

Jun Tan: Investing in Sound Processing Software Increases the Value of Chinese Audio Products

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The former founding president of ARM China, Dr Jun Tan, has been quiet from the media's spotlight for quite a while. But just a week ago I received news from an old acquaintance, Richard Zhang (CEO of EEtrend.com), saying that Jun would be hosting a media briefing, and Richard invited some other Shenzhen media colleagues as well as me to go there. Ever since Jun left ARM last year, everyone's been discussing what this legacy's next adventure will be, and the general consensus was that he would be creating another legacy.

At nine o'clock this morning, we met Jun in a business room of a hotel in the centre district of Shenzhen. The familiar face, the familiar smile; after general greetings, Jun introduced us to two foreign friends.

“This is Chris Vernon, the founder and CEO of Sontia. He's a true Generation Y person, born in '79.” Chris, a handsome artist with long hair, was formerly a performer and a recording engineer, as well as an award-winning audio technology lecturer. He was the technology leader of Sir George Martin's national music academy, and is an inventor holding many international patents.



From left to right, Mark Bernstein, Chris Vernon, Jun Tan.

After hearing this, I could do nothing but sigh in awe. Here, right in front of me, was a

true genius. Currently, Chris is the CEO of Sontia, and he is also very active in AES (Audio Engineering Society: <http://www.aes.org/>), SMPTE (The Society of Motion Picture and Television Engineers: <http://www.smpte.org>¹) and several other industries.

Along with Chris was the chairman of Sontia, Mark Bernstein, who brought investors and funds to the newly founded company. Sontia has also received investments from former ARM founder (Sir Robin Saxby, ex-chairman & CEO) as well as from Jun himself, who is currently the Asiapac Director of Sontia, and runs the Asiapac region.

After introducing these core characters, let us head to the main point of this media briefing. Jun began with an introduction: “ Sontia is a UK audio technology company founded in 2004, committed to providing innovative technology that satisfies the consumer’s ever-growing want for increased sound quality. Sontia’s next-generation DSP software enables manufacturers to achieve a superior audio performance for all types of audio entertainment products, including iPod docking systems, flat screen TVs, laptops, MP3 players, home cinema systems and much more. In the future, Sontia is also positioning itself to be the leading provider of 3D HD audio.

Chris then made a detailed explanation of Sontia’s software; For specific technical data, please download the attachment from link below

(http://www.eet-china.com/STATIC/PDF/201008/Sontia_eetcol_20100827.pdf)

Jun expressed that this was a software that could raise audio quality by over 50%, which can also be ported to ADI, TI, and X MOS platforms through firmware. At the same time the software algorithms can be ported and written into FPGA, realizing DSP computing processing functions while saving the process of developing DSP hardware. I was rather sceptical of the “50% up” effect, and I was just about to ask which specific data was increased by 50%, when the live demo began. This was a live hearing experience, and despite me not being an acoustics professional, I still believe my hearing skills to be ok. Although audiophile devices are not within my range, I often go to Gome shops and trick the shop-clerks into closing their doors and gratifying my ears.

Jun linked up his iTouch with the Sontia TAS3308 development board, which uses a TI DSP chip. The output was a very normal Creative computer speaker with a power of 5W, and using these equipment, Jun began his demo.

Before enabling Sontia software, the sound was simply 2.0 channel sound, but after enabling Sontia software features through switch control, the sound effects changed entirely, making it more than simply 2.0 sound. The acoustics and instruments performed beautifully, the bass portrayed huge resonance; the sound seemed like it was from a live performance. After the ensuing process of repeatedly switching the software ON and OFF, everyone at the scene could clearly determine whether the software was on or not. After everyone was convinced of the magic change in the

sound effect, Chris smiled and lifted the tablecloth, to show us there were no hidden high-end speakers under the table. Personally, I would value these sound effects as from a 3000 RMB speaker.

Just when we were about to ask what Sontia could do to high-end speakers, another tablecloth was revealed, to show a soundbar customized from a Swans speaker with the Sontia Sound Bar Reference software integrated into it. Using the iPad, Jun shows us a scene from the movie 《Hero》 in which Jet Li shows off by slashing through bamboo. The stereo sound is inputted into the soundbar through co-axial optical fibre.

Before enabling the software effect, we already had a great stereo sound, tricking us for a while into thinking that the software was already enabled. But after the software was really enabled, we discovered that every specific detail, from the sound of the sword puncturing the bamboo, to the bamboo breaking apart together and collapsing, to the gentle sound of Jet Li's sword catching a glass of water in the air; all effects were greatly magnified. From the slightest sound of a hair dropping to the raging surround effect of bamboo falling together, every detail could be clearly determined, and the whole effect felt more like a 5.1 or 7.1 home theatre system rather than stereo sound.

Afterwards there were some more classic soundtracks, all achieving the same increased effect. I feel like this customized Swans speaker soundbar has the effect of a 10,000 RMB mid-high end speaker. I believe this overall change in sound effect is all due to Chris Vernon's all-rounded talent. According to some of my acoustics professional friends, the technology applied to Western high-end speakers can only be achieved through their unique crafts, which cannot be achieved by current Chinese speaker designers and technicians. Thus there is a monopoly in the high-end speaker market led by Western manufacturers, and achieving a high-quality sound output becomes a very hard thing to do.

Currently big flat-screen televisions are getting thinner and thinner, with image quality and contrast improving greatly. However due to the reduced volume, television speaker technologies and surround sound have not faced many improvisations. Furthermore, HD movies on the internet often only have stereo soundtracks, making consumers who like to download HD movies very annoyed, with their 5.1/7.1 home theatre systems being of no use.

I believe that this technology enhances the sound effects and also greatly decreases the cost to enjoy high-definition sound. Mark Bernstein expressed that the above-listed 10,000RMB speaker effect achieved by the demo soundbar does not require any modifications to the hardware, and can be achieved within a 3000 RMB budget.

If Sontia were applied to flat-screen televisions, the television cost would only be

increased by less than 100 RMB, while the downloaded digital HD movies played on the TV, despite being 2.0 or stereo sound, could achieve the same effect as home theatre systems, which I believe many consumers are willing to accept.

About Sontia's audio processing technology's business model in China, Jun answered, "We have all types of technical solutions, all of which can be directly licensed, or packaged into a chip set, or even into an OEM program."

After all of this, I really wanted to go to rent a shop and begin selling Sontia soundbars. But there are far too many soundbar businesses in China, and as soon as they hear of this information, and as soon as Dr Jun Tan partners with them, with China's manufacturing power, in only two to three weeks a large amount of enhanced soundbars can be implemented into their shop stock. So I've decided to write this article, and leave the money for the Chinese bulk-cheap manufacturers to make.

When we left the briefing and shook hands with Jun, he reminded us to introduce some more audiophile/audio manufacturer friends to him, and then the next Shenzhen Engineering Technology Meeting started. I hope products using this technology will appear on the market soon, since I desperately need a good speaker on my computer desk. I also believe that Dr Jun Tan who has brought ARM to many Chinese IC designing companies and made them successful by making China ARM's fastest & largest overseas market, he will continue his legacy by pleasing the world's ears with Sontia's soundbar.

¹: SMPTE(The Society of Motion Picture and Television Engineers) is currently a widely used time code concept in the video/sound industry. This code is used for sync between device and driver, using Hours: Minutes: Second: Frames as a parameter format. SMPTE 24 Film Sync has a speed of 24 frames/second, usually used in the video industry; SMPTE 30 Non-Drop: This standard is used in the audio industry.