

Casio Develops World's Smallest Fuel Cell for Laptop PCs

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Casio Computer Co. has developed the world's smallest fuel cell for use in laptop personal computers, and aims to market it in 2007. The polymer electrolyte fuel cell, which is being developed for use in automobiles and home appliances, has been miniaturized to almost the same size as a conventional lithium ion battery. Its capacity is nearly four times higher than that of a conventional battery, and it can power a typical laptop computer for eight to 16 hours.

The unit features a device that extracts hydrogen from methanol and sends the hydrogen to the main fuel cell. Casio, working jointly with Akira Igarashi, an engineering professor at Kogakuin University, succeeded in making the device as small as a 500 yen coin so that the entire unit would fit in a laptop PC.

The device that extracts hydrogen reaches very high temperatures, but Casio solved this problem by wrapping it in a heatproof case, among

other methods.

Fuel cells that use methanol are also under development, but they require pumps to handle liquid methanol, making the entire unit too large to be used in laptops.

Under current law, methanol is treated as a dangerous substance because it is flammable. This requires manufacturers to take excessive safety measures. Government regulators, including the Ministry of Economy, Trade and Industry, are considering deregulation as early as 2007 so that fuel cells will come into wide use. Casio hopes to bring its fuel cell to market after that.

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