

# Discharge-free NiMH batteries roll out

By Yoshiko Hara

Tokyo — Matsushita Electric Industrial Co. Ltd. and Sanyo Mobile Energy Co. have separately developed new nickel metal hydride batteries that self-discharge far less than conventional NiMH batteries.

Current nickel metal hydride batteries have one major drawback: They release their stored energy over time, even when they are not in use. A conventional NiMH battery retains only 30 percent of its full charge over the course of six months, according to Matsushita. Thus, users have to charge the battery before each use.

Sanyo claims that its newly developed battery retains about 90 percent of its original charge after six months and 80 percent after one year. Matsushita reports that its battery retains about 80 percent of its energy after a year. Both companies have increased the number of times their batteries can be recharged from the current 500 times to 1,000 times.

"Two features—ready-to-use and long energy retention—have been added to the advantages of rechargeable batteries, which are known to have a large energy

capacity and are easy to recycle," said Mitsuru Honma, the president of Sanyo.

Three types of rechargeable batteries are in widespread use: nickel metal hydride, nickel cadmium and lithium-ion. The Li-ion battery tends to have the greatest capacity. NiMH batteries have less capacity, but they cost less. Li-ion and nickel metal hydride batteries are now widely used for such applications as personal computers, mobile phones and digital cameras.

Though Sanyo and Matsushita developed their products separately, their batteries are almost equal in performance, approaching the level of the energy retention rate of Li-ion batteries.

Sanyo and Matsushita differ, however, when it comes to the applications they're targeting.

Sanyo cut its dry-cell business while strengthening its presence in rechargeable batteries. The company claims to have about a 40 percent share of the world rechargeable-battery market. Thus, Sanyo has proposed to replace dry cells with its rechargeable batteries. Dry-cell batteries require 1.5 volts. And because nickel metal hydride batteries

have a voltage of 1.2 V, they can be used in place of 1.5-V dry cells.

About 40 billion dry cells are used and discarded in the world, said Sanyo's Honma. Just within Japan, 2.3 billion cells are used, he said. Instead of disposing of those dry cells, he proposed using environmentally friendly rechargeable batteries, since recycling systems for those

## Rechargeables retain 80% of energy for year.

have already been set up in the United States, Europe and Japan.

Sanyo is positioning its nickel metal hydride battery, dubbed "eneloop," as the first product to represent the company's new vision, "Think Gaia." With this new strategy, Sanyo is making environmental issues its first priority.

Taking advantage of the battery's low self-discharge rate, Sanyo plans to sell precharged nickel metal hydride batter-

ies in AA and AAA sizes. Buyers can use the battery as if it were dry cell.

The AA battery has a capacity of 2,000 milliampere-hours, while current batteries have a capacity of 2,500 mA-hr. "To replace dry cells, we think the 2,000-mA-hr capacity is enough. It's already superior to dry cells. To make sure of its safety, we want to increase the capacity," Honma said.

"The target of the eneloop battery is to be environmentally conscious and to be appealing to dry-cell users," he said.

Sanyo will put the AA battery on the market this week and plans to release the AAA battery in January in Japan. Introduction to overseas and OEM markets will follow sometime next year.

Matsushita developed its new nickel metal hydride battery with GS Yuasa Corp., a Kyoto-based storage battery manufacturer, by reducing the self-discharge rate by one-third. That enables the battery to retain about 80 percent of its energy one year after it has been first charged, the company said. The battery has a 2,000-mA-hr capacity.

Matsushita is a major supplier of both dry cells and rechargeable batteries. It will introduce its nickel metal hydride battery in AA and AAA sizes next February in Japan. The battery's introduction to overseas markets will follow.