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Powermat Cuts the Cord

For all those confounded by a tangle of electronic device cables and chargers or a shortage of electrical outlets, Powermat thinks it has the answer

by Arik Hesseldahl

It was about a year ago at a Silicon Valley tech conference when domestic doyenne Martha Stewart voiced the frustration felt by everyone who's ever been confounded by a preponderance of electronic device charge cords.

Stewart, founder of Martha Stewart Omnimedia (MSO), pointedly asked Sony (SNE) Chief Executive Howard Stringer why the power-charging cord for one device couldn't be swapped for the cord of a different, comparable gadget. "Why can't that thing be this thing?" she asked Stringer, brandishing an array of chargers, cords, and components.

LIKE MAGIC

Stewart had made a "fair point," conceded Stringer, who sheepishly added that Sony profits from the manufacture of such components—that his company, in effect, was part of the problem.

Ran Poliakine thinks he's come up with a solution. The Israeli entrepreneur is chairman of a startup called Powermat, one of a growing handful of companies dedicated to breaking the tyranny of power cords and wall sockets. Founded in 2006, Powermat devised a technology that gives an entire wall or table surface the ability to charge whatever electronic device is set on or near it, doing away with the need for wall sockets and the gaggle of cords that connect to them.

Poliakine, also founder of the electronic billboard startup Magink (see BusinessWeek.com, 9/8/06, "Magink's Billboard Magic"), recently demonstrated Powermat's handiwork in a Manhattan hotel room. A flat mat, about two or three feet long and roughly six inches wide, sits on a table as unobtrusively as a placemat in a restaurant. Able to charge or power as many as eight devices at once, the mat could replace an eight-socket power strip, not to mention the cords that connect to it. To make it work, the user simply places a device on the mat—no plugging or fumbling with connections or cords.

SCIENTIFICALLY SPEAKING

The scientific principle at work is electromagnetic induction, an idea that dates back more than a century and is widely associated with the work of Nikola Tesla, the scientist who in the 1890s demonstrated that the wireless transmission of power was possible. Induction charges a device—for instance, an electric toothbrush—by creating a magnetic field. That field is activated around a coil of wire inside the brush's charging cradle when it's plugged into a power source. Setting the toothbrush on the charger introduces a second coil that can receive an electrical charge from the magnetic field created by the first. The second coil is connected to the battery and starts the recharging process.

Powermat Chief Technology Officer and Chief Scientist Amir Ben Shalom says pretty much any electric device can be powered directly or charged that way. "We can use the same basic physics of the copper coil that Tesla did so many years ago, but we can control it and monitor it and make it much more efficient than before," he says. Place a cell phone on the mat, and the surface recognizes the phone through a tiny radio chip placed inside it, Poliakine says. The mat then can determine the precise power needs of the phone.

The company plans to introduce a product this year that will demonstrate the potential of the technology. The mat will be sold alongside a universal "puck" about the size of a small cell phone that will connect to scores of handheld devices already on the market and allow them to use the mat for charging.

SURFACE TRANSFORMATION

But the plans go much further than the mat-and-puck approach. The same technology inside the mat could be embedded into any flat surface. For instance, the long tables in conference rooms with electrical outlets wedged into them would instead have surfaces that power all the laptops and charge all the cell phones and BlackBerry pagers needed in the meeting. Kitchen countertops could power blenders and food processors and bread makers. Bathroom counters could charge razors and power lighting.

Walls could be transformed, too. "You'd finally be able to hang your flat-screen TV where you want it, and not have to worry about it being close enough to a socket," Poliakine says. Lighting fixtures could be powered easily from just about anywhere. Powered toys could be recharged every time they're put away in a toy box. "This is the kind of day-to-day change we have in mind that will affect how you decorate and furnish your home without having to give so much consideration to where the outlets are and where the wires will go," he says.

In the same way that the mat would be integrated into flat surfaces everywhere, so would the puck. All the parts of the puck could be easily integrated into pretty much any electrical device. And while electronics manufacturers aren't usually keen on adding components that will increase manufacturing costs, Poliakine likens his approach to that of adding Wi-Fi wireless networking to notebook computers. "There was a time that you had to buy a Wi-Fi card and add it to your computer yourself," he says. "But once there was demand and the manufacturers saw a benefit, they starting building it into nearly every notebook."

FINDING PARTNERS

Powermat plans to demonstrate the technology later this year with some partners he declined to identify. The mat-and-puck package will be available at retail stores this fall, and the company is in discussions with a hotel chain and coffee chain to place the mats on desks in hotel rooms and coffee shops. Recharging a notebook could easily complement the Wi-Fi service available at Starbucks (SBUX). From there, Poliakine says, Powermat will turn its attention toward home-furnishing manufacturers like Steelcase (SCS) and retailers such as Ikea. The company will also try to sell the concept to electronics manufacturers as varied as cell-phone makers Motorola (MOT) and Research In Motion (RIMM) and computer manufacturers such as Dell (DELL), Hewlett-Packard (HPQ), and Apple (APPL).

The challenge is getting manufacturers to sign on to a new technology before consumers clamor for it. "It's like trying to convince cell-phone makers to enable technology that lets people pay for things with their cell phones," says analyst Charles Golvin of Forrester Research (FORR). "Sure it would be convenient, but people aren't demanding it. And they aren't demanding it because it hasn't been enabled yet."

But the impetus to eliminate wires of every kind is well under way. Wi-Fi has eliminated the need for many Ethernet cables in homes and offices, and Bluetooth technology connects headsets to cell phones without wires. Newer technologies like Ultra-Wideband may in time eliminate the need for other connecting cables like the USB cable that connects hard drives and music players to personal computers. As consumers and businesses get used to doing away

with wires and cables, Powermat's surfaces may prove pleasing even to discriminating homemakers like Stewart.

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