



## **AKUSTICA PARTNERS WITH RICOH TO DELIVER CAMERA MODULE REFERENCE DESIGN**

*Fully integrated audio/video USB module simplifies camera module  
integration*

**San Francisco/IDF—September 26, 2006**—Akustica, Inc., the pioneer in on-chip acoustic systems, today announced the first fully integrated audio/video Universal Serial Bus (USB2.0) camera module reference design using Akustica digital microphones and a video interface controller from RICOH Co. Ltd., the Japanese electronics giant.

The camera module reference design pairs an array of Akustica's new AKU2004 digital microphones with Ricoh's new R5U872 USB2.0 audio/video interface controller that features a 4-channel digital microphone interface. Together, the interference-free Akustica digital microphones and the USB2.0 audio/video interface controller from Ricoh speed time-to-market for flat panel and notebook PC manufacturers who are designing platforms that aim to support VVoIP (Video and Voice over Internet Protocol) applications with high-quality audio input.

Many industry watchers consider integrated PC video cameras an emerging market, thanks to the growing popularity of video instant messaging, video email, and real-time-communications such as VVoIP. With faster frame rates and the ability to combine voice and image communications, some laptop manufacturers are betting that business videoconferencing may finally come into its own. Chris Chute, senior analyst for IDC's Digital Imaging Solutions and Services program, has forecast significant growth for the PC camera market, estimating that 33 million PC cameras will be shipping in 2010 globally.

The Akustica/RICOH reference design provides all of the necessary components to quickly integrate a high-quality audio/video solution. Akustica's AKU2004 *Voice-to-Bits*<sup>™</sup> technology handles the analog voice signal arriving at the transducer through several levels of on-chip processing until the voice signal is digital and ready for interface formatting in RICOH's R5U872. Using the *Voice-to-Bits* solution means that the reference design is virtually immune to all forms of radio frequency/electromagnetic interference (RFI/EMI) sources. The output of the R5U872 is an integrated audio/video USB stream. Together, the AKU2004 and the R5U872 comprise an audio/video subsystem that is particularly well suited for integration into small, RF-rich spaces with little room for wiring, such as those found inside notebook computer displays and flat panel displays.

“This reference design represents a turning-point in the development of VVoIP platforms. Akustica and RICOH are providing our customers a high-quality, modular approach to video and voice integration,” said Davin Yuknis, Akustica’s vice president of marketing and product management. “Manufacturers that adopt this reference design can quickly achieve the highest audio performance and deliver an outstanding user experience to their customers.”

Moreover, the USB audio interface leverages the Windows Vista™ audio signal processing, which uses the signals from the microphone array to perform echo cancellation, noise suppression and beamforming. Additionally, the USB audio output will be fully Universal Audio Architecture (UAA) compliant for Windows Vista platform developers.

### **Availability**

The reference design will be available to manufacturers from Akustica and Ricoh in Q3’06.

### **About Akustica, Inc.**

Founded in 2001, Akustica, Inc. is a privately held company based in Pittsburgh. Through a revolutionary technology known as Sensory Silicon™, Akustica products enable electronic devices to sense and respond to the world around them. By leveraging standard Complementary Metal Oxide Semiconductor (CMOS) processes and microelectromechanical systems (MEMS) technology, Akustica acoustic system-on-chip solutions combine the functionality of microphones with microelectronics and software onto a single chip. Only Akustica’s CMOS MEMS Microphone Chips—which were pioneered by Akustica co-founder and CTO Dr. Ken Gabriel during his tenure at Carnegie Mellon University—enable single-chip solutions with arrays of transducers and integrated signal processing that disrupt both conventional microphone and speaker technologies. Smaller and more reliable than the current crop of electret condenser microphones (ECMs), silicon microphones can be customized with advanced sound capture features and noise reduction capabilities. For more information on Akustica, please contact us via phone: (412) 390-1730, Fax (412) 390-1737, email: [contact@akustica.com](mailto:contact@akustica.com) or web: [www.akustica.com](http://www.akustica.com).

### **About Ricoh Company, Ltd.**

A global leader in digital office solutions, Ricoh ([www.ricoh.com](http://www.ricoh.com)) creates new value at the interface of people and information, offering a broad range of digital, networked products, including multifunction products, printers, fax machines, DVD/CD media, digital cameras and electronic devices.

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**PRESS CONTACTS (For Editors Only):**

**AKUSTICA, INC.**

DavinYuknis

Phone: 412/390-1730

Email: [dyuknis@akustica.com](mailto:dyuknis@akustica.com)

**VETRANO COMMUNICATIONS**

Maria Vetrano

Phone: 617/876-2770

Email: [m.vetrano@vetrano.com](mailto:m.vetrano@vetrano.com)