

## Constellation Audio Shoots for the Stars -- Part Two

The second part of Michael Fremer's interview with Constellation Audio principals Murali Murugasu and David Payes.

by Michael Fremer | March 25, 2010

In the first part of this interview, I talked with Murali Murugasu and David Payes about the genesis of Constellation Audio and its products. In this second part, I find out specifics, including who is designing these new-to-the-market extreme products.

Michael Fremer: Let's talk about what you showed here at the CES.

**Murali Murugasu:** We showed an SACD player [renamed Sirius HD Music Source], which consists of a transport section with a DAC section with the power supply integrated in. We showed a preamplifier with its own power supply. We showed a stereo amplifier, which is going to output 500 watts into 8 ohms, and we showed a mono amplifier, which is going to output a thousand watts into 8 ohms. And we also showed a prototype server.

**Fremer:** A what?

**Murugasu:** A server.

**Fremer:** I didn't see that but --

**Murugasu:** And currently what we've done with it is we sourced some high-definition recordings from Reference Recordings and put it into USBs. I saw this server, a concept of it, some time ago in the US, and then they implemented it for us. So that's that section. Then we were talking about the amplifier, and Peter said, "I know just the guy." And he said, "I'm not sure whether he will want to do anything, but I'll speak to him and tell him." He's happy to look at it, but he is a shy and retiring type. He likes to not be in the forefront. His name is Bascom King. And together with Peter, they presented a couple of designs to us. So we had a look at that. And they eventually settled down on a particular topology for the amplification stages, which is a single-ended MOSFET design. The idea behind that was, we have this thing for class-A power and putting it out, even though there are heat issues with it. And this topology, they believe, maximized how much you could get in that sense. So that was the amplification section in terms of sorting that out.



*Sirius HD server and player*

**David Payes:** There's a lot more to it than that.

**Fremer:** However, this is not the time or place for that. We're trying to get the basics.

**Murugasu:** No, this is just a brief introduction into them. So that was the amplification design. And all along, Peter has known a certain gentleman, initials JC, and –

**Fremer:** That's public knowledge though, right?

**Murugasu:** Yes, I believe that's public knowledge. I hope so.

**Payes:** Not off the record.

**Fremer:** Yeah, so anyway, John Curl.

**Murugasu:** Correct. And I asked him, would John be interested in putting in any input, realizing John is very busy with other projects of this and so on, but I have heard that he does sometimes from time to time do these things, and –

**Fremer:** And he's worked for a long time building to a price point, too, and this would be an opportunity for him to – and he's done incredibly good work at a price point, so given –

**Payes:** I'll just interject here. Putting the design team together wasn't a matter of just going along and retain-

ing them for a fee. These guys were passionate about working with us, because they saw this as the ability to personally express their own designs, you know, the ultimate of their designs. It's an expression of their own achievements. And these are their own statement products.

