

GORDON PEARLMAN

I still knew little about computers, even though I'd taught myself to program, sort of, but I certainly didn't know how to put together a computer or build a D-A converter or anything like that. I got a DEC PDP-8, which is fascinating in today's numbers. It was a 12-bit machine, unlike the early IBM PC's that used a 16-bit word. So I got the hardware and really didn't have to do anything with it initially. I just started by writing the program. But I did build a front panel with a matrix of 125 push buttons on it, one for each channel. It also had a '10-key' to access the cues, but not the channels. I believe there were five rows of 25 across. At first it was 100 channels, but then it became 125. It may have had to do with *A Chorus Line* and what they required. Apart from the matrix and the 10-key, I took a pot and put it in the center of its travel, and built this really crude mechanical thing with two springs so when you pushed the pot up and let go it would return to center. That was the way you set levels. It actually worked very nicely.



JOHN MCKERNON

I totally believe that everything has to be in all the paperwork. It all has to be 100% there and 100% correct, but I have this strange left brain/right brain thing, where when I'm writing software code, then I'm this person that thinks about nothing but numbers and the minutia of it all. But when I'm designing a show, I don't want to know about numbers and things. I can't remember a channel number to save my soul and don't even ask me about what Lee 205 looks like. I haven't got a clue. Oh, that's the warm that's in the side-light Great. Fine. I saw it one day when I was holding the gel book up and it looked nice, so I picked it. But there is no computer brain going on. Well, there's some. You may have to talk "Light Palette" or whatever, but it's not what I'm thinking about at the production table. I'm not thinking about what unit number is up there except that it's number 1, 2, 3, 4, ...ah, 5. Or, to the assistant, "find me a spare overhead that can get to that window over there".



ANNE VALENTINO

If you do this long enough, you make certain assumptions about what you know. One of the things I've learned from my Virtuoso experience is that you should go in without any preconceived notions of how things are supposed to work. I try to go into everything with a completely open mind – because I'm highly opinionated and pretty stubborn, I struggle with this concept a lot – and fail as often as not – but I do try. One of the things that was really interesting on *Obsession* – and this is something Fred asked Jon and me to do – was to go back and find the thesis statement of the Light Palette. We didn't want to copy a Light Palette, we wanted to really understand it. What is the one reason, the one underlying thing about that desk that made everyone want to use it? Every product should have that thesis statement. And we found it. This is what I call the DNA of the desk. There should be something that is true to the desk that runs through the entire development of it and keeps it consistent, keeps it true to itself.

DAVID CUNNINGHAM

Wally Russell lasted until about 1982 at Strand. But because he was doing stuff they told him not to, he got fired – even though the company went from \$1 million to \$25 million in sales under his guidance. Wally was always rebelling. His first rebellion was when they told him not to do any development, because the British wanted the US company to sell their products. I remember when Richard Pilbrow demonstrated Lightboard at the same convention where we introduced the Light Palette. In one room was the Lightboard at \$250,000 and in the other room was the Light Palette and they walked in and looked at it and said: "Oh shit!" – because it did the same thing for \$20,000. Lightboard was a move fade board like Light Palette because Richard believed in move fades. But Richard, as a lighting designer, was the one that gave them the idea of the wheels and groups and 'painting with light'. But the changes happened simultaneously in the US and the UK, because Richard was working with the British and we were doing the Light Palette. But Light Palette was more successful because it was a \$20,000 board and Lightboard wasn't.



TOM THORNE



So that's when Flying Pig started, and in October '91 Nick and I went to stay out of London for a week to get away from phone calls and we sat down and mapped out the Whole Hog I. We took our computers with us. It was the first time either of us had used DOS – and the first time I had used C++. Nick was going to do the design electronically, and it was the first time he'd ever done that. He used CAD Star, and it was the first time he'd use a schematic capture program or an automatic router. We had no idea of how much computing power we'd need to do what we wanted to do. We thought we'd need a computer backstage to do things, a computer at FOH. At one point I think we thought we'd need about five different computers to do the system. Then when I got my first 386 computer, which was a 25 MHz or 40 MHz computer, I wrote up a little program just to see how fast it could do multiplications. I ran the program and it sort of did 2,000,000 multiplication in a second and I thought, this is amazing, we don't need all these computers, we can do this whole thing off this one 386 chip. Thank God we did because it made the whole design a whole lot simpler.

