
**DISPLAY POWER AND INTERFACE
OPTIMIZATION**

Thursday, May 24 / 2:00 3:20 pm / Room 104A

Chair:Richard McCartney, National Semiconductor Corp., Santa Clara,
CA, U.S.A.**Co-Chair:**

Seung-Woo Lee, Kyung Hee University, Seoul, Korea

**50.1: *Invited Paper*: Display Power-Performance Optimization
Technologies Integrated in Notebook Graphics Controller (2:00)***A. Bhowmik
Intel Corp., Santa Clara, CA, U.S.A.*

Mobile computing and communication technologies are undergoing exciting and rapid advancements. The key attributes of a notebook-display subsystem in the era of personal-internet on-the-go and the associated challenges and opportunities will be reviewed. A set of technologies integrated into graphics controllers that significantly enhance the notebook-display power-performance metrics will be presented.

**50.2: Vertical Differential-Encoding Method for Low-Power
LCD Interface (2:20)***H. Okumura, M. Baba, A. Takagi
Toshiba Corp., Kawasaki, Japan*

An improved and optimized vertical differential encoding (VDE) technique that results in an ~15% reduction in power consumption for the LCD interface circuit and, combined with a method to optimize the data arrangement over low-voltage differential signaling (LVDS) transmission lines, offers an ~8-dB reduction in EMI.

**50.3: Low-Delay and Real-Time Image-Transmission Hardware
for Remote Desktops (2:40)***M. Nakao, M. Kita, T. Matsui
Eizo Nanao Corp., Ishikawa, Japan*

Based on the software model proposed at SID 2006, a hardware prototype of a real-time image-transmission system supporting environments where computer desktop images requiring both interactive responsiveness and real-time motion-picture images has been developed. The architecture of the prototype will be described in detail.

50.4: High-Quality and Low-Delay-Image-Transmission System with Fast JPEG 2000 Codec and Efficient Network Protocol (3:00)

*M. Nakao, M. Kita
Eizo Nanao Corp., Ishikawa, Japan*

A prototype image-transmission system for wireless PC monitors has been developed. Optimizing image-quality control and adopting an efficient network protocol reduced the conventional requirement for high computational complexity and memory consumption. Experimental results show that the system maintains the high image quality of conventional JPEG 2000 and eliminates the delay when compared to MPEG-2 processing.

BREAK (3:20–3:40)

AUTHOR INTERVIEWS (5:00–6:00)