**Fremer:** Right. And they're not youngsters, and this is an opportunity that may never come along again.

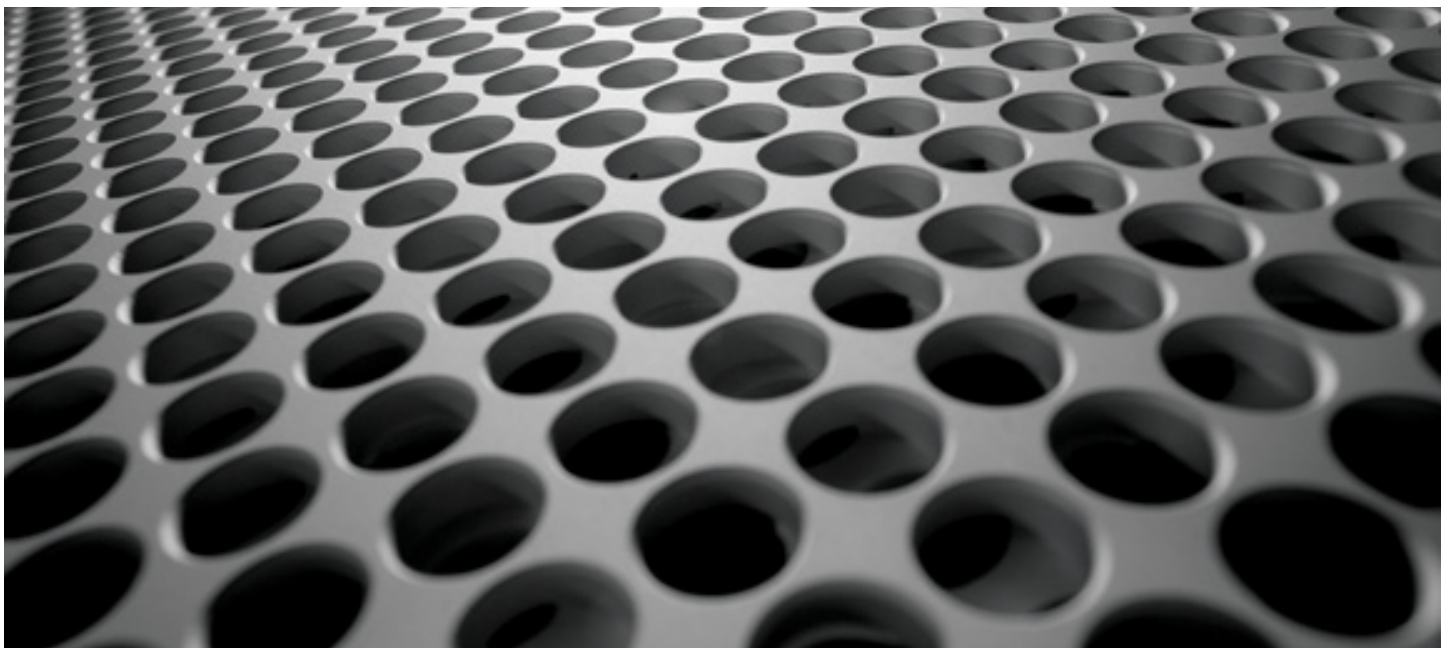
**Payes:** May never come along again. So as much as we were passionate about producing something exceptional, they wanted to show the world that they've been holding back. And they've been holding back because of price considerations or their previous employers may have had their own other involvements or design criteria or sound – “house sound,” as you call it. We allowed these designers to really fully express themselves.

**Fremer:** And this is also a confluence of the fact that we're entering a really sophisticated computer age where you can get a combination of all of these micro-processor-controlled devices and the older-style analog electronic design of amplification.

**Murugasu:** Sure, I think that's correct. So when Peter spoke to John and had a chat with him, this was primarily to do with a design of a phono stage, which John has an amazing reputation in doing.

**Fremer:** It's the best.

*Hercules and Pegasus flow through ventilation ports*



**Murugasu:** And he agreed, much to our delight, because we weren't really sure whether he would, and furthermore he was happy to consult on the others, you know, the other products. So in that sense we then knew, at least for the electronic side of things, we had an American dream team, as such.

**Fremer:** Yeah, that's the word.

**Payes:** It wasn't American; it just happened that we tried to find the best – I'm sorry, "best" is the wrong word – the most appropriate designers who happened to be American. We didn't say we're going to produce an American-based product. It just happened to be the design team we found.

**Fremer:** And the other question is, there is such a temptation today to design here and build in China. I've seen a lot of beautiful things coming from there, but you –

**Murugasu:** That was never, ever in our heads. We believe at this price point, if you're going to do a statement level of electronics, you needed to control what was going in, what was coming out. It was very important. They happened to have the facilities to do so. You can also watch exactly what's happening. Now, so far I've talked about the insides, but there's also the outside.

**Fremer:** And there's also the vibration control.

**Murugasu:** Vibration control on the inside. I think that is probably a topic that we can go into further discussion of and –

**Payes:** Also microprocessors and how they kind of talk to each other.

**Fremer:** Right. That's a different person. You didn't mention that Michael Latvis [of Harmonic Resolution Systems] was involved – can we mention him in this?

**Murugasu:** Sure. We then looked at the vibration because when I spoke to the guys about this and I said to them, "Look, the only thing we need to do is we need to do vibration control from scratch." Mike Latvis was seen as one of the guys to go to because of his experience, where he comes from, his pedigree there, and he said, "I've been waiting for a company to come along to say to me that they want to implement something like

this." And he's done it. Don't get me wrong, he's done it in some form or the other in different products, but never to this level. So that involved a bit of redesign on our part, but it came out really well. We also got what we think is the best industrial designer, that's Neal Feay Company, to go and do the virtual design for us.

