



Alliance Spacesystems Delivers Mars Camera Lens Assembly to Malin Space Science Systems

Mars Detective Tool Will Bring Tiny Details into Sharp Focus

July 21, 2008, Pasadena, Calif.-- A sophisticated camera-lens assembly equipped with unique mechanisms for exploring Mars has been designed and produced by [Alliance Spacesystems, LLC](#), and delivered to [Malin Space Science Systems](#), San Diego, Calif., for use on NASA's next Mars rover.

Like a Mars-bound Sherlock Holmes, NASA's Mars Science Laboratory rover will carry the Mars Hand-Lens Imager (MAHLI) to closely examine rocks, soils, and maybe ice, to help reveal Martian history in microscopic mineralogical details. The large rover is set for launch in late 2009.

MAHLI, a color camera, is equipped with a movable focus lens -- a first for a Mars rover -- and a dust cover mechanism designed and produced by Alliance Spacesystems that will allow images to be captured with the protective cover either open or closed. Both mechanisms are actuated by a single motor through a complex drive system.

Alliance is also providing similar mechanisms for two other cameras for the mission -- the Malin Space Science Systems' Mast Cameras (Mastcam). Mounted on the rover at about human-eye level, these high-resolution cameras have movable-focus lens and integral filter wheel mechanisms. The cameras will provide color and high-definition video at 34- and 100-mm focal lengths. They will capture views around the MSL rover and of faraway rocks and inaccessible terrain.

The Mars Science Laboratory's robotic arm, too, is designed and developed by Alliance Spacesystems, which has provided robotic arms for the Mars rovers Spirit and Opportunity, and for the recently landed Mars Phoenix lander.

Dr. Kenneth S. Edgett of Malin Space Science Systems is the principal investigator on MAHLI, and Dr. Michael C. Malin is principal investigator on Mastcam.

More information:

[Mars Science Laboratory Mission](#)

[Alliance mechanisms on MAHLI](#)

[Malin Space Science Systems \(MSSS\) MAHLI](#)

[NASA/JPL Mars Science Laboratory Mission Animation](#)

Alliance Spacesystems, LLC, an MDA company, provides customers with world-class aerospace engineering expertise in a small, customer-focused business environment. In addition to robotic arms, the company is a leading provider of mechanical systems engineering, custom design and fabrication in composites structures, robotics and mechanisms, and mechanical analyses for systems operating in extreme environments. Alliance Spacesystems' innovative products are in use on interplanetary spacecraft, telecommunications and scientific satellites and in many challenging terrestrial applications.

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