AN INTERVIEW WITH OPTOCORE FOUNDER, MARC BRUNKE

I guess the original idea for a fibre optic network stemmed from your days as a musician, dealing with the shortcomings of copper cables. Is this what sent you in search of a better solution?

Indeed, the idea came during a sound check while playing the saxophone in my band. Our mixing engineer had a lot of trouble with our copper snakes, so I thought using fibre optic should improve things. When my research found that no one was building such a system, I started the quest for improving the situation for sound engineers in our industry. At that time I didn't know I was about to become the leader of the digital revolution, of course.

It seems like 1992 was a crucial year as you built your first fibre optic system. Explain how that came about?

When I first had the idea in the late 1980's, technology wasn't really ready. But in 1992 I built the first system to demonstrate its function, and for the optical snake system I was awarded first prize at the '*Bundesjugend Forscht'*, which is a competition for young engineers in Germany.

It must have been well ahead of its time, so explain the circumstances? What was the aim of this Optocore network transmission? What was the relationship with Stratos?

Well, we've always driven the possibilities beyond the limits, and we continue to be ahead of our time. The 1992 system was a very basic demonstration of the possibility, but by 1996 we had developed a quite flexible network system using DIP switch addresses. One must remember that in 1996 there was very little networking – Internet was at the very early stage and Ethernet was non-existent. From 1996, we helped Stratos to change from a military company to an industrial one – by miniaturising their expanded beam connectors. Now it has been adopted by other companies and become a *de facto* standard for our harsh environment needs.

Did you realise you would be creating the world's first optical fibre network system?

Yes, this was quite obvious from the beginning. Very exciting really.

Was this seen as a gap in the market not being addressed by other

manufacturers?

Not gaps really — we were just the first to spot the benefits of new technology, and after that we concentrated on it. When we built a snake replacement back in 1992, no one else was doing so. When we built a fully featured network others were only building snake replacements. Now others are starting to build networks, but we are already producing advanced distributed matrix systems.

When did 'Optocore' stop being a product and turn into a company? In other words, when was Optocore officially formed?

We formed Optocore GmbH in Munich in 2003. It had already become a full time project for 20 employees so to found our own company was the logical thing to do.

Another pivotal year I think was 1996, when you launched the first Optocore modules. What were these — and how did they impact on the LX4?

They were called 'Brunke Modules' and were the first audio network systems on the planet with multiple nodes. We sold the first to Polish Broadcast for the Pope's visit to Poland. These were 8-channel A/D and D/A converter modules with individual fibre ports. Now we're producing such modules again – it's really good to see that good ideas can survive the passage of time.

You are probably best known for the DD32 digital I/O device. When was this introduced — and how did it change the perception of Optocore?

That was in 2002. It was the first digital-only device in our portfolio and became a best seller. It not only served our analogue X6 modules, but could be connected to any other converter, console or third party equipment. As the Optocore protocol fully transports the two existing digital audio standards AES/EBU and MADI, plus communications like RS485, MIDI, DMX, Ethernet etc., you can use it for virtually anything.

When did you first start talking seriously to digital console manufacturers. How was Optocore able to help them?

We did from the very beginning. When we invented Optocore, there were no digital consoles. When they started to emerge, we helped them to get connected. Now all digital consoles can be connected to Optocore, and a lot of them are also tightly integrated with Optocore, with dedicated cards and allowing control from consoles over Optocore devices.

When you launched the new X6R and V3R A/D converters earlier this year was SANE already in your mind?

Yes, we designed the new converters as a very flexible platform, including SANE.

How long have you been developing the principle of SANE, using CAT5 instead of optical fibre?

The idea became obvious and we started to look into it as soon as CAT5 was out. In the early days CAT5 was quite a poor transmission line due to electrical principles, and we didn't like all the drawbacks of Ethernet — designing a system around Ethernet was never professional enough. Only recently have chipsets for error-free transmission become available, so we could finally implement a professional network on CAT5.

Was there one 'Eureka' moment which unlocked the whole design?

Sorry, no. Most people think of inventors as having a 'Eureka' moment, but usually it's just hard work. The system itself was all in place and was just waiting for an environment to perform professional real world operation, and the hard work was to test plenty of hardware in real applications.

Other than cost what are the true benefits of upgradable ring topology combining CAT5 and fibre, providing integrated SANE and Optocore options?

It's really the cost point. It means that you can build more distributed and advanced systems at a fraction of the previous cost — this is especially true when harsh environment cabling is required.

Has the system, with its optional ports, been developed specifically to meet growing demands for larger digital ring networks in increasingly-enlarged building projects?

The new devices decrease cost per node of an Optocore network significantly — not only for building projects. However, large building projects benefit in particular as they usually require a lot of nodes.

What are its advantages for studios and the broadcast community?

Increased flexibility at reduced costs.

Is this an open protocol which will allow it to be interfaced with other platforms?

Of course! Optocore has always been the most open protocol in the entire industry – using open audio standards as the backbone, having interfaces to all open audio standards, and even integrating control in favour of customers and other manufacturers. Additionally, Optocore will always be future proof – when new standards emerge, we'll simply provide a box for it.

Turning to the recent past, you seem to be taking a much more dynamic approach to providing MADI interfaces. What has been the thinking there?

Starting with DiGiCo as a partner a decade ago, we have extended our partnerships across the pro audio industry. This policy offers a highly flexible, open and future proofed solution for our clients. With the SANE platform, the MADI interfaces are a logical expansion.

And as these manufacturer partnerships have grown, so you appear to have developed a stronger eco-policy with products like the ultra-efficient 'R' series.

Our eco-policy has been great from the beginning compared with other products. Green thinking has always been at the centre of our mission — not only concerning the power consumption of our devices, but also for our complete company set up.

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Pic: Marc Brunke