MARK HUNT

I had a really bad experience (quite a lot of my life is rather embarrassing actually) doing a gig for a band called Sky (Francis Monkman was the keyboard player) and he wanted to automate the mix down of all his keyboards using an Apple II computer. He wanted somebody to do the audio mixing side – the analog bit of controlling of levels and stuff, where somebody else was doing the digital bit. I said sure. I kind of messed that job up quite a lot because I didn't really get what the interface between digital and analog was going to be like and how to avoid problems with it. At that point I thought that these computer things were not going to go away. I was going to have to deal with it or I wasn't going to have a job in the future. So I bought myself a kit, which was a computer, called the Compukit UK-101. You got a power supply and plugged it into a television and you had yourself a computer. I built this thing from the kit, and it didn't work, which was probably the best thing that could have happened because then I had to find out why it didn't work.



ERIC CORNWELL

What's weird about this business is that people will pay me as a lighting designer hundreds of dollars a day to come and sit in a theatre and talk on a headset. And people will pay me hundreds of dollars a day as a software person to come in and figure out why their motion control system is not working. But nobody will pay me hundreds of dollars a day to sit down and write software for lighting!

As I've developed my own products, I've been very cautious about what the "perceived" feature set is going to be and how the thing is positioned. You have to make sure that you don't accidentally inflate expectations beyond what you're intending to deliver. This isn't even about hype – this is about accidental hype. It's about making this thing that I think is cool and somebody else thinks it does something different. Therefore it's not cool because it doesn't do what *they* thought it was going to do. It's a dangerous thing.



WAYNE HOWELL

I'm sure that over the next five to ten years we are going to see a significant move towards reforming the current patent system – particularly if you add into the equation the copyright problems that come with emerging economies. The whole concept of intellectual property, patents, trademarks and copy rights need to be addressed globally. I suppose on the flip side of that is what you said earlier. Patents aren't meant to be a protection racket. Patents are meant to be there to engender advancement of design. You are meant to find ways around the patent, because the concept is that that way we will advance mankind's technology. And sometimes it works, but unfortunately most patents are used as a blunt instrument, wielded by the company with the largest lawyer budget!

TOM GRIMES



I don't particularly get the interface with the end user that I think I should. Typically a lot of that is filtered back through salesmen or marketing people or service technicians. That is one reason why I'm always very happy to go to a trade show. I can then actually stand in front of somebody face to face, be it good or bad. Sometimes they pat you on the back and other times they kick you in the balls. I think it is a very necessary thing that if you're developing software/hardware for people to use, you definitely have to be aware of what they want. That is something I try to point out to people higher up in the food chain. We could possibly make our products better and more efficient if we have more access to the end user. I also wish we had time to do a heck of a lot more testing. In many respects, things are infinitely complex and you can only test a small subset of that infinite space. It's very easy to account for the fact that something just got missed. Unfortunately, on an initial release that may leave a bad taste in the mouth of a customer and you may have to fight to get them back again. If you give us more time, you get better products and everybody has a good taste in their mouth and ultimately you sell more products. There is the other side of things in that you have to start selling things to bring in money to write pay cheques. You try to hit a good balance. It would be nice to hold something for five years and then you get a nice rock solid product, but then you would never sell anything.

CHRIS TOULMIN

I liked writing cues, but hated drawing plans. But they are so necessary. Theatre has an approach to commitment that I've rarely seen anywhere else; particularly in a commercial sense: "Three years from today, on this particular day, at 7.30pm we are going to open this show and we will offer you this entertainment." They make those kinds of guarantees and they do stick to them. It's very rare that that doesn't happen. Whereas, when a building is being built, it usually opens two years after they said it would. I think it is a unique thing in the theatre that we actually have that approach. Everybody involved in the theatre invests in that concept and does whatever they have to do to deliver that product. I think a lot of us move on from the theatre and take that same ethos into the world and you frequently find other people don't understand it.

