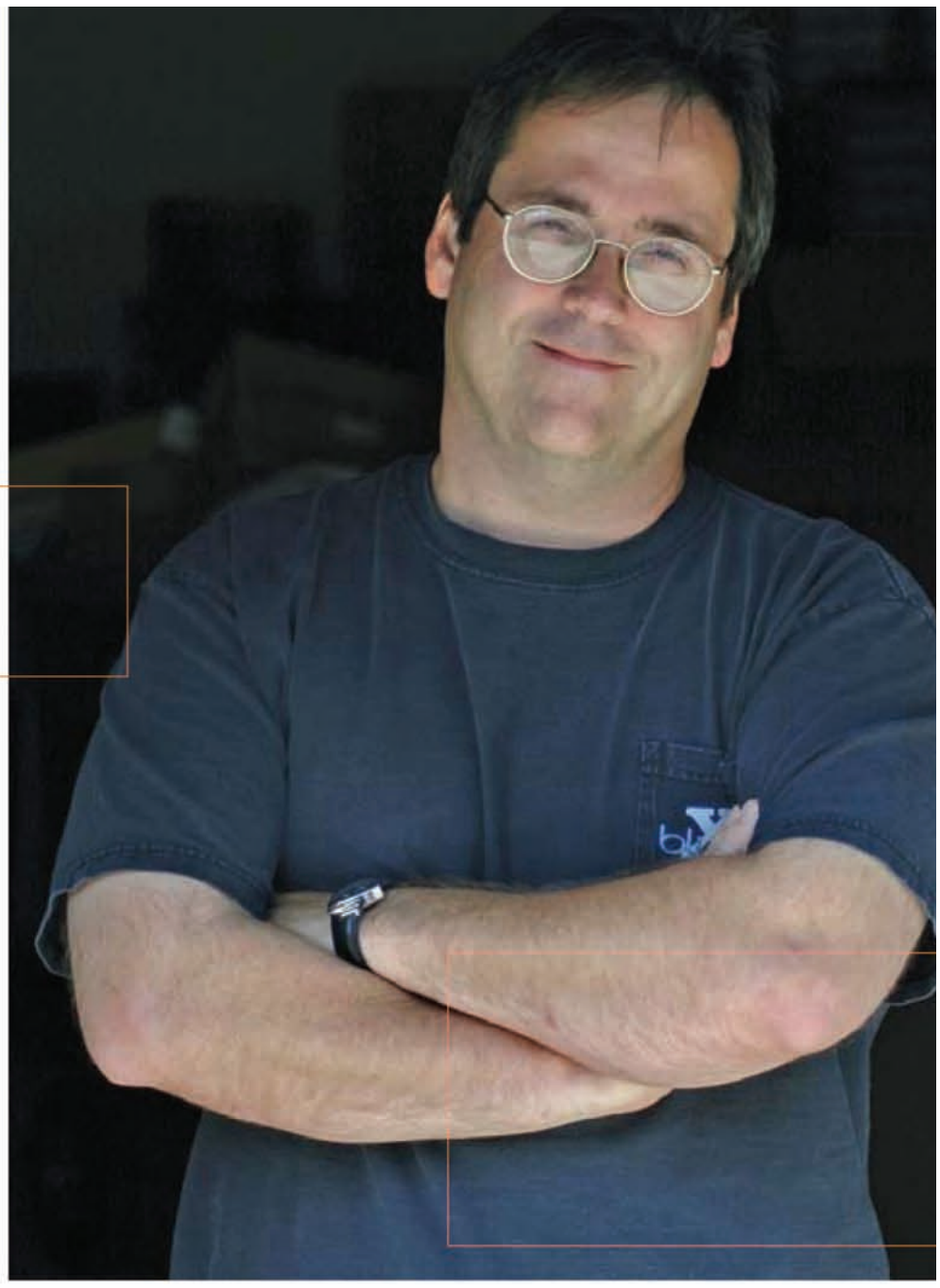
A CONVERSATION WITH INNOVATOR Joe Fitzpatrick

The Co-Inventor of the X1 Had Something to Prove

By Kevin M. **Mitchell**



The eighth-grader was standing in line for only one reason—he had a crush on his speech teacher. When he arrived at the teacher's desk, he turned red and had nothing to say. A sign behind her saved him from total humiliation. It read, "Ask about signing up for drama."