**Payes:** The vibration control is at the circuit board. All of the circuitry floats on a raft

**Fremer:** I saw that yesterday.

**Payes:** Yeah, well you saw that.

**Fremer:** When I reviewed the HRS SXR rack, I said when anybody comes to your house carrying a book called Engineering with Rubber and it's not pornography, then you know the guy's serious.

**Payes:** He's serious. Exactly right.

**Murugasu:** So we wanted the outside to reflect what was done on the inside. Usually, I think, the outside is, like you said, candy –

**Fremer:** But it's very important.

**Murugasu:** It's very important, but we want it to be functional. So that's why from the concept it became such that we had the remote – we have two-way control, Wi-Fi control with the products. And that remote talks to every single product along the line, so if something goes wrong with the amplifier, you know. And the volume-control knob, for example, on the remote is an actual analog potentiometer with that particular field.

**Fremer:** Okay, so you get the team together, and they're in America and you're in Australia. How much control or how much oversight did you guys have in this? Did you watch every step of the way or did you think, we'll, go for a year or go for six months? I mean, how did that work?

**Murugasu:** Every step of the way. Marvelous thing about the current world that we live in is that there are ways of communicating via video and audio where you can see what's going on without actually being there. The other wonderful thing was that –

**Fremer:** It wouldn't have been possible ten or fifteen

years ago. You couldn't have done it.

**Payes:** Five years ago –

**Murugasu:** Correct. So having video conference calls was part of it. Putting that aside, I think one of the most important things that was there with the team and us from the very beginning was that we all – this might sound corny – liked each other. There was a degree of trust from the beginning, and I knew that they were going to do the best they could. You can tell, I believe, when you meet people what their intentions are and what they're like, and I think they could tell the same of us. So we had that relationship and that helped a lot. Of course, I came down as well. I had to come down, listen, see what they were doing, and follow up, but no, they kept us up to date all the time.

**Fremer:** And when was the first time that you got to actually hear something? Because right now it's not in a finished state, obviously. There are some issues that we heard with levels because of all the software, but you could hear something and when was the first time that you got to hear something?

**Murugasu:** The first time I heard something was in 2008.

**Fremer:** When did this start, in 2007?

**Murugasu:** I'd say in terms of concept, in terms of thinking, thinking about concept, right – and not even going into it, because I think you need to see whether something can become real or not.

**Fremer:** Right. When was the company formed? Two years ago? Three?

**Murugasu:** Two, two and a half years ago, somewhere around there.

**Fremer:** So how long between the time that you said, "Let's start a company and let's get going"?

**Murugasu:** About a year. I think it was a year later.

**Fremer:** That you heard something?

**Murugasu:** Something. Because I think what they wanted me to see – and us to see, I should say – was are you happy, are you guys happy with this? Is this

the direction we should head in? Because if they were going down a path that we didn't exactly agree on, then we would have a problem, if we were sonically poles apart. So I think that's what it was.

**Payes:** So we were working on these concepts and products, and that was all conceptual. We knew what we wanted to achieve and the final sign-off, that is the commitment of the substantial funding required to actually start producing the pre-production models, which is important – we're talking about developing a whole suite of projects, but to go into full production, to sign off on it.

**Murugasu:** That was only recently.

**Payes:** That was only real recently. So in other words –  
**Fremer:** You were listening to bread boards. You were looking for proto –

**Payes:** Sure. Yeah, prototyping.

**Murugasu:** All we're doing is putting it into little black boxes and many a time it's just one little board. That's all it was. Because you've got to know what you can or cannot do.

**Payes:** So in answer to your question, how did we know what we're listening to? We followed the whole program. But the final sign-off, that is what I call the commitment to go to production, was quite recently, a matter of what, four months ago? Five months ago?

