Press Release

Rosbach, September 11, 2007

DEV and the Technical University of Darmstadt receive State of Hesse Cooperation Award for joint project

3rd prize for improved signal transmission and design of ultra-small RF switch matrices

Rosbach, September 11, 2007. RF matrices are extremely complex switches designed to ensure the interference-free transmission of TV programmes. Thanks to the joint project of the DEV Systemtechnik GmbH & Co. KG and the Technical University of Darmstadt, the time and cost-intensive production of circuit diagrams becomes an issue of the past. The partners were awarded 3rd prize at the 3rd State of Hesse Cooperation Award for their joint project. The award was handed over by the Hessian Minister of Economic Affairs, Dr. Alois Rhiel, at the annual conference of the Hessian TechnologyTransferNetwork held at the University of Applied Science Gießen-Friedberg on August 28, 2007.

The transmission of TV programmes has been a complex process with the trivial matrices used to date. A prerequisite for improvement is the development of simpler or even minimal switches. DEV Systemtechnik, in collaboration with two mathematicians from the Technical University of Darmstadt, namely Professor Dr. Alexander Martin and Dr. Peter Lietz, has successfully developed such switching system. The mathematicians developed a new architecture and solution algorithm for a 32x32 RF switch matrix. For the first time, they managed to provide mathematical proof for a minimal three-stage Clos network for multicast signal routing. Given the fact that the costs increase linear with the number of middle stage matrices, the overall objective was to reduce the number of matrices. “With the new algorithm, we were for the first time in a position to develop a software that allows to analyse the switching capability of a RF matrix in short computing time. Even if one were to apply a trial and error approach using a mainframe computer, this wouldn’t be possible within a realistic time-frame”, explains Professor Martin.

The new 32x32 RF switch matrices enable DEV to produce cheaper, more efficient and less space-consuming PCBs. Furthermore, the new PCBs provide a much better transmission quality compared to conventional trivial matrices. “For us, the collaboration has already paid off: Nine systems have been sold so far and further orders are in the pipeline. The product is positioned in the high price segment. We target to sell between 10 and 30 systems per annum. Thus, RF matrices will contribute 10-20 percent to DEV’s annual revenue”, says Jörg Schmidt, owner of the DEV Systemtechnik.

However, the Technical University of Darmstadt has also benefited from the collaboration. It has gained international acclaim for its research findings and received invitations to internationally renowned symposiums, such as the “Combinatorial Optimization Workshop” in Aussois (France).

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