So the young Joe Fitzpatrick did. And a career was born.

He was soon fixing a decrepit Ward Leonard autotransformer dimmer using Schwinn bicycle parts, realizing it beat the heck out of de-tasseling corn, which was the first job the young man from Muscatine, Iowa had.

Fitzpatrick would end up in California, working for various rental shops and television shows. In 1983, he was named lighting designer for the Hollywood Palace, where he worked with some illustrious acts including Mr. Mister and Pia Zadora.

During his career, he co-invented the SounDelux Automatic Dialog Editing (ADE) system, which was the recipient of a Technical Merit Award from the Academy of Motion Picture Arts and Sciences, and developed a number of custom control systems for special exhibits. Most recently, he and Daniel Deppe created the BlueLite X1, a Windows-based controller distributed by Legend Theatrical.

What do you consider one of your early big breaks?

Joe Ftizpatrick: A late-night emergency repair of a laser projector on a Showtime rock special, which led to a position at Laser Media (a now-defunct laser production company), where I was able to put more of my engineering skills to use. After a brief apprenticeship with the brilliant albeit slightly eccentric Paul Rother, I took over system programming for the ZAP/Imagen laser graphics controller.

How did you go from designing to the technical side?

There were three or four semi-regular cable shows all being shot at Hollywood Palace, primarily lit by Kieran Healy, who was then with the Klages Group. He specifically asked me to light a group called Reflex. It ended up being one of the better things I've ever done. After that, he said two things: "I hear everything was great," and "You really ought to think about the technical side of the business." Kieran planted the seed.

What did you do at LaserMedia?

I worked on the development of their control systems and graphic systems. One of the nice things about Laser Media is that they were a heavy player in installations and rock touring, so you'd add a new programming feature—say some rotational thing—and you'd get to see the results almost immediately. Literally, code it on Tuesday and see it used on Rush's Grace Under Pressure tour (in 1984) a week later. It was immediate gratification.

What for you determines when a product needs a new feature?

I don't add a feature just to add a feature. Often, I'll go do a show and try to use it myself, and in working with it, make notes: "This is awkward," or "It would be nice if it did this."

The key to good development is to take users' suggestions as a starting point. Instead of just implementing them, take the time to get to the root of the problem the user wants to solve. Maybe there's another way to approach the problem, a way that is more consistent with the overall design of the product. Or maybe they've stumbled onto a larger issue, something that is just the tip of an iceberg that needs to be addressed.

What are some of the accomplishments you're most proud of?

I'd have to say the Floyd Droids. It was a big project in a very short time frame. On Pink Floyd's Momentary Lapse of Reason tour in 1986, Marc Brickman had Paul Rother and I develop four Floyd Droids—novelty fixtures, which we called Manny, Mo, Jack and Cloid. Pretty sad, but I can always remember that stuff because I have such an infantile sense of humor. But they were actually pretty remarkable. They could go up, down, pan and tilt. Vari*Lite made the pan/tilt yoke. But unlike a laser beam, you could shine them on people.

The development schedule was unbelievable—I designed and laid out the boards to control each individual eye beforehand. But I was literally writing the code in an airline hanger in Canada while Pink Floyd was rehearsing.

What was it like working with Marc Brickman?

Brickman is a tremendous pre-visualizer. He can conjure things in his mind well before seeing them.

Brickman thought the Droids would light band members. But when finished, they worked great as a novelty or special light, but they didn't work well at illuminating people. What was amazing to me is how quickly he invented new ways to use the Droids effectively. He was always willing to experiment and quickly try things. That had a huge impact on me.

What kind of impact?

There were tons of controllers being used on that tour, and it struck me at the time that there are a lot of hurdles between the person trying to create and the actual act of making something happen on stage. Brickman couldn't just do it—he had to communicate to all these people. I felt that technical issues shouldn't be so much of a burden that they discourage someone like him to experiment. I thought if you could put more control directly in the hands of the designer, it would be much better. That experience was the seed of the X1.

