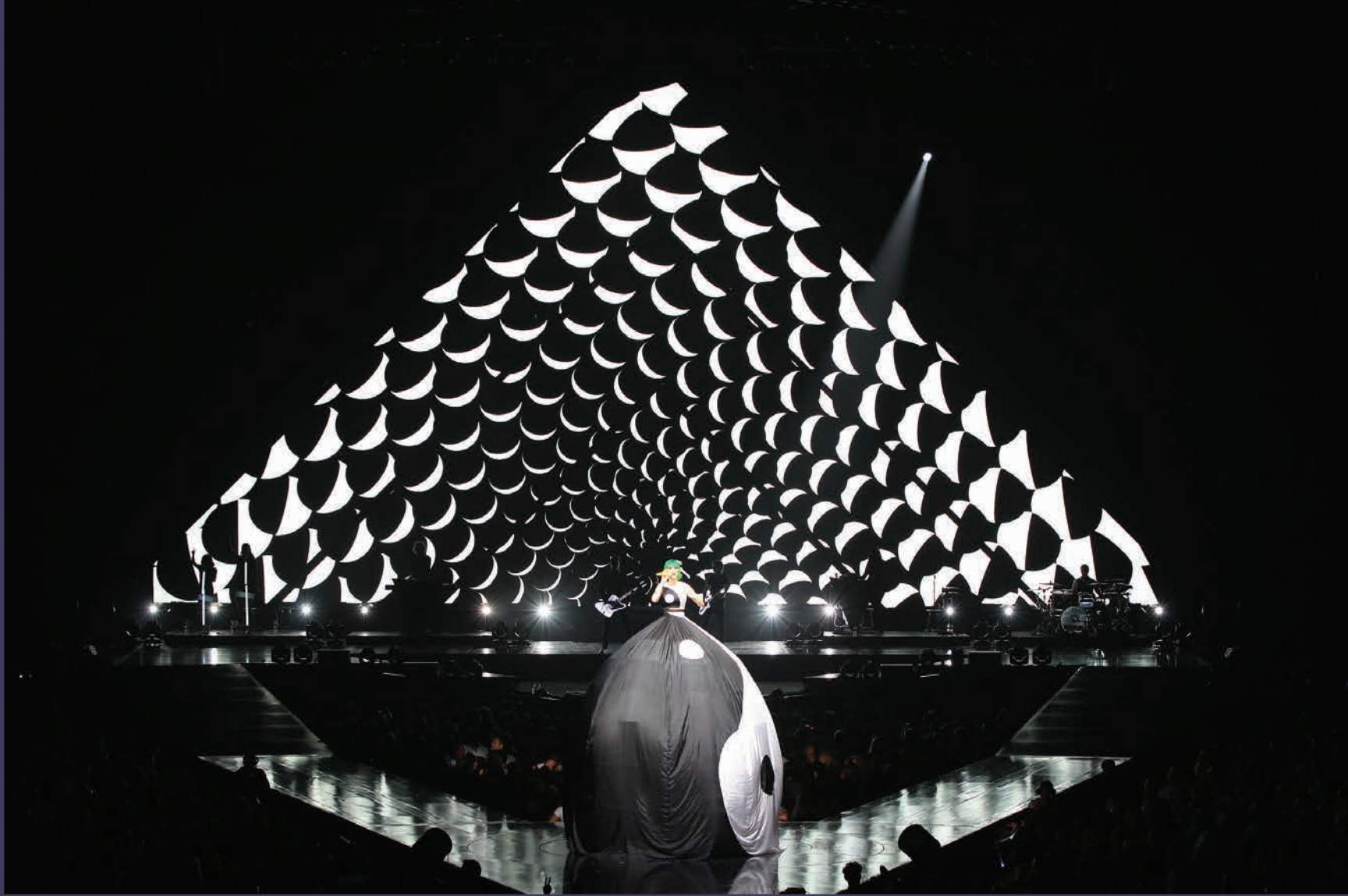
The entire control system was created with the help of the experts at the aptly named firm Control Freak, also based in Lititz. Marchwinski explains, "My relationship with Control Freak has allowed me to be involved in the development of a lot of these concepts, and they were very vital in helping spec the right gear and working with me and Upstaging on making sure our system was solid."

The customized control system at the front of house allows 3-D tracking system of objects in real time. It combines the technology of the MA Lighting grandMA2 console and motion control from Tait/Stage Technologies'

Navigator and eChameleon systems. The Navigator can now communicate directly to the grandMA2 via a new protocol called PSN, or PosiStageNet, originally developed by the Montreal-based video content provider VYV. Tait and Marchwinski worked closely with MA Lighting and A.C.T Lighting (MA Lighting's US distributor) to achieve the first touring PSN tracking system using Navigator. "On this gig, the lighting console does not move anything, but we are able to read all of the position data from all the axes that Tait and eCham controls. This allowed me to assign lights to any axis, and have lights track that point in 3-D space," Marchwinski says.

That information, in combination with Navigator and a lot of programming, means every single night, when Perry gets whisked away by balloons, something else happens as well. "I've assigned six VL3500s to the balloons, so that when they pick her up and fly her around, there's this great look of the lights following her, in addition to her and the prop being illuminated," says Marchwinski. "That would be fairly impossible on a daily basis, because of the way that the 3-D fly system works. Since the lighting rig extends





The massive yin-and-yang dress was also on the star's wish list for the tour.

