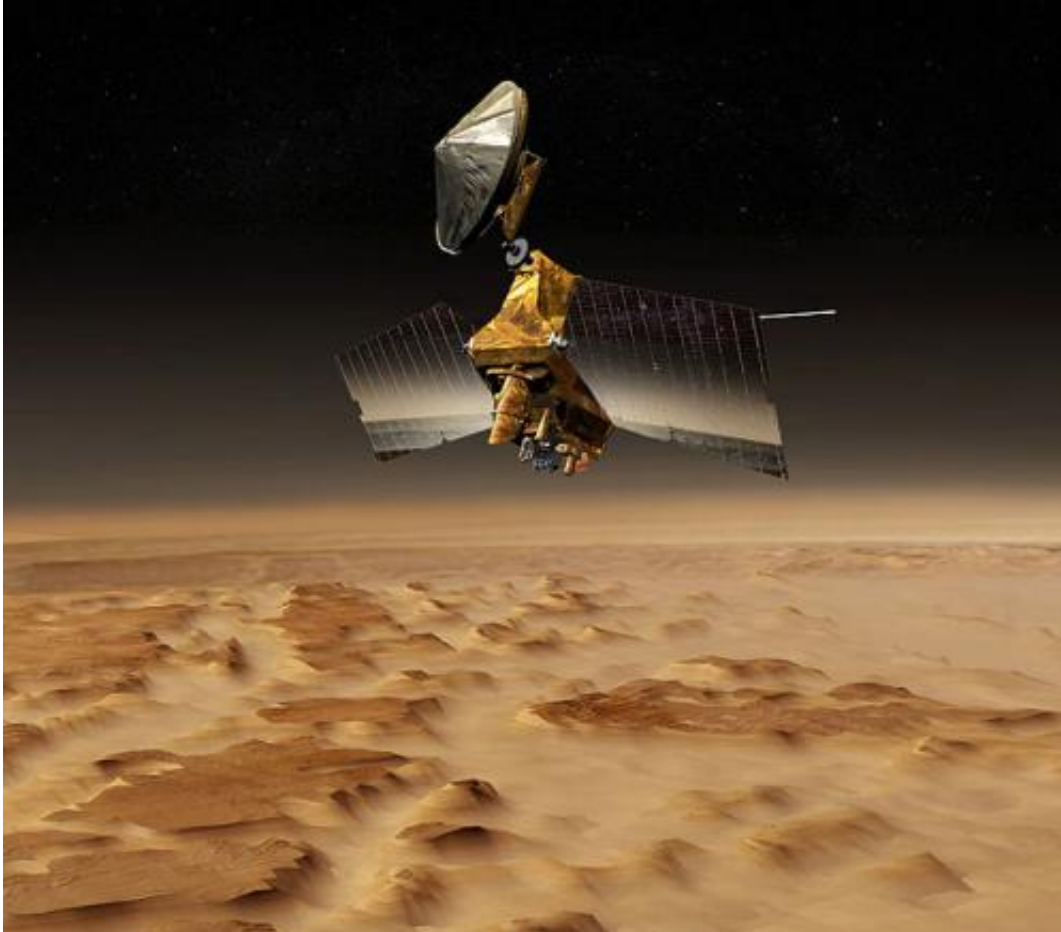


Orbiter resumes use of camera

September 9 2011, By Guy Webster



Artist concept of Mars Reconnaissance Orbiter. Credit: NASA/JPL

(PhysOrg.com) -- Operators of NASA's Mars Reconnaissance Orbiter are resuming use of the mission's highest resolution camera following a second precautionary shutdown in two weeks.

The [High Resolution Imaging Science Experiment](#) (HiRISE) instrument powered off on Aug. 27 and again on Sept. 6. In each case, commanding for an observation was not properly received by the memory module controlling one of the instrument's 14 electronic detectors (CCDs, or charge-coupled devices).

Between those two incidents, the camera successfully resumed observations for five days using its other 13 detectors. The second entry into the power-off, thermally protected mode occurred during an attempt to add use of the 14th detector. The camera is resuming observations with 13 detectors today while plans are developed for other [diagnostic tests](#).

The detector remaining out of use pending further tests lies at the outer edge of the lineup of detectors. It is one of 10 detectors observing through red filters. The other four are pairs observing through blue-green or near-infrared filters, yielding color images in the central portion of the observation. Without this 14th detector, observations can still cover as much area, in images slightly narrower, but longer, than usual. The typical cross-track width of a HiRISE image without use of that detector is about 3.4 miles (5.4 kilometers), compared to about 3.7 miles (6 kilometers) when using all detectors. The coverage area can be maintained by extending the length of the observed area by about 10 percent.

HiRISE has returned more than 20,400 observations since the [Mars Reconnaissance Orbiter](#) reached Mars in 2006. Each observation by this telescopic camera covers several square miles, or square kilometers, and can reveal features as small as a desk.

The Mars Reconnaissance Orbiter completed its primary science phase in 2008 and continues to work in an extended mission.

HiRISE Principal Investigator Alfred McEwen, of the University of Arizona Lunar and Planetary Laboratory, Tucson, said, "This isn't a significant loss to the science capability of HiRISE. However, it is a sign that the instrument is aging and could suffer further degradation in the future."

More information: More information about the Mars Reconnaissance Orbiter is available online at mars.jpl.nasa.gov/mro/ . Information about HiRISE and thousands of images from that instrument are available at hirise.lpl.arizona.edu/ .

Provided by JPL/NASA

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