Did you act on that?

Immediately after that, in 1987, I went to work for Hybrid Arts—which later became Digital F/X—to add digital audio to its pro video postproduction product line. But as a sideline, I developed a product for YLS Entertainment. It was a little computer-based controller that featured some of the ideas I had from working on the Pink Floyd tour, and was ultimately called YLS/ShowNet. It integrated house effects, pyro and moving lights. It was first deployed on a Mötley Crüe tour for laser control in early 1988. YLS then started using it for outdoor spectaculars and indoor stage shows in theme parks.

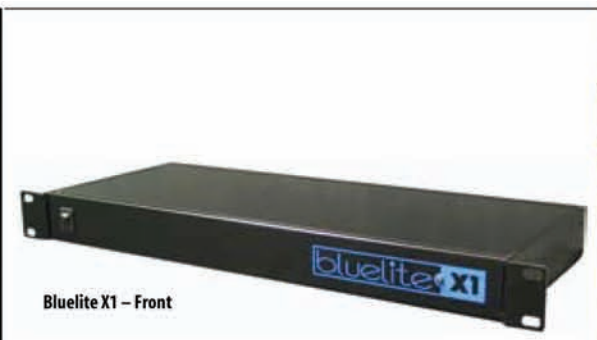
But it's a big gap between then and the X1.

Marty Canavan, chief show designer for YLS, harped on me for more than 15 years to build a follow-up product. For me, there was no interest; I had already proved the point to myself. But last year, he called me again and said, "Why don't you just develop a playback-only system? Don't build the whole thing." Once I started working on it with Daniel, I got caught up and we decided to do a full system.

What did you hope to achieve?

The idea that you can layer. Let's say that you're trying to pre-program a show that includes both moving lights and laser bursts. This is no disrespect to Flying Pig—it's a great product—but when you track time code on a 'Hog II, it really only drives one sequence of cues. There is basically one timeline, and that makes it difficult if you're trying to combine slow, graceful light moves with more frantic laser effects. You end up combining both show elements into a single, much more complicated series of cues. This is not only time-consuming; it also discourages you from tweaking each element to get exactly what you want. I wanted to create a system that allows you to focus on how each show element looks without having to worry about combining it with other elements in the show.

So a system of layering, like overdubbing on tape, on a different track, is what appealed to you?



Bluelite X1 – Front

Bluelite X1 – Back

For preprogrammed shows, yes. Fundamentally, the X1 is an additive cue-or scene-based system—primarily because of the flexibility this approach gives you when you have to operate in an unscripted or unrehearsed live environment. If you slow down the speed of the time source code, everything slows down accordingly and stays in sync. That was particularly important to Marty, because when they are doing lasers and pyro at a theme park, sometimes they need to lengthen or shorten the show a little.

And with a Hog or grandMA, the guy at the theme park or a crewmember on a smaller show can't operate the system. It's too complicated. There needed to be something that didn't cause an operator to go, "I'm going to a training course for a week." I wanted something that even the lowliest operator can work.

Who is using it?

YLS immediately adopted it and they use it on everything. Six Flags has replaced a Hog System in Texas with it for a summer show. The Fremont Street Experience in Las Vegas dropped their existing system and put in the X1. TSI in Atlanta has just started using X1s for corporate events. And we're getting a surprising amount of theatre work, often as a moving light add-on to an existing theatrical console.

What's next?

Now that we've released version 1.2, which includes support for up to 16 universes and integrates directly with LewLight's Capture 3.0 visualization software, the X1 has also matured into a very capable system. We still have a few more surprises that will be coming out in the next few months, but the next big thing will be the X2, which I hope will be unveiled at LDI this year.

No resting on your laurels?

I did the X1 with Daniel because there were some things I still wanted to prove. It wasn't so much about making money, or just creating another product. We wanted to show that you could create a system that was powerful enough to control even the most sophisticated DMX devices to their fullest, but still simple enough for an average person to quickly master and use. While as a developer, there are always things you would like to add or improve on, I think we've succeeded. PLSN