**Murugasu:** Yeah, five-six months ago.

**Fremer:** So you came to CES and saw for the first time –

**Payes:** No, no, no.

**Fremer:** Okay. You had – I'm being more dramatic!

**Payes:** I hadn't seen.

**Murugasu:** I had at all points been very close to the project. I was involved every step of the way.

**Fremer:** Had you touched anything?

**Murugasu:** Yes, I had actually touched before, and so yes, I knew what to expect.



**Fremer:** You knew how unbelievably spectacular it was, because it is spectacular.

**Murugasu:** I can tell you this much, it is – I think it is spectacular. I think the way that it is created is amazing. To consider the fact that it's billets that we're looking at. We're not looking at actually sheet metal; they're actually solid billets. If you try and lift the preamp, that preamp weighs about 70 or 80 pounds. And that's just one part of the preamp.

**Payes:** And the important thing is that substantial weight, the reason why it's a solid billet is not because, hey, that's expensive or it looks good. It's because it provides appropriate shielding from –

**Murugasu:** And vibration control as well.

**Payes:** And vibration control as well as isolation from RFI and EMI.

**Fremer:** Which is important, especially today.

**Payes:** And the only way you can do that, unfortunately, is by solid shielding, and we did that.

**Murugasu:** And weight. But on top of that we put in the raft. I think it's these little things.

**Fremer:** When you say "the raft," you mean –

**Payes:** The vibration control.

**Murugasu:** We call it "the raft." It's a vibration-control system.

**Payes:** And the other area we spent a lot of time on, or our design team did, was on the power supply.

**Fremer:** Obviously universal worldwide, it will work any place in the world.

**Payes:** In terms of plain power, in fact we ended up producing our own transformers and special filtration. The idea was to have the cleanest possible power. We weren't interested in battery power because there are certain limitations of battery power, but we wanted the cleanest possible power supply. And we developed our own transformers.

**Fremer:** Which is a big expense and a big deal.

**Murugasu:** You bring up universal power supplies, we actually studied and had protos of that, too, of different types of power supplies. And I'm not saying to you that somewhere down the track, when we find one that is more suitable, we can't change, because the design is such that that flexibility is there for us, meaning we can change from –

**Fremer:** So the next step is to build distributorships or to build –

**MM and Payes:** Yes.

**Fremer:** And how far from now do you think it will be before you have finished products, packed, shipped, ready to be reviewed by reviewers like me?

**Murugasu:** I'll give you a lengthier time frame, hoping that we'll do it shorter, so I would say three to six months, okay? Because, you know, a lot of the debugging issues as such are software related and software takes time. You know, in this day and age of computers

**Fremer:** And knowing the stability of software too is a time-related issue.

**Murugasu:** Exactly right. You learn things every time you plug something in and put it on to play. You manipulate something and you say, "Okay, that needs to be changed. This is a factor, that is a factor."

**Fremer:** And you have to make sure that your lightning strikes and those things are all –

**Murugasu:** That was done in conception. The safety measures, the safety protocols and measures that have been built into each product are solid. If you're going to get brown out, hopefully it will just kick off the fuse and that's it. But, you know, provided there's not a 2000-volt charge running into the system [laughs], you're safe.

**Fremer:** So you're hoping that by fall – obviously you're not going to launch your product in June or July. You want to wait at that point until the fall –

**Murugasu:** Sure.

**Fremer:** To launch this product?

**Murugasu:** Sure. Unless we can do it sooner.

**Fremer:** Will this line include the phono preamp by that point in time or the server, or do you hope to get the amp and the preamp?

**Murugasu:** The amp, preamp, SACD player for sure. I think the server and the phono preamp are two products that might require just a little bit more time. I suspect that, depending on how they go, we might be able to do more, but I'd rather be conservative on this.

**Fremer:** And then there are all the other issues that most consumers, unfortunately, don't consider: the packaging, the advertising, the product support, the manuals.

**Murugasu:** I mean those things take a lot of time. One other thing that we did do with the product when we were developing it was we decided we have to make our own cabling to go with the product. And we decided at that time, for the development cycle at least, we'll have to use our own. So we actually had with us our own interconnects, our own power cables, because we had to do the internal cables, which are all Constellation. The power cables that connect between the power supply unit, the AC and DC part of it, that's also Constellation. The interconnect and speaker cables, they're all Constellation cables.

