

KAGUYA (SELENE)

Status of Deployment/Extension of Onboard Mission Equipment

The Japan Aerospace Exploration Agency (JAXA) carried out the following deployment operations on the onboard mission equipment of the “KAGUYA” (SELENE) between October 28 and 31, 2007 (Japan Standard Time, JST.) The KAGUYA is a lunar explorer launched from the Tanegashima Space Center. The satellite is in good health.

- Lunar magnetometer (LMAG)

Equipment for observing the lunar magnetic field. A mast in which the magnetometer is attached at the top was extended to about 12 meters to be ready for observation. (See Figure 2)

-Lunar Radar Sounder (LRS)

Equipment to measure lunar tectonic features up to about 5 km in depth by observing radio frequency reflection from the lunar surface and subsurface using radar radio wave. The LRS also observes radio frequencies from other planets when the satellite is on the back side of the moon where no artificial radio waves from the Earth interfere with the observations. Two units of two dipole antennas (four antennas in total,) which had been stowed into the satellite, were extended to about 15 meters to be ready for observation. (Figure 3)

- Upper Atmosphere and Plasma Imager (UPI)

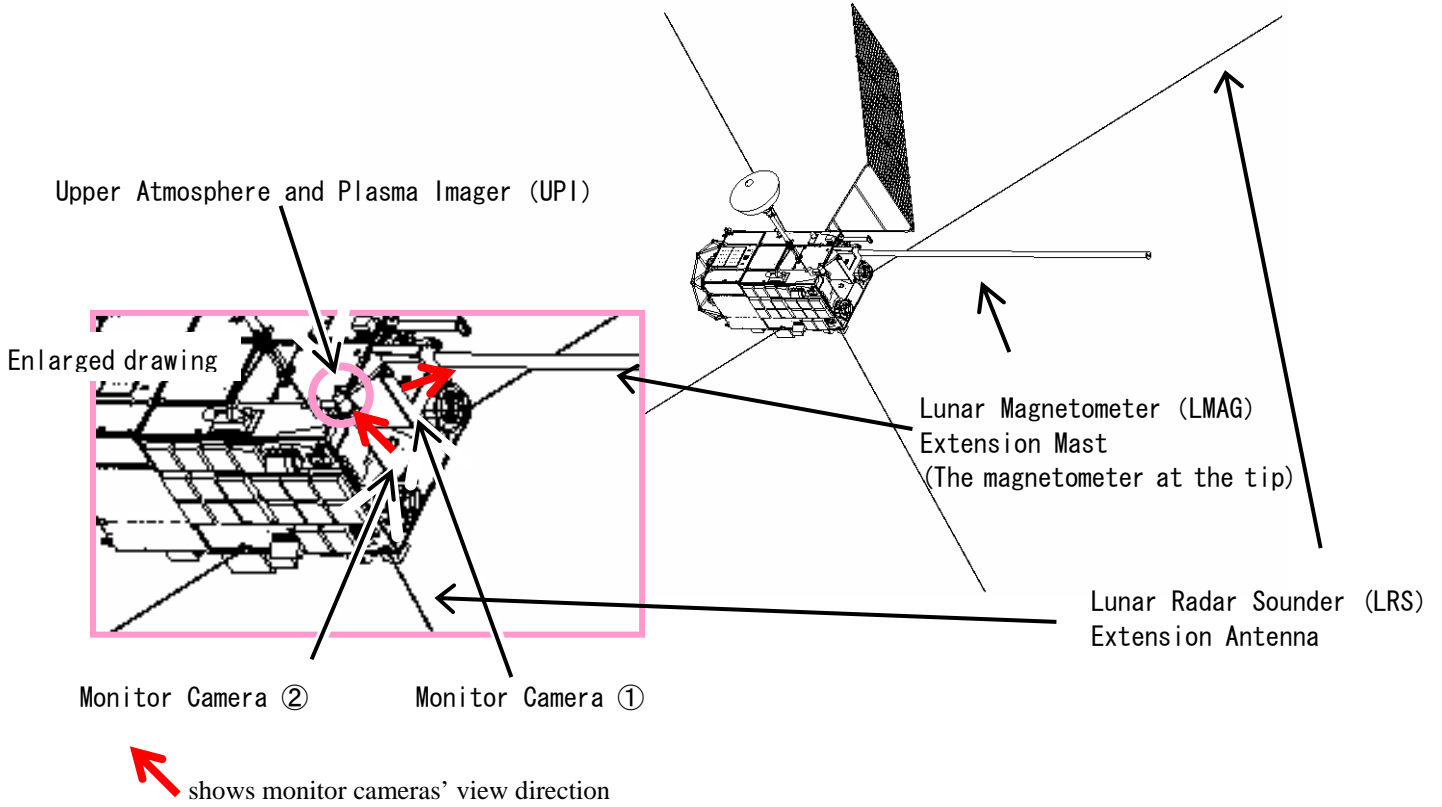
Equipment to observe atmospheric lights and auroras from the lunar orbit by two kinds of telescopes. The telescopes are attached to a structure called the “gimbal,” which had been fixed on the satellite wall. The gimbal was deployed for observation. (Figure 4)

* You can also check this information on the following website:

【 <http://www.jaxa.jp/projects/sat/selene/> 】

【 <http://www.kaguya.jaxa.jp> 】

<Figure 1: KAGUYA Overview>



<Figure 2: LMAG Mast Extension Image>

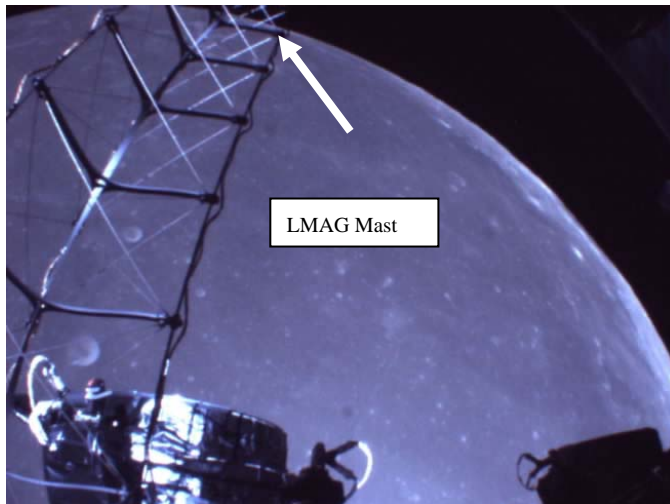
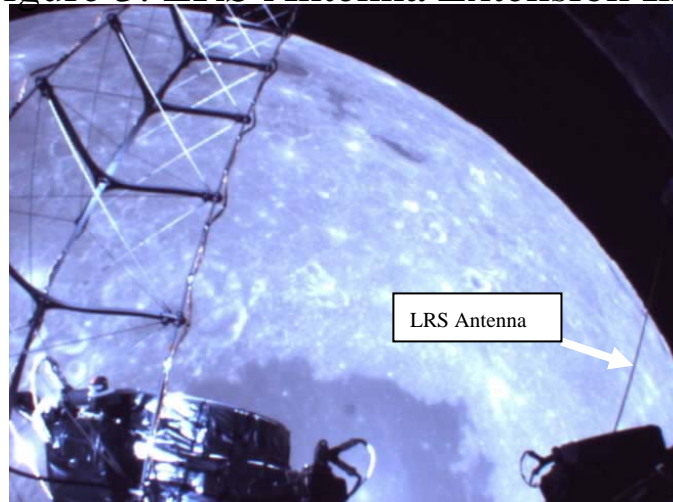


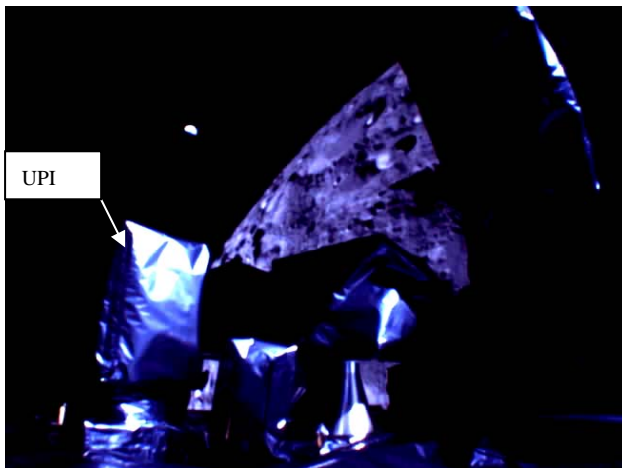
Figure 2 was taken after the LMAG mast had been extended by the monitor camera to confirm the separation of the “OKINA” and the “OUNA.” (① in Figure 1) The mast had been shortened to be about 60 cm for launch, and was fully extended to 12 m. The magnetometer is attached at the tip of the mast.

<Figure 3: LRS Antenna Extension Image>



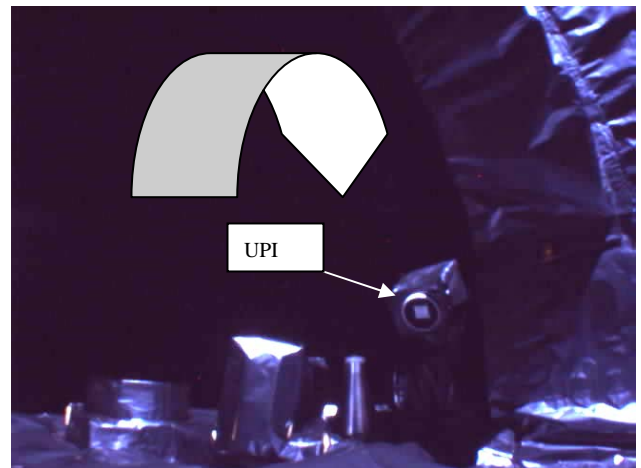
The LRS consists of four 15-meter antennas, and Figure 3 shows the extension of one of the four antennas taken by the monitor camera for confirming the separation of the “OKINA” and the “OUNA.” (① in Figure 1)

<Figure 4: UPI Deployment Images>



(Before deployment)

[You can see the UPI on this side.]
side]



(After deployment)

[UPI was deployed behind the equipment on this

The UPI observes Earth auroras and other phenomena using two telescopes, a visible and extreme ultra-violet telescope, attached to the structure that automatically tracks the Earth (② in Figure 1.)

