

# Matrox Graphics

## *The XC5204 is Used in The New Rainbow Runner*

Until recently, the home computer has been tucked away in an office or den, separated from other entertainment media such as the television and VCR. But the latest developments in digital video technology are bringing these products together.

At the forefront of this convergence is the Matrox Graphics Rainbow Runner series of video upgrades for Matrox PC add-in cards. Together, Rainbow Runner and Matrox's graphics accelerators open a whole new universe of video at home. They make possible high-quality video editing, frame capture, video conferencing, PC-to-TV output, hardware MPEG playback, and TV on the PC.

Matrox Graphics, a Montreal-based company that has more than doubled its sales of PC graphics add-in cards in each of the last three years, has selected the Xilinx XC5204 device for the high-volume Rainbow Runner daughtercard. The XC5204 was chosen for this consumer application because of its low cost, high I/O count, and reprogrammability during development. The XC5204 was able to add new functionality without having to redesign the custom graphics processor on the add-in card.

"Matrox is committed to providing innovative, leading-edge technology to deliver the best performance at competitive prices," says Lorne Trottier, president, Matrox Graphics Inc. The new Rainbow Runner series of video companion cards is an example of the company's commitment to developing breakthrough technology and delivering it at breakthrough pricing. The XC5204 device is used on the Rainbow Runner daughtercard for the Matrox Millennium, providing high-quality video editing, video conferencing, computer-based training, multimedia and Web authoring.

The flexibility of a programmable solution allowed frequent design changes during development, while maintaining the required pinouts. Board space is critical in an add-in card, and the Xilinx XC5200 family enabled a solution that would not be feasible with discrete logic. Plus, a large number of I/Os were needed for the bus interface, met by the 124 I/O points of the XC5204. Matrox expects to sell hundreds of thousands of the daughtercards, and sees no need to go to a fully customized ASIC, even in this high-volume consumer application, because of the Xilinx cost-saving HardWire technology.

The design was created with generic VHDL synthesized by Viewlogic's ViewSynthesis product. The designer chose VHDL because of the ability to make high-level design changes. The powerful combination of ViewSynthesis and the Xilinx implementation tools allowed the designer to work independently of the details of the target architecture. This was Matrox Graphics' first use of a programmable logic device, and the design was completed using the Xilinx software with minimal training.

The Matrox Rainbow Runner is an example of the new consumer applications that push the envelope of technology. The XC5204 is a perfect fit with its powerful architecture, fast time-to-market, and low cost compared to other solutions. For Matrox Graphics, it made possible an advanced video companion card at a cost that the average computer user can afford. ♦