**Fremer:** And you hired one of the top designers?

**Murugasu:** We did. And he –

**Fremer:** That name can be mentioned?

**Murugasu:** He again would rather not at this time. He might change his mind when the time comes.

**Fremer:** And all the cable construction is patented, from what I understand.

**Murugasu:** Correct. These are actually patented cable constructions, and I've been led to believe that they've not actually been implemented previously in terms of how they've been done.

**Fremer:** And you'll have an American office or an American distributor?

**Murugasu:** Office, yes. I think in America, what I've found with most American-based companies is that they tend to do things directly with the dealers from

factory. I've noticed this.

**Fremer:** Right. And you will be an American-based company, and then it will be exported from America overseas.

**Payes:** To the rest of the world.

**Murugasu:** Yes, that's exactly right.

**Fremer:** Okay, so that's a long way to come in two years, it seems to me. It's unbelievable.

**Murugasu:** You know, it has actually been a fairly fantastic voyage.

**Fremer:** Was everybody at this show, all the participants, or no?

**Murugasu:** Yes.

**Fremer:** Bascom King and –

**Murugasu:** No, Bascom was not. Peter Madnick and John Curl are here.

**Fremer:** And how far along is the phono preamp?

**Murugasu:** [laughs] I was waiting to see how long that would be. No, that's in the early stages. That's the early stages. I think the phono preamp will not be on the first launch.

**Fremer:** So you come to a CES and you have a room, and you show these products for the first time, and they work, but obviously you're not making a sonic statement – you're making some kind of a sonic statement, but not a finished –

**Murugasu:** We're not saying that this is how it's going to absolutely finally sound, but I think this gives you an idea of what the products are going to sound like.

**Fremer:** How has it been received so far? What has been the reaction of the public? Has it met your expectations? Has it exceeded your expectations?

**Murugasu:** This has been, I think, the most incredible thing for us, both for the designers and for us. I'd come to CES and I thought, you know, it's a new company. No one has ever heard of Constellation Audio. You

know, you'd go by, walk past the room and that's it. On the first day, I had a couple of people like yourself walk in and – reviewers, that is – and see it and they received it extremely well. I had three importers from Korea, four importers from Taiwan, a few from Hong Kong, and that's on the first day. And their interest in the product, it really exceeded all expectations to the point that some of them were willing to order on the spot! It was interesting in that I'd met up with our Continuum distributor –

**Fremer:** What's been the synergy between the Continuum experience that you have had for five years and this? Has it been a helpful thing? Has it made it easier? It would have to make it easier.

**Murugasu:** Of course. I think that the Continuum experience for us, you know, has been – it helps you understand the market, helps you learn a bit more about how things work. But we did see them, as David has said, as separate companies, and we did think it would take – it took a while to build Continuum.

**Fremer:** Yes, because I'll say the first time I walked into your room five years ago, it was obvious that you guys just weren't really polished.

**Murugasu:** But you can see with Constellation it's very different, and I think that was something we learned, so there are a lot of synergies there.

**Payes:** And the interesting reactions being from our Continuum distributors and customers, that it's all been received as extremely positive because it shows

the commitment of two of the principals and the fact that we are focusing on Continuum for analog means. We're going to support not just Continuum but Constellation. It means we're committed to the industry, so we're going to be around. I think it allays the fears that Continuum could have been a very narrow-based company with principals who may have lost a bit interest over time. And what's the long-term viability of an analog-only company? Well, we're showing that we're committed to the industry and all aspects of it – analog, electronics – so I think it's been positive.

**Fremer:** And do you see a synergy in the other direction, where some people who might have said, "Well, I would consider investing \$150,000 in a turntable, but who knows what's going to happen, where these people are going to go?" But now they see you've set down more roots, so it goes back in the other direction.

**Murugasu:** Exactly right. In fact, I was told about a meeting of distributors for a certain country. They got together on day one of the show and they had a meeting, and they distributed between most of the well-known high-end brands we talk about. And I was told that apparently one of the topics of conversation was Constellation. And that was a very nice thought, I think, that they were actually – that we even made that kind of impact this early on I think was great. So we were very pleased by that, and humbled by it.

**Fremer:** Well, great. Well, I appreciate your talking to me, and it was nice to meet you two fellows [said facetiously]. Thanks.