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out so far into the room, the 3-D fly programmers have to change the travel path of that 3-D system based on the venue daily. This in turn changes where Katy flies, and would make cueing this nearly impossible. The PSN [PosiStageNet] allows us to get around that.”

The control landscape also extends into the world of props, using over three dozen RC4Magic DMX4dim wireless dimmers. “We have two wireless transceivers, and dimmers in various pieces. There are eight dimmers in the

guitars, four in the bass, ten in the spears, and 12 in the Pyramid Jungle Gym,” Marchwinski explains. Integration of the dimmers came about through the careful work of both RC4 and the designers at Electrical Guitar Company [of Pensacola, Florida], ShowFX, and D.A.S.

The Electric Guitar Company created 12 custom guitars with LEDs built into their bodies. RC4 Wireless created a specialized supersonic PWM dimming curve for them to overcome the LED noise being transferred to the guitar pickups. “This is something that we built specifically for them and highlights the ability of RC4 to adapt quickly to a customer’s needs,” says Sean Dane, of RC4 Wireless. The company’s dimmers are also used in illuminated spears and birthday candles provided by Show FX; the illuminated mic stands were provided by D.A.S. Three DMXios and one DMXio-HG transceivers from RC4 Wireless were also part of the wireless solution.

The show runs on time code, and that includes the dimmer-controlled props as well as the lasers. “Lighting and video is all time-coded on the grandMA, the video cues are all in one cue stack, the lighting cues are all on



And she's off: The star floats over the audience, tracked by a set of six Philips Vari\*Lite VL3500s.

another, and then we have some cryo and low smoke that's also on the console," says Marchwinski. "Those particular songs are in separate cue stacks as well. All of that is triggered from FOH and Kathy [Beer, the lighting director] is responsible for watching over that on a daily basis."

## Video

Video content was created by Cincinnati-based Lightborne. Ben Nicholson was the lead content producer and JT Rooney was lead integrator. "JT and I worked closely on a daily basis, making changes and giving updates," says Marchwinski.

PRG's Mbox media server is an integral part of the video system. Marchwinski says, "Mbox runs all the video content. They also set up Mbox Remote at FOH, and that allows the operator, Kathy, to see what layer is up, what content is playing. If something is wrong, you can restart Mbox and can basically troubleshoot with that remote tool." The video wall itself is comprised of V9 LEDs panels, provided by PRG Nocturne, of DeKalb, Illinois.

## Effects

Halpin says, "Katy needs every sort of gag, or every prop, or every effect, and it has to be the best it can be." The pyro, flames, confetti, and cryojets were provided by Quantum Special Effects, which has offices in the US and UK; the company worked with Perry on her last tour. Halpin says, "As we were starting out in the UK and doing a lot in Europe, it made more sense to have it all come out of the UK."

The show is awash in effects: there are six confetti Super Shooters from Magic FX for "Birthday;" four Le Maitre LSGs for "Wide Awake," "Legendary Lovers," and "Walking on Air;" and ten Zigmonth Magic FX cryojets in "Roar," "Part of Me," and "Firework." "There were no half-measures," Halpin asserts.

Flame effects appear during "I Kissed a Girl," courtesy of eight Galaxis Showtechnik G-Flame wireless propane units. Halpin says, "They're all contained in a wireless box; they're very clever. They get set up for one song and then they get removed."

The G-Flame units are constructed with built-in safety



features. “The units have tilt switches in them, so if one is knocked and the unit is on its side, the tilt would stop it from activating and firing flames into Katy’s ankles,” explains Shaun Barnett, president of Quantum Special Effects.


The finale, “Firework,” is laden with massive quantities of pyrotechnics. Halpin says, “It’s all the pyro in the world, certainly the most amount of pyro I’ve ever done on a single arena show. It’s apocalyptic.” In fact, it was almost predestined that the pyro would be massive and memorable. Barnett explains, “The stage is so big, so we have to use a lot of pyro—the last thing we want is to look like someone just lit a match on stage. So there’s a lot going on in the final 60 seconds of the song.” The finale, designed by Dan Ivory-Castile (who is Quantum’s crew chief), is filled with airbursts, multi-shot comet plates, single-shot comets, mines, and gerbs, which are provided by RES Specialty Pyrotechnics, of Belle Plaine, Minnesota.

Control for the pyro and the G-Flame units is via a Galaxis PFC Advanced controller. “It is an incredibly versatile system that can fire huge amounts of pyrotechnics. It’s wireless and it’s very efficient to load in and load out,” says Barnett, adding, “It just makes our lives very easy.” The Galaxis controller allows users to



change the frequencies if there is RF interference. “We’ve used it countless times and we’ve never had any real issues with it,” he adds. As for everything that isn’t pyro and flames, Ivory-Castile explains, “All DMX-controlled effects are run from the lighting desk, using ChamSys MQ70 software.”

In addition, the production features lasers from UK-based ER Productions. They are highlighted during “This Moment,” “Love Me,” and “Firework.”

Katy Perry’s *Prismatic Tour* roars through the US until October; it then moves to Mexico and the Pacific Rim. 



Above: This long view of the set shows how far it reaches into the audience. Top: Video content is run off a PRG Mbox.