A Chat With Amplifier Design Legend James Bongiorno

Robert Harley

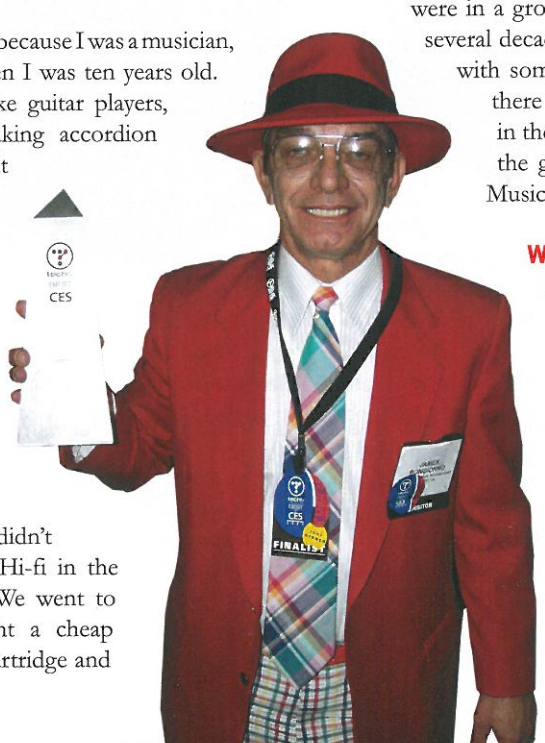
James Bongiorno is best known as the founder of Great American Sound (GAS) in the mid-1970s, and as the creator of that company's now-iconic Ampzilla power amplifier. The GAS Ampzilla and its descendents not only sounded terrific and sold in huge numbers, but also exemplified the American hi-fi movement driven by a designer with nothing but talent, a dream, and a kitchen table.

But before Great American Sound, Bongiorno made many other contributions to high-end audio while working for Dynaco (he is the author of the Dynaco 400, for example), Marantz, and SAE. While at SAE, Bongiorno claims he was the first to conceive the full dual-differential complementary amplifier topology that is the basis for nearly all modern solid-state amplifiers.

Now Bongiorno has revived the Ampzilla name with a new company and new designs. As Paul Seydor reports in the accompanying review, the old master has not lost his touch. Despite a long battle with cancer and advancing years, Bongiorno is no less audacious and flamboyant (the photo reflects his daily dress) than in the heyday of Great American Sound.

I spoke with Bongiorno by phone, and began by asking him how he came to be an amplifier designer.

James Bongiorno: I got started because I was a musician, beginning with the accordion when I was ten years old. We wanted to have amplifiers, like guitar players, but the two big companies making accordion amplifiers didn't have a clue what the accordion should sound like. It's a real acoustic instrument, not a mechanical thing like a guitar with a magnetic pick-up, and needs a microphone. I started messing around in my teens studying amplifiers so that I could build an accordion amplifier.



At about this time accordion teachers started making their own recordings, and as students we wanted to hear them but didn't have anything to play them on. Hi-fi in the 1950s was almost non-existent. We went to the electronics store and bought a cheap Bogen turntable with a ceramic cartridge and plugged it into our instrument amplifiers so that we could hear our teachers' records. I thought that was terrific, but I wanted to build a better amplifier.

Robert Harley: Did you study electronics formally after that?

JB: No, not really. I have studied periodically throughout my life and have had several mentors. I worked in New York as an electronics technician and was going back and forth between the electronics business and the music business.

I got hired by Sid Smith at Marantz, and Sidney ended up becoming my best friend in life and my mentor for 35 years before he passed away. I worked for Dick Sequerra at the time, too.

I spent a year at Dynaco where I designed the 400 and a few other products. When I came back to California the second time I got hired by Morris Kessler, as the director of engineering at SAE. Ostensibly I was supposed to replace Ed Miller, who wanted to leave, but during the interim of my relationship with Ed, he probably taught me more about RF than anybody. Ed was the founding partner of Sherwood. Before that, he had a company called Radio Craftsmen, and he had hired Sidney [Smith]. We were in a group of designers that knew each other over several decades. I was lucky because I was able to work with some of the greatest audio engineering minds there were. I felt privileged. I did the same thing in the music business too, studying with some of the greatest musicians and teachers there were. Music was always my first love.

What were the circumstances that led you to start Great American Sound in 1974?

JB: Well, that was kind of a lark. At the time, I was probably one of the highest paid audio engineers in the world. I was working for SAE and a few years before, I had written a few articles for the various magazines like *Popular Electronics*, *Radio Electronics*, and *Audio*. One day the editor of *Popular Electronics* called and asked if I would design a do-it-yourself amplifier project article for the magazine. At first I said "No way! Are you kidding me? I

don't want to be bothered with that." But he kept bugging me and wouldn't leave me alone.

