

For Immediate Release

MARS PHOENIX MISSION LAUNCHED CARRYING CAMERA POINTING MECHANISMS DESIGNED BY ENGINEERS AT ROCKETSTAR ROBOTICS

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CAMARILLO, CALIFORNIA – August 4th, 2007 – NASA's Phoenix Mars Mission blasted off Saturday, carrying camera pointing mechanisms that were originally designed and built by engineers at Rocketstar Robotics when the company was American Technology Consortium back in the late 1990's.

The camera pointing mechanisms were originally developed for the Mars Pathfinder spacecraft and additional units were ordered by JPL and the University of Arizona for the Mars Polar Lander Mission that was launched in 1999. The units that are being used for the Mars Phoenix spacecraft are actually spares from the Mars Polar Lander program.

The camera for the Mars Phoenix Mission is known as the Stereo Surface Imager (SSI). SSI will serve as Phoenix's "eyes" for the mission, providing high-resolution, stereo, panoramic images of the Martian arctic. Using an advanced optical system, SSI will survey the arctic landing site for geological context, provide range maps in support of digging operations, and make atmospheric dust and cloud measurements.

Situated atop an extended mast, SSI will provide images at a height two meters above the ground, roughly the height of a tall person. SSI simulates the human eye with its two optical lens system that will give three-dimensional views of the arctic plains. The instrument will also simulate the resolution of human eyesight using a charged-coupled device that produces high density 1024 x 1024 pixel images. But SSI exceeds the capabilities of the human eye by using optical and infrared filters, allowing multi-spectral imaging at 12 wavelengths of geological interest and atmospheric interest.

Perched atop a Delta II rocket, the spacecraft left Cape Canaveral Air Force Base at 5:26 a.m. Eastern Time into the predawn sky above Florida's Atlantic coast.

The spacecraft established communications with its ground team via the Goldstone, Calif., antenna station of NASA's Deep Space Network at 7:02 a.m. Eastern Time, after separating from the third stage of the launch vehicle.

"The launch team did a spectacular job getting us on the way," said Barry Goldstein, Phoenix project manager at NASA's Jet Propulsion Laboratory, Pasadena, Calif. "Our trajectory is still being evaluated in detail; however we are well within expected limits for a successful journey to the red planet. We are all thrilled!"

Phoenix will be the first mission to touch water-ice on Mars. Its robotic arm will dig to an icy layer believed to lie just beneath the surface. The mission will study the history of the water in the ice, monitor weather of the polar region, and investigate whether the subsurface environment in the far-northern plains of Mars has ever been favorable for sustaining microbial life.

The Phoenix Mars Mission is the first of NASA's competitively proposed and selected Mars Scout missions, supplementing the agency's core Mars Exploration Program, whose theme is "follow the water." The University of Arizona was selected to lead the mission in August 2003 and is the first public university to lead a Mars exploration mission.

Phoenix uses the main body of a lander originally made for a 2001 mission that was cancelled before launch. "During the past year we have run Phoenix through a rigorous testing regimen," said Ed Sedivy, Phoenix spacecraft program manager for Lockheed Martin Space Systems, Denver, which built the spacecraft. "The testing approach runs the spacecraft and integrated instruments through actual mission sequences, allowing us to asses the entire system through the life of the mission while here on Earth."

Samples of soil and ice collected by the lander's robotic arm will be analyzed by instruments mounted on the deck. One key instrument will check for water and carbon-containing compounds by heating soil samples in tiny ovens and examining the vapors that are given off. Another will test soil samples by adding water and analyzing the dissolution products. Cameras and microscopes will provide information on scales spanning 10 powers of 10, from features that could fit by the hundreds into a period at the end of a sentence to an aerial view taken during descent. A weather station will provide information about atmospheric processes in the arctic region.

About Rocketstar Robotics

Dedicated to providing actuators and mechanisms for spaceflight applications Rocketstar Robotics features a management and engineering team with over 70 years of experience in the design and manufacture of spacecraft motors, gearboxes, actuators and mechanisms. Rocketstar Robotics engineers have designed an unparalleled number of mechanisms for Mars applications and are experienced in an extensive range of transmission, motor, telemetry and mechanism designs. Applications include:

- Gimbals for pointing antennas, cameras and instruments
- Solar array drives
- Deployment actuators
- Robotic manipulators
- Reaction and momentum wheels
- Filter wheels
- Sampling systems
- Aperture covers

For more information, please visit http://www.rocketstarrobotics.com.

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