

BATTERY POWER PRODUCTS & TECHNOLOGY

Solutions for OEM Design Engineers, Integrators & Specifiers of Power Management Products

Portable Power: *Smaller, Lighter and Affordable*

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As the technology behind consumer electronic devices continues to evolve and advance, product designers are in a race to make them smaller, lighter and thinner with each new generation.

Industry leaders, like Apple, have raised the bar for designers by developing a stream of thinner, sleeker devices. This influence is being felt in devices that one would not normally consider, such as remote controls. With the advent of very thin LCD and plasma televisions, designers of remote controls are looking to make the remotes thinner, both to match the profile of the televisions and to meet growing consumer expectations for thinner devices.

Along those lines, in order to meet this growing expectation for smaller, lighter and thinner devices, designers need new and innovative power solutions. These designers look to both rechargeable and primary battery solutions to meet their needs. Rechargeable battery solutions enable designers to provide an appropriate solution for devices, such as cell phones and notebook computers, with high energy and power demands where the cost of replacement of a primary battery solution might not be acceptable to the consumer.

Primary battery solutions enable the OEM to significantly lower the cost of the device to meet a lower price point and to address a much larger share of the consumer market. These solutions are also more appropriate in devices where it is inconvenient to recharge the device. Great examples of devices where primary battery solutions offer value to the consumer are flash audio players and Bluetooth headsets. Primary battery makers are focused on bringing new and innovative primary battery solutions to enable smaller, lighter and thinner devices, while at the same time enabling a lower price point.

Another trend driving battery development is the growth in relatively low power devices, such as Bluetooth headsets, noise cancelling headsets, flash audio players, laser pointers, LED penlights, remote controls, remote sensors and medical devices like glucose meters and blood pressure monitors. The common denominator with each of these is that they are single purpose devices, with very little of the "feature creep", or convergence of functions, that increases power and energy needs.

Cell phones, for example, have evolved from just a communication device to now include an audio player, a digital camera, GPS functions, and soon, your daytime soap operas.

Consequently, the power and energy needs for a cell phone have remained high despite continued improvement in the efficiencies of electronic components.

Lower power devices, by comparison, are also typically microprocessor-based, but generally do not include a large LCD or hard drive, which would increase the power and energy requirements significantly. They also are single function devices. Thus, these devices have a generally stable or decreasing power requirement, with many of them needing 50 mW or lower.

These devices today are powered by a variety of power solutions, including lithium ion rechargeable and AAA alkaline batteries. The rechargeable solutions add significantly to the cost of the devices, and, as mentioned earlier, recharging the device may make it inconvenient to use. On the other hand, the AAA alkaline battery, while providing very good service life, may be a larger solution than the designers would ideally like to use. This has led battery makers, such as Energizer, to work to develop alternative power sources.

One example of this is the AAAA alkaline battery. These batteries, such as Energizer's AAAA, weigh 43 percent less, are 40 percent smaller in volume and are 20 percent thinner than the standard AAA. Plus, compared to lithium ion rechargeable batteries, the AAAA is a lower cost solution for the OEM, while also eliminating the need to recharge. At a 50 mW discharge, which is typical in these lower power devices, the AAAA alkaline battery would provide 11 hours of run time, compared to 28 hours for the AAA alkaline battery.

While consumers are quite familiar with AA and AAA batteries, many might not have had a regular use for the even-smaller AAAA. While a small number of AAAA-powered devices have existed in the market for years, the relatively small number of these devices has led to very low levels of retail availability of the AAAA. Following Energizer's global retail launch of the AAAA in the fall of 2007, more of these relatively low power devices are being designed to use the AAAA, and the retail availability of the AAAA globally is increasing significantly.

Recent research from Energizer shows that in the product segments of Bluetooth headsets, LED flashlights, flash audio

players, noise cancelling headsets and remote controls, 17 million AAAA-powered devices are projected to be sold in the U.S. by 2009. Over that same period, more than 15 million devices will be sold in Europe and 13 million in Asia Pacific. This is driven by the increasing awareness of device designers of the AAAA and their acceptance of the AAAA as a strong solution in their devices.

Last year, GN, which partnered with Energizer, launched the world's first AAAA-powered Bluetooth headset, which never needs recharging. The use of the AAAA enabled GN's headset division, Jabra, to design a very small headset with excellent performance at a low price point that would help them reach more of the mass market. Requiring just one AAAA alkaline battery, the Jabra BT2040 provides up to eight hours of talk time and up to six months in stand-by mode. With its built-in sleep mode function, the headset automatically powers down when not used, preserving battery life. It has become an ideal backup headset for cars, enabling drivers to comply with recent Drive & Talk legislation occurring across the globe.

Another new product on the European market, the UEI Zapper, a universal remote control, is powered by two AAAA batteries. The Zapper can be used for a variety of TVs, plasma sets, LCDs and projectors, and can be programmed for use with more than 800 brands. Its small size is enabled by the AAAA battery design and provides UEI with a unique remote control

design, which combined with an attractive price, has enabled the Zapper to achieve broad retail distribution and strong sales throughout Europe.

An integral part of providing a new primary battery solution is establishing broad retail distribution globally so that the consumer can easily find a replacement battery. To this end, Energizer is partnering with UEI, Jabra and other OEM's to coordinate the launch of these new devices with the retail distribution launch of the AAAA alkaline batteries to insure that the consumer can easily find the battery at retail. Energizer's strength at retail, combined with strong OEM partners, has made this possible.

These companies are just a sampling of the many that are acknowledging the ever-growing consumer need for smaller, lighter, thinner and more affordable devices. This trend will continue and it is imperative for OEMs and their partners to stay ahead of the curve by working together to design smaller, lighter and thinner devices using new and innovative primary battery solutions.

*Contact Energizer at
www.energizer.com.*