# **VIEW** POINT

### The Usability Conundrum

When digital meets flesh and blood

**By Bennett Prescott** 

There have been a few events recently that have renewed my interest in usability, that is the ability of a human being like you or me to effectively manipulate a piece of equipment in order to attain some result. This is an especially important issue in the constant battlefield that is a live event at any scale, an arena that we enter by choice with great regularity, where there's no opportunity for "do-overs" due to missed control or failed equipment and mistakes may be seen by many thousands or tens of



thousands of attendees who have paid increasingly high prices to experience their favorite act, whose music they know intimately.

The first event, the one that really got me thinking, was a telephone call I received from a customer. He needed a pair of replacement compression drivers for his stage monitors. I made sure I had current information for him so I could send them out, and then asked exactly how he'd managed to be the first person in the world to blow up this particular loudspeaker. As it turns out, he'd had an experience that mirrored one I'd had (and complained about on the Pro Sound Web forums, (www.prosoundweb. com) weeks earlier: He'd been running a line check on a popular and widely available mid-market digital console when one of his mixes started to take off. Unfortunately, he was layers-deep fiddling with the EQ on another mix. Even having a passing familiarity with the desk in question, it took my customer a good quarter minute to navigate from where he was to where he needed to be, all in the face of ear-splitting feedback from a pair of high-output stage wedges. He finally made it to the correct mix on the correct layer and killed the output just seconds too late, burning up a pair of \$150 compression diaphragms.

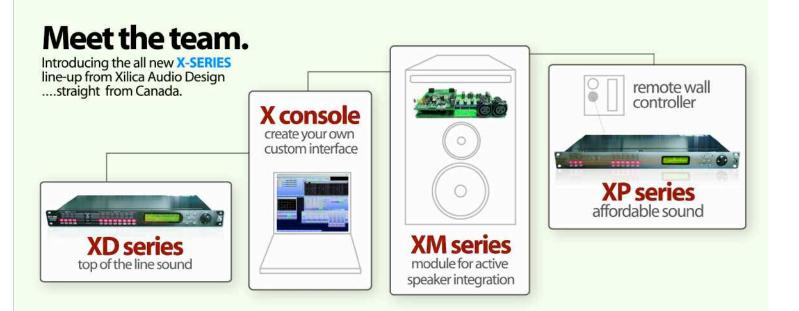
The problem here wasn't that the console was digital, there's no reason that a digital console can't do anything that an analog console can, or vice versa, although the implementations are wildly different. The problem here is that the console in question was designed to meet a price point, which is perfectly fine if the limitations are understood, but the supposed miracle of digital consoles is that for a few thousand out of pocket it is possible to have a feature set that rivals that of five- or six-figure large frame consoles. Unfortunately, it isn't possible at that price point to provide the surface with control to match, a fact that is overlooked by many customers who have noticed that they can replace their expensive large frame console with a little bitty digital one, at a fraction of the cost to them, and most of their clients won't notice or care. The two are in no way equivalent. However, just because you can load a console with 25 faders and a single set of EQ and dynamics controls out to 192 inputs and 24 outputs, doesn't mean you should. It is simply not possible for a power user to accomplish the same tasks with the same efficiency and speed on such a limited control set, especially when you add the confusion of having to learn a different control set for every new console they come across.

Experience number two, the one that really put me over the edge and made me want to write this article out of frustration, was a conversation I had with a colleague working for another pro audio manufacturer. I was demoing one of their products, and "It was a heck of a lot simpler a little while ago, l know ..."

after talking about my concerns with it, we somehow got onto the topic of which modern consoles were hot, and which were not. My colleague said that he'd finally found the ultimate digital console, and I listened with trepidation while he explained to me the benefits of an entirely soft console... it runs on a computer, you control it with a mouse (or external MIDI controls), and you attach sound cards until you have the I/O you need. I didn't even know where to start, so I said some politely interested-sounding things and hung up.

Does this honestly make sense to anyone? Let's take a control surface and condense it into a 12-inch laptop screen and let you control it with a pen, or a mouse. If you prefer, maybe you can attach some generic fader and encoder controls that have nothing in particular to do with the surface at hand. Like a fader is the only important control on a desk, and one set of every other control is more than enough for any use that surface may see. First of all, I'm sure nobody's ever had any sort of reliability problems with a bunch of non-purpose-built controls kludged together and attached to a computer, but that's not what this article is about. What I'm tearing my hair out about is how easily everyone is giving up their ability to do more than the simplest things without having to page to another screen, bank, or layer. While that may be an acceptable compromise for a touring engineer who works with the same band every day using the same console, or for a small provider who is the only user of the console and knows it inside and out, forcing these sorts of user interfaces upon the rest of the world is cruel and unusual punishment.

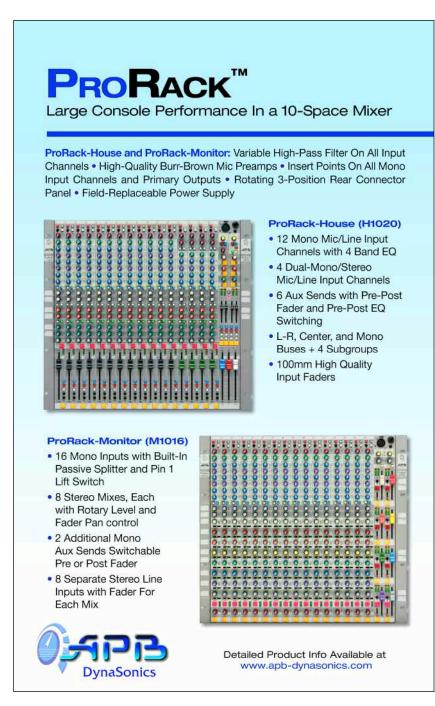
What happens when there's 30 minutes until the show goes up, 16 mixes on stage, and the only way to make it happen is for one tech to troubleshoot channels and set EQ and preamp gain while another tech builds mixes and talks to artists during sound check? This scenario happened to me recently, and let me tell you it was a nightmare on the popular budget digital console provided... simply not enough control available when pushing the console to the edge of its capabilities.





## **ViewPoint**

I also recently had the pleasure of watching another colleague stumble through sound check on a tablet PC because the provider had only brought one desk and put it in monitor world to avoid putting a real surface out front, with all the snaking and power issues inherent therein. What should have been a simple task that this guy could have burned through in five minutes on a full featured control surface by quickly setting gain, EQ, assignments, and fader level took well over a half an hour, and was certainly not simplified by running mains and monitors through the same desk. Anyone else who's tried to do this can see the steps in their mind with me... tap on the channel, try and set preamp gain with a pen, miss a few times, get it close enough, close that, tap on the EQ section, realize you forgot to bring the fader up, close the EQ section, bring the fader up, tap the EQ



section again, cut out some LF muck, now the channel's not quite loud enough, close the EQ section, adjust the preamp gain, set the high pass filter, turn on the high pass filter, open the EQ section again, rough in the EQ you want, close that, bring up the aux knob for the artist's mix, fiddle with that with the pen interface and hope you don't slip and max out the gain, close that, move on to the next channel, but that last channel is starting to feed back now, close what you're trying to do and bring the fader down on the other channel, but it's pre-fader to the monitor mix, tap on the aux controls, try and adjust that... I'm exhausted just typing that, and I apologize for making you read it. [Ed\* - You should apologize for that... an awful sentence!] Multiply that by 30 some odd channels and you see my complaint.

I'm using digital console examples because they're something we've all worked with and had various good and bad experiences with. They're also probably the most misapplied product in live sound, largely because the feature set is so enormous. There are other examples as well, like multichannel digital graphic EQs with up and down push-buttons to control each band and one set of limited LED display bars, making it impossible to adjust more that one band at a time, make rapid adjustments of any band, or change more than one mix in quick succession (or simultaneously). I have yet to see a provider think that was acceptable over a rack full of real EQ so it hasn't affected me, although since there are now digital consoles with graphical output EQ built in I'm certainly seeing plenty of that as the only EQ at the gig. Great.

It was a heck of a lot simpler a little while ago, I know, when the differences between feature sets dominated the field. If two analog consoles had, for instance, 12 auxes, 8 VCAs, and 4-band swept EQ, but one cost half as much, nobody thought that it was just for the personal amusement of the sales folks at the console company. There were obvious differences in build quality, reliability, and sonic quality that meant the lower-cost console wouldn't be acceptable where the higher cost console was needed. Furthermore, obvious feature differences meant there was no way to try and pigeonhole a lower end desk into a higher end pro application ... it would have immediately marked the provider as out of touch, groups instead of VCAs, not enough auxes, limited EQ; Nobody would find that acceptable. Now that you can buy a digital console that costs \$60,000 or one that costs \$15,000 with roughly equivalent capabilities, techs across the industry are walking into situations that need the former and are provided with the latter, to the detriment of their mood and the smoothness of the show. The lower-end desks simply lack the control that allows the full use of their features under fire... it is nice to have the "feature reach" for the occasional surprises that crop up, but making those sorts of compromises the norm hurts your clients, your reputation, and the industry.

The benchmark needs to be brought back up in the usability department, and fortunately it's easy to place... When looking at a piece of digital equipment, ask yourself: "Can I do more than one thing at the same time with this product?" If the answer is no, it is not a varsity level piece of equipment, and using it at a professional level reduces the level of service you provide. There are many products to choose from at a low price point currently, but if you pay close attention you'll notice that none of them meet this simple requirement, a requirement met by every piece of "old school" analog gear, until you're into a price point that is similar to what you'd have to pay for a quality analog console and outboard anyway. More people need to stand up and make it clear that matching feature sets do not identical products make, and that we as professionals need professional tools with lots of control in order to provide the level of service that should be expected of us.

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