

Fuel Cell Prototype for ThinkPad Notebooks

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IBM and SANYO Electric today unveiled initial plans for a prototype micro direct methanol fuel cell system for IBM ThinkPad notebooks. Leveraging SANYO's latest advancements in fuel cells that increase the longevity of notebook batteries, IBM and SANYO jointly developed a basic design of a fuel cell power source. Based on the design, the companies developed a prototype fuel cell system that could supply up to 8 hours of power per cartridge on current and future ThinkPad models.

Unlike other prototypes that require a modified design to outfit fuel cell batteries, SANYO's system was designed to be compatible with most current ThinkPad models without the need to alter the notebook design

-- demonstrating the resiliency of the ThinkPad notebook's internal power architecture. The fuel cell system also includes an auxiliary bay IBM's Ultrabay Slim Battery to supplement peak power consumption for business applications. In addition, the auxiliary bay could be used to make the power supply even more versatile by charging an Ultrabay Slim Battery.

The fuel cell system could enable ThinkPad notebooks to run intensive business applications such as multimedia, graphics and computation programs, while performing tasks such as security updates and scheduled maintenance without draining PC battery power. These capabilities could provide added stability for increased productivity, access to information and customer service.

"There are a number of vendors developing fuel cell battery prototypes for PCs and mobile devices, but the combination of IBM's first-class ThinkPad notebooks and SANYO's leadership position in the technology will accelerate research and development in the field," said Peter Hortensius, vice president, IBM Personal Computing Division. "We do not focus simply on the 'wow factor' of fuel cells -- we see it as a powerful enabler that could support a wide variety of business applications. These companies are collaborating to help carry ThinkPad notebooks to the next generation of power supplies, while supporting the highest levels of business productivity."

The IBM PC Division's ThinkPad development team has focused on new behavioral usage models for fuel cells in mobile computing, such as docking stations used for office 'hoteling' concepts and the deployment of notebook computers in locations remote from traditional power sources.

"SANYO, as the world technology leader in rechargeable batteries, has been conducting research and development of fuel cells. I am proud to

work in earnest specifically with IBM to create a innovative fuel cell system with the ThinkPad design, the industry standard in business computing," said Mitsuru Homma, Group Executive of SANYO's Power Solutions Group. "This is quite a new concept that utilizes both micro fuel cells and rechargeable batteries. This hybrid system could enable the user to efficiently operate IBM's ThinkPad notebooks for a longer time compared to systems with only a fuel cell while also providing the convenience of an AC cordless environment."

The IBM PC Division's research and development of ThinkPad mobile computing technology takes place at the Yamato Laboratory in Kanagawa Prefecture, Japan and at development facilities in Research Triangle Park, North Carolina. After the launch of the new Lenovo Group in the second quarter, 2005, these resources will be joined by Lenovo R&D facilities in Beijing and Shanghai.

SANYO is the world's leading producer of rechargeable batteries, supplying power to mobile phones, notebook PCs and other mobile devices. SANYO's Energy Research Facility is a stronghold for research and development in the mobile energy field. SANYO is building a strong base for the next generation of mobile energy businesses by consistently performing fundamental and application technology research, working with a wide range of mobile energy related technology.

A 2-minute video demonstration is viewable at [reswats1.research.ibm.com/comm ... ILE/TP_fuelcell.mpeg](https://reswats1.research.ibm.com/comm...ILE/TP_fuelcell.mpeg)

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