

A music industry giant teams with Xilinx to create MaGIC.

by Xilinx Staff

Gibson Guitar and Xilinx recently announced a collaboration that resulted in the industry's first electric guitar to deliver true digital sound. Through their internally derived MaGIC (Media-accelerated Global Information Carrier) digital transfer protocol, Gibson developed a way to take the traditional analog output from the guitar and convert it into a digital signal, providing realtime high-fidelity digital audio to benefit both production and live performances. Gibson credits the reprogrammable Xilinx SpartanTM-IIE FPGA as the enabling critical component in its groundbreaking guitar, and plans to use FPGA chips in a variety of MaGIC-enabled applications. The Xilinx Spartan-IIE FPGAs are the world's lowest cost programmable devices available today.

Gibson will offer MaGIC in every Gibson electric guitar within the next 12-18 months. MaGIC applies the digital technology invented for computer network products to audio networks. This requires adaptability to the MaGIC standard, made possible by using a programmable-versus-fixed logic solution.

The programmability of Xilinx FPGAs also provides Gibson with the ability to achieve its vision of licensing its technology to other music and consumer product manufacturers for future product development.

Gibson hopes to achieve this vision by licensing MaGIC free of charge so that it will be embraced as the standard not just in the music industry, but in home networking, home automation, and medical imaging markets as well.

"MULTIPLE USES OF MAGIC WOULD NOT HAVE BEEN FINANCIALLY OR TECHNICALLY POSSIBLE USING TRADITIONAL ASIC FIXED LOGIC. AN ASIC PLATFORM WOULD HAVE REQUIRED THE DESIGN TO BE RE-SPUN EACH TIME A CHANGE WAS MADE. THE PROGRAMMABLE NATURE OF XILINX FPGAS NOT ONLY PROVIDED A FLEXIBLE, HIGH-PERFORMANCE DESIGN PLATFORM FOR GIBSON, IT ALSO PROVIDED THE LOW-COST SILICON SOLUTION WE NEEDED TO MAKE IT HAPPEN."

HENRY JUSZKIEWICZ — GIBSON CHAIRMAN AND CEO

About MaGIC

Despite dramatic advances in recent history, real-time high-fidelity digital audio has yet to penetrate both production and live performances. Increasing demand has motivated the effort to apply modern network technology toward producing superior quality real-time audio devices at low prices.

MaGIC uses state-of-the-art technology to provide as many as 32 channels of 32-bit bidirectional high-fidelity audio with sample rates up to 192 KHz. Data and control can be transported 30 to 30,000 times faster than MIDI (musical instrument digital interface).

About Xilinx Spartan-IIE FPGAs

Since introducing the low-cost Spartan family more than four years ago, Xilinx has delivered four generations of devices, offering a low cost, programmable alternative to ASICs without NRE costs. The Spartan-IIE family is delivering the lowest system cost solution in the industry, and is the only true ASIC alternative FPGA solution available. For more information on Spartan-IIE FPGAs, visit www.xilinx.com and search Products.

About Gibson Guitar

Gibson, founded in 1894, continues to be one of the most highly respected names in musical instruments. Gibson guitars are fully created and assembled in the U.S. Headquartered in Nashville, Tennessee, Gibson Musical Instruments currently encompasses a large family of companies that make and sell the world's finest guitars, basses, banjos, mandolins, drums, keyboards, amplifiers, strings, and accessories. For more information on Gibson, please visit www.gibson.com.

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