

# CREATIVE SOUND: SOFTWARE INVENTIONS

by Aletha Rodgers, C.A.S.

*Last spring we invited C.A.S. members who have provided our industry with audio related inventions and innovations to let us hear from them. The response has been wonderful. We believe you will enjoy the following report by C.A.S. Member Jay Rose, Boston.*

Jay Rose, C.A.S. creates sounds you have heard, sounds you never thought you'd hear, and sounds that are out of this world, at a push of a button! For example, if you have used the Eventide DSB 4000B signal processor, what you heard was most likely the result of some of Rose's software inventions.

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***A Jay Rose prediction:  
"In ten years the sound  
supervisor will actually create  
dialogue."***

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One familiar sound of his is the inside of an airplane. That seems like a simple thing until Rose explains how he made the sound. "I started developing synthesized environments like the sound of an airplane interior, which is actually fairly complex because there are so many sounds coming from so many directions, where you could tweak how close you were to the engines, and what speeds the engines were at, and it sounded completely convincing in stereo — and it even had a little bong

button for the attendant call so you could tweak how close you were to the person who pressed the button."

The software designed for Eventide is a major time saver in post, Rose said. "It's used for serious problem solving, like removing the dimmer buzz or for sound design. I have a hum remover. Electronic hums, those buzzes that work all the way up the band. It makes the room a tiny bit ringer, as if the mike were a bit further back. If you have dimmer noise in a track, this Eventide program can kill the dimmer noise better than a DNS-1000. It is faster than stringing together a bunch of plug-in's ProTools and has very little latency, so you can use it on a mix stage."

Rose says he is always listening for a new and interesting sounds. "Recently, while at the health club the water aerobics teacher had a little strap-on belly pack PA system. Now, you are in this incredibly echoic space of a swimming pool, large, diffuse, no early reflections at all so it's a challenge for the reverb, and then you've got the incredible band twisting and the distortions that come out of this belly pack PA system, and I thought, that's a cool sound. Ok, what makes it up? Gee, I'm hearing this and this and this, and I guess when I get back to the studio I'll try to program something."



Jay Rose, C.A.S.

He designed some of the special effects for the Orban Audicity workstation, Rose said the most fun he's had inventing is for the Eventide Company. His software is in their DSP4000B, 4000B+, and Orville. Over the years, they have commissioned Rose to write about 140 professional production effects. Rose says, "Some of them were fairly serious - like noise reducers, and simple ways to dial-up speaker simulators, and some of them were just weird... Like, a Paul Harvey patch where you feed normal dialogue in and it randomly-speeds-up, and then slows-down—in realtime. Or you can press a button for speeding up and slowing down on cue."

Another invention he has created is "double talk". Rose says. "You can press it on a syllable to turn one syllable into double talk while the rest of the stream goes through, which I found radio stations were using as

*continued on page 11*

# CREATIVE SOUND: SOFTWARE INVENTIONS

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*continued from page 9*

an obscenity cancellation and because it didn't change the pitch, it didn't destroy the music.

"A couple of years ago Eventide introduced some even more powerful processors, the two rack unit box—eight-in, eight-out—with much more power for internal computing. So I started playing with a new class of effects like voice changers. Intonation changers. It can make a reading flatter than the actor did it, or more varied. It senses their pitch variation and then makes it either more or less."

Rose says he has developed a couple of effects boards for his own production. "All of the things I used to do with three or four racks of post production equipment and a zillion patch cords, I can now do in code, have the machine compile it, listen to it, tweak it and then save it as a little 5K text file for the next time I need it. So, the breakthrough on that was the long distance telephone simulator. It sounds like when the phone companies were just making the transitions from analogue long distance to digital. A digital long distance call had a slide tone slap. Of course it was band limited, and compressed, and had some distortion and noise, which is what you would expect of a telephone. If you were going across country, you would hear a slight delay caused by the time that it took, electronically, to get from LA to

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*In Jay Rose's world there exist gnomes and munchkins and the chatter of Itts.*

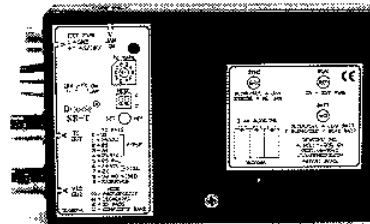
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Boston, then echo in your other party's receiver, then get back to you. There was always that tiny echo. So I calibrated that, in terms of the speed of electricity vs. the distance across the country, added that, and then added cross talk, because in bad telephone conversations, you could always hear somebody in the

"How do you generate cross talk without using another audio source? You do it like this: I delayed the incoming audio about a second, chopped it into half second increments, flipped them so each half second played backwards, and pitched them about a sixth higher, so you get this little foreign sounding voice in the background that you would hear in the pauses and it was made from the main input.

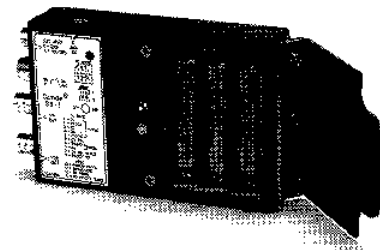
*continued on page 13*

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## CREATIVE SOUND: SOFTWARE INVENTIONS

*continued from page 11*

"I played this for Eventide, and when I gave them the first version they said let's do another batch!" Rose says as Eventide comes out with more powerful processors, he will continue to design more software. Rose gave an example of some soon to be released designs he sent to Eventide. "I have a whisperer. You can take a normal voice and turn it into a whisper. I have another version that will take one voice and turn it into a crowd of whisperers, sort of in and out of sync with each other in random variations for 'walla.'

"It's for quick and dirty kinds of productions like when you're doing commercials, or episodic TV, or TV documentary, or corporate, you need this stuff in a hurry, and to be able to sit there and dial up seven different monsters in real time. That's where it's really useful.

"With the Eventide Software I've got gnomes and munchkins, and crowds of munchkins. I've got one patch that will take a normal voice and turn it into Cousin Itt's characteristic jabbering (Addams Family). I have another that tracks a normal voice and turns it into R2-D2 (Star Wars), with the pitch variations and the squeals and the beeps, but in sync with the input.

"There is a lot you can do with the new software. There is even

*continued on page 21*

## CREATIVE SOUND: SOFTWARE INVENTIONS

*continued from page 13*

more happening with voice synthesis from text input. It's on powerful computers now, but I expect in ten years there's going to be a lot more happening with voice synthesis in feature films on the desktop where the sound supervisor is actually creating dialogue."

Rose says he is not too concerned about having his inventions ripped off. "I'm writing code and putting a copyright notice on each piece, because software is copyrightable. What I write for Eventide is written specifically for that hardware.

"The main thing is, you've got to have fun. All the inventing, all the playing around in post, all the teaching yourself new techniques for editing, is all for fun. If you're not having fun, why are you in this business?"

*C.A.S. member Jay Rose is a Cleo and Emmy Award winning sound designer specializing in high end corporate and broadcast, and is also the author of "Audio Postproduction for Digital Video". His web address is: [www.dplay.com](http://www.dplay.com).*

