

High Gain Antenna Gimbal (HGAG) for the rover Curiosity of the Mars Science Laboratory (MSL)



SENER XSPACE / XCOMMUNICATIONS IN SPACE / SPAIN

*HIGH GAIN ANTENNA
GIMBAL (HGAG) FOR
THE ROVER CURIOSITY
OF THE MARS SCIENCE
LABORATORY (MSL)*

Cliente: EADS-CASA

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País: Spain

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Sener participated in the Mars Science Laboratory (MSL) and his contribution was the development of the pointing mechanism of the High Gain Antenna Gimbal (HGAG).

The HGAG is a two degrees of freedom, elevation over azimuth, mechanical assembly that is located on the Curiosity rover top deck for precise pointing of the HGA, which enables the bidirectional communication directly between the Rover in Mars and the Earth.

Each degree of freedom is driven independently with a motorized mechanism to achieve desired speeds and accuracies.

The mechanism also incorporates a Hold Down and Release Mechanism (HDRM) which was released once the rover touches down the Martian ground (in August 2012).

In the frame of a Technical Assistance Agreement between the Jet Propulsion Laboratory (JPL) and the

CDTI, Sener was responsible for the HGAG, with EADS-CASA Espacio as the main contractor of the High Gain Antenna Gimbal System (HGAS).