Finally, I got my engineering crew together, and we were sitting at Denny's having lunch one day trying to think about what we would call this kit amplifier. One guy thought of the name "Tigersaurus" but I said it had already been used, and I immediately thought of "Ampzilla." It came out of the clear blue sky and the guys looked at me like I was stark raving mad.

So we designed this thing and then Morris [of SAE, Bongiorno's employer] decided he didn't want to do this after all. There I was with my neck stuck out; the article had been done and paid for, and was going to appear on the cover of the first issue when the magazine went from small size to full-sized. Morris offered me a choice of staying with SAE or following my dream with the Ampzilla. So I resigned from SAE, took a couple of guys with me, and built a company in my living room.

What was it about the Ampzilla that made it such a massive hit?

JB: First of all it was inexpensive, and secondly it was the first full dual-differential complementary amplifier along with the previous SAE amps that I designed. The world had not discovered this yet. This was my original contribution to the world of audio. The performance characteristics were just pretty spectacular. And the price was only $375 as a kit. I submitted it to *The Absolute Sound* for review, and in the issue they reviewed it they also reviewed the SAE 3C and Dynaco 400, both of which I had also designed [laughs].

Harry Pearson had reduced the rating of the Audio Research—I think it was the D75 or D76—one step down and put the Ampzilla as equal to it. Of course, everybody went nuts—"Oh, wow! $375!" We were overwhelmed with orders and had to move fast.

I looked at the future and thought there wasn't much future or profitability for a kit company. It's a royal pain. I put the word out that there would be no kits after the first 50, only factory-wired units and that the price would go up. We established a dealer network, and that's when I began to work on the preamp and Son of Ampzilla, and so forth.

What happened that led you to leave Great American Sound?

JB: I had GAS for three years, but I ended up with a bunch of partners who didn't know anything about business, and they just drove me stark raving mad. I finally made them buy me out.

Tell me about the new Ampzilla products. How similar or different are they from the original?

JB: There's no similarity whatsoever, just the name. When I finally got out of GAS, I sold a few of my records, and then I started another company called Sumo. That was supposed to have been a partnership between my Japanese distributors and myself because we figured it would be a nice marketing name for Asia, as I'd had a big impact in Japan with the original Ampzilla. However, the Japanese ended up getting cold feet and backing out, and here I had already designed the stuff and established it so I just had to carry it on myself. But the difference was that the amplifier, the first one, which was a big amp called The Power, was the largest audio amplifier in the world at that time—450 watts per channel into 8 ohms. It was a really nice amplifier, a fully balanced bridged amplifier. And to my knowledge—and I don't know this to be an *absolute* fact, but I am pretty sure about this—even up until today, with my current stuff, no company has ever produced a true, full, balanced, bridged power amplifier.

I've got to give credit to John Curl, because John and I both came up with certain things around the same time, even though we weren't working together. The things he came up with I also came up with, so we shared a little history. I'm talking about the preamp here, the full complementary preamps that no one else in the world had ever done, and we were the only ones doing it. Of course, today everybody does it. That's the thing—I wish I had a nickel for every time somebody copied my circuit in the last 30 years! I'd be rich!

You should have patented it.

JB: Well, the problem with circuits is that they usually don't satisfy the "unobvious clause" of the patent law. So I was out of luck, but I do have a patent on my Class A circuit, because that was not a nuts-and-bolts thing; that was a concept. It's a lot harder to come up with a concept.

What did you do in the years between Sumo and the new Ampzilla?

JB: I suffered a lot with my liver problems and multiple surgeries. I lived on my yacht for about 18 years. They originally told me I was going to die, but luckily I found the right surgeon who saved my life. I just had to keep at it, and I did little upgrades and mods and stuff like that.

I'm not going to name names here, but there was a guy who wanted me to design an amplifier for his company, and the guy turned out to be a crook, but that's beside the point. I ended up designing this amplifier that I was not going to turn over to him, because he didn't pay me. I was boxed into a corner. So here I am with an amplifier, and I just turned it into Ampzilla 2000. It's been pretty good. We've made over a thousand of them, and for one little guy, that's not too bad. It's a nice amplifier, I think. I'm not going to go out and boast or do anything like that. I'll let others flap their lips. I just make 'em.

You're quite an accomplished jazz pianist. How has your musical background affected product design?

JB: Music has always been my first love. I spent a *lot* of years in the music business on the road and traveling, and there's nothing like it. It's a creativity which is always spontaneous, every second of your life. I have a Yamaha concert grand piano, almost brand new, which is just magnificent. It's nice to be able to sit down and play and lose yourself in another world. By the time I really got around to delving into that arena, it was too late. But I did make four recordings, all done before my current spate of health problems.

I'm an old fuddy-duddy. I'm not one of these young guys. I look at music and I say, for me, there are only three kind of music. There's classical music, there's opera, and there's jazz. Other people can go and listen to whatever they want, you know? But for me, that's all I really have time for. So jazz is something that I can sit down and work out at the piano and have a real good time playing it. So... that's where that's at. **tas**