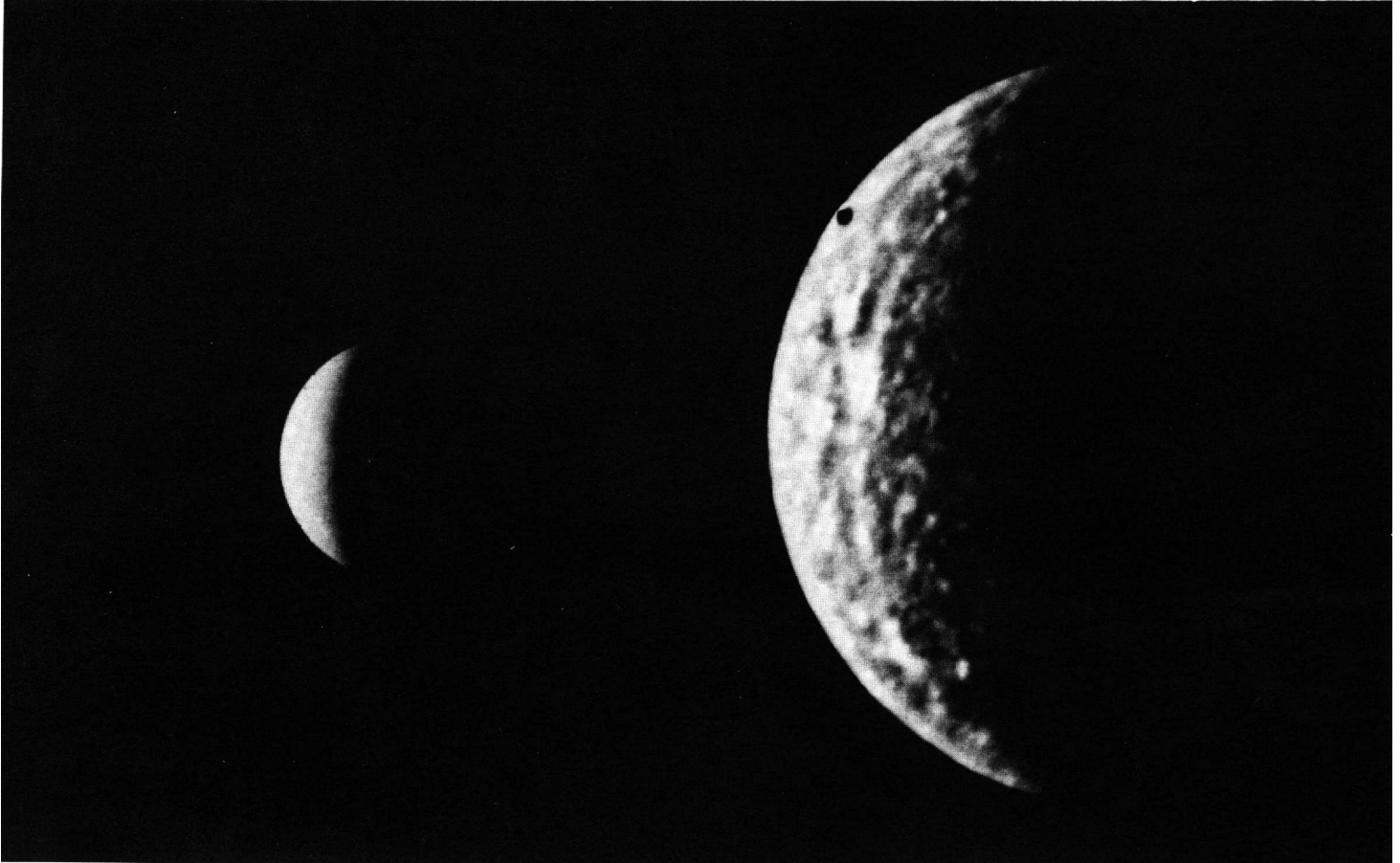


MARINER VENUS / MERCURY 1973

STATUS BULLETIN

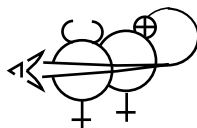
**MERCURY FLYBY AT
1:47 PDT ON FRIDAY**



The smaller image to the left is the picture of Mercury as received in "real time" March 26 prior to computer processing at the Jet Propulsion Laboratory. The right image has been enlarged four times and enhanced to increase the visibility of surface detail. The picture was taken by one of Mariner 10's TV cameras from a distance of about 2,750,000 kilometers (1,705,000 miles). The bright spot, seen in earlier photos, is even more apparent now and appears here with a companion spot to the northwest. The longer bright spot is located about 10 degrees South of the equator and at 25 degrees West longitude. The prominent dark dot at upper left is a calibration marking on the camera's vidicon face plate. In the center of the enlarged picture about 10 degrees from the terminator, there is a crater-like basin with a bright spot in the middle.

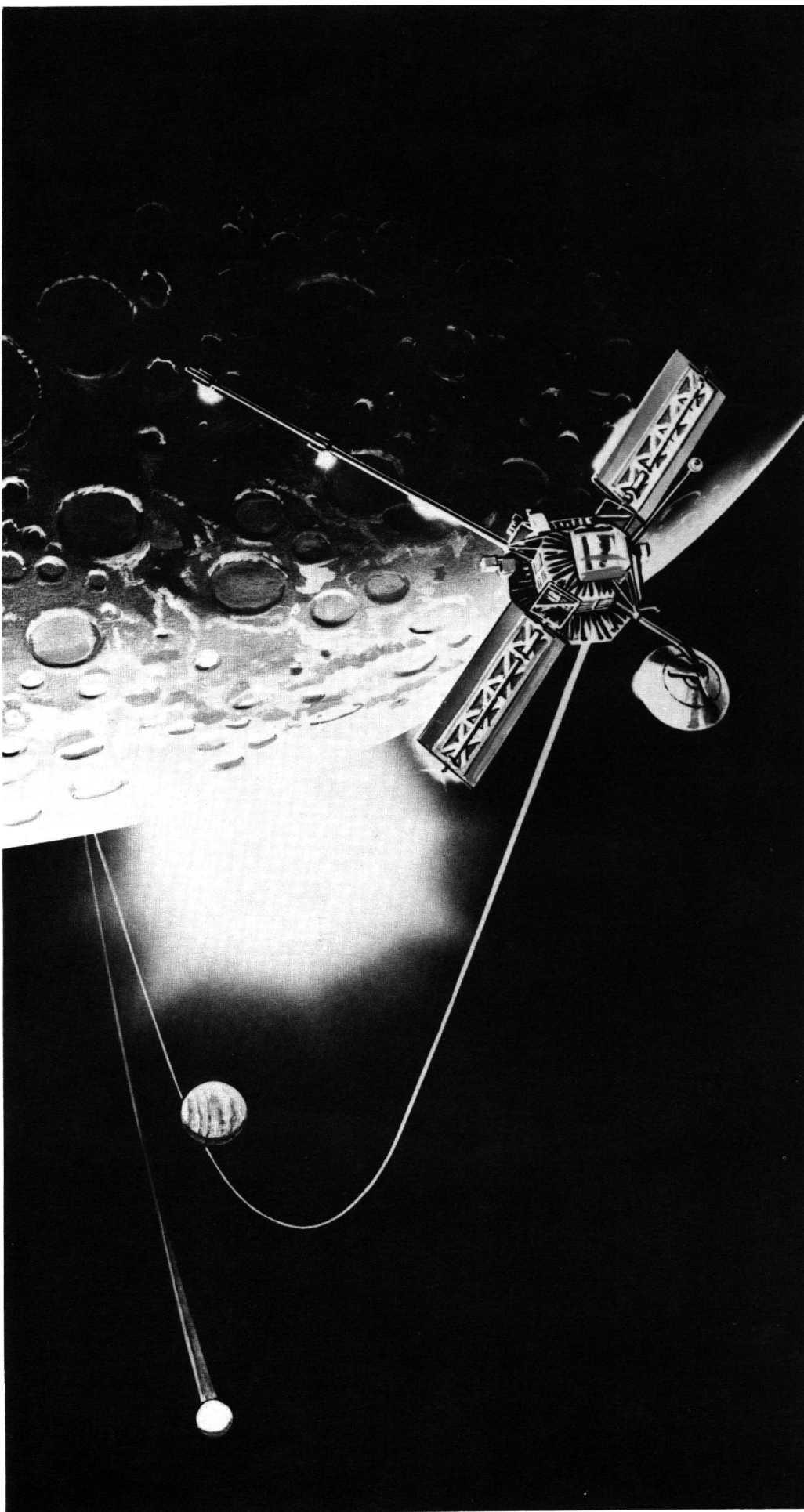
MARINER VENUS/MERCURY 1973 PROJECT OFFICE

Jet Propulsion Laboratory California Institute of Technology
National Aeronautics and Space Administration
Pasadena, California

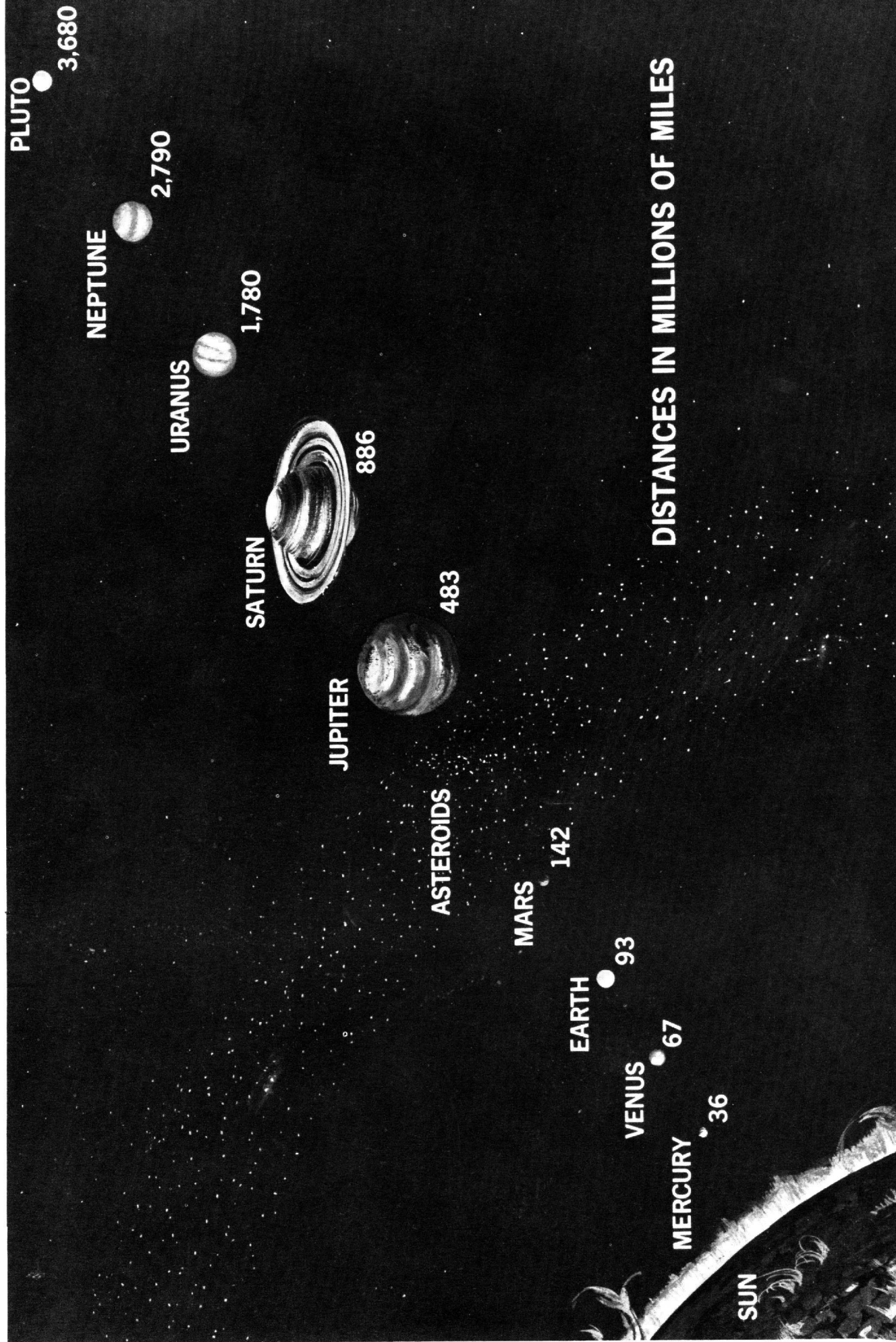


27 MARCH 1974

BULLETIN NO. 25



Mariner 10, about to fly through Mercury's shadow at a speed of 24,830 mph, on Friday, 29 March, at 1:37 p.m. PDT, as visualized by the renowned artist, Russell Arasmith. This picture is reprinted by permission of the Los Angeles Times which published it on 18 March 1974 along with an article titled "Scientific Moment of Truth at Hand for Planet Mercury." Planet Earth is represented in orbit at far left, and Venus with swirling UV clouds is shown where it was at the time of Mariner 10 flyby on 5 February. The glow at Mercury's limb above the spacecraft could represent the solar wind interacting with a possible tenuous atmosphere as seen by the Ultraviolet Solar Occultation Spectrometer. Radio communication signals, travelling 299,792 kilometers (186,282 miles) each second, take 8 minutes and 16 seconds to cover the 148,626,263 kilometers (92,144,400 miles) one way at the time of closest approach, 1:47 p.m. PDT.



THE PLANETS RELATIVE SIZES AND MEAN DISTANCES FROM THE SUN

This picture represents the relative sizes of the planets in the Solar System, compared with the Sun's disk. The distances from the Sun are given in millions of miles. As a visual reference, the Earth is about 110 Sun diameters away or about 1,700 times Earth's own diameter away. On the scale of this picture, Earth would actually be about 20 meters (65 ft) away from the Sun. Jupiter is 5 times as far, and Saturn nearly 10 times as far. Since Pluto's orbit is highly eccentric, it now is closer to the Sun than Neptune, which would be 30 times farther away than the Earth.

Mariner 10 is in excellent operating condition. The TV cameras continue to probe the mysteries of Mercury with increasing resolution. So far, 144 standard TV pictures of Mercury have been received from Mariner, which is about a million miles from the planet. The visible crescent of the planet shows a mottled surface of dark and light patches suggesting a cratered surface. The large light patch, about 250 miles in diameter, may be a relatively young impact crater like Tycho on the Moon. Yesterday, objects as small as 