The Art of Stage Research

by David Gilman

The art and science of sound for the theatre has only recently begun to resemble just that— an art as well as a science. Because the field is relatively new, much of the equipment sound designers rely on has been commandeered from a variety of sources, many completely unaffiliated with the stage. While the speakers, processing and consoles used for rock 'n' roll or heavy metal seem unlikely items for use in the worlds of Lloyd Weber and Mamet, they are effective nonetheless.

Not surprisingly, the world of the musician provides the largest equipment scavenging ground for today's sound designer. Where else to find the broad range of speakers, mixers and processing components needed to fill a packed theatre with resonance, resulting in resounding applause? However, as the power of the personal computer has grown, so has the number of specialty programs geared specifically towards theatrical sound design.

Enter Stage Research, Inc., (stage left). This Ohio-based theatrical software developer, headed up by Carlton Guc and Brad Rembielak, is not an outfit one hears much about. However, their software, SFX, is mentioned by this column almost any time we talk straight-play sound with a top designer. SFX provides flexible, cue-based sound playback, as well as show-control options. Created by Carlton Guc and Brad Rembielak out of (what else?) sheer necessity, the time has come for these inventive engineers to emerge from the wings and enjoy the spotlight.

"Stage Research started when Carlton and I were both working for an anti-virus company and doing theatre on the side," says Rembielak. "One day Carlton had this idea of having the computer render the sound effects. Now, this was about 10 years ago, and at that time everyone else was trying to mimic hardware using software. We thought it was pointless to replicate a CD player's functions on a computer. We decided not to look at what was out there, and we didn't try to mimic limited technology. We threw away everything we knew about sound technology, and asked ourselves, 'What do we need or want to accomplish in the theatre?' With the freedom and the flexibility of a computer, we knew we could create something from scratch and formulate a realistic, marketable solution.

"A lot of the stuff in SFX is inspired by lighting consoles, which was mostly my contribution. When it comes to the sound side of things, even today people are still stuck in that old paradigm of tape and CDs. SFX uses a different paradigm, one that is built specifically for theatre. SFX works like no other sound program conceived at the time, because we took our inspiration from dedicated theatrical lighting consoles, and applied their properties to sound design.

"Lighting consoles are based around cues, with waits, auto-follows and parts. We wanted to adopt that same step-to-step functionality, except instead of controlling lighting or looks, we're controlling sound (or MIDI commands or contact closures)."

Of course, when SFX first made its debut, the program was limited by the technology it was built around—the Windows PC. In its first iterations, you could only play one cue at a time unless you had multiple sound cards. However, as computer technology advanced, so did SFX. One of the things that have made the Stage Research team so successful is their ability to listen to the customer base and respond according to its demands.

"What drives us is our customer base, and because we understand their needs, we communicate with customers regularly and talk to them about how they work with SFX," notes Rembielak. This close client contact has made SFX's development truly evolutionary, from inception to right this minute.

"When we originally wrote SFX, the general design was very modular, and it just played back sound effects, plain and simple. Then people started suggesting new features, and since adding to SFX is so easy, it's just another cue that you play back, whether it's a MIDI command, or a .wav file, or a show-control command of some flavor. Boom—just when we thought that SFX had everything, someone would come up with something else he wanted the software to do. As the technology of our Windows base developed, so did the software and its capabilities.

"It was hard in the beginning, and a lot of people would come up and say 'oh, it doesn't run on a Mac?' and they'd just walk away. This was back before Win95. Even at that time, we knew that the PC would be the dominant platform. The market share for Macs has shrunk to less than 3%, which also includes Linux and Sun. We find that what works well with our Mac users is that they can do all their design work on the Mac, and then they transfer their cues and effects to the SFX machine, which they view as a dedicated digital audio workstation."

The first Broadway show to use SFX was Lilly Tomlin's *The Search for Intelligent Signs of Life in the Universe*, designed by Tom Clark. However, since all the Broadway shows come out of the major shops, it's hard for Stage Research to keep track of what shows are using their software, unless their users keep them informed! An early customer for SFX was Sea World, which provided a fertile testing ground for just how much flexibility the software would need to provide.

"Version 5 was released almost seven years ago, and we've made small incremental changes ever since then. Right now we are compiling all the suggestions, and are looking to split off a new project and start from scratch again. I try to imagine where sound playback will be 10 years down the road, and try to imagine what life will be like then. If that's what we need 10 years from now, that's how I want the software to work today.

Eventually, I want SFX to have three major components—cue list base, time list base (like Vegas Video) and event-driven base. You'll be able to run it cue by cue, or off a massive timeline, or, reactive for a theme park or haunted house, so that different action devices make the software react with different sounds. I'd like to do audio, video and lighting, and be the best in all three areas. We'd keep them modular, so that you could purchase only what you need. The idea starts with zooming up to 50,000 feet and saying 'what do we need to do' in a general way, and then zooming back down to hone the details."

By combining just the right features and interface capabilities, SFX allows a designer to concentrate on the show, not the technology. "We like to say that we're putting the art back into sound design. SFX simply allows sound designers to focus on being creative and not having to fight with the technology," adds Brad. Like a sound designer who places himself in the world of the play, Stage Research's Rembielak and Guc have made a place for themselves in the world of the designer.