

Spectrolab Solar Cells Power Latest Mars Exporation Vehicles

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High-efficiency solar cells manufactured by Spectrolab, Inc., are providing power to "Spirit," the NASA-built spacecraft that landed on Mars on January 4 to explore the Red Planet.

Spectrolab, a Boeing [NYSE: BA] subsidiary, supplied Improved Triple Junction (ITJ) solar cells for the Spirit rover's journey to the Red Planet on a mission probing the role of water on Mars. Spectrolab solar cells will also power NASA's "Opportunity" rover, scheduled to land on Mars January 24.

"We're proud to be part of the Spirit mission, in part because it continues Spectrolab's already solid track record of producing power on interplanetary missions to Mars," said David Lillington, president of Spectrolab. "Mars Global Surveyor, now entering its third year of conducting critical monitoring of Martian weather patterns, is powered by Spectrolab solar cells. And Spectrolab multi-junction solar cells generated solar power from beyond Mars orbit aboard the NEAR spacecraft, which reached the furthest distance from the sun than any solar array has traveled. "

The solar cells aboard Spirit and Opportunity are called triple-junction cells because they employ a three-layered structure that more effectively captures and converts solar energy into electricity. Each of the junctions converts a different portion of the solar spectrum into electricity.

The two Mars exploration rovers were launched in mid-2003 to continue NASA's quest to understand the role of water on Mars. NASA's Jet Propulsion Laboratory built the \$800 million pair of robots. Each rover's first action will be to unfold its solar-array panels, allowing the solar panels to recharge the rover's batteries.

The solar panels were folded to fit inside the rovers for the trip to Mars. Once on the Martian surface, the solar panels deploy to form a total area of 1.3 square meters of triple-junction solar cells. The solar cells will power all the activities and instruments of the spacecraft.

The rovers feature panoramic cameras at human-eye height, and a miniature thermal emission spectrometer with infrared vision to help scientists identify the most interesting rocks. The rovers will extend an arm and a microscopic imager will give scientists a close-up view of the rocks' texture and composition. Another tool will expose the interior of the rock.

Beagle 2, another Mars exploration spacecraft that landed on Mars December 25, 2003, was also equipped with Spectrolab solar cells and panels, but contact with the autonomous 60kg capsule is yet to be established. The spacecraft was designed and built by a consortium of British universities including the Open University and Leicester University, a number of research support teams and industry led by EADS Astrium Ltd as industrial prime contractor. More information on Beagle 2 is available at www.beagle2.com.

Spectrolab solar cells have powered more than 500 satellites and interplanetary missions during the last 40 years. Today, Spectrolab multijunction solar cells generate more than 325 kilowatts of power on orbit. Cells representing another 800 kilowatts of power are awaiting launch.

Headquartered in Sylmar, Calif., Spectrolab is also a leading supplier of searchlights and solar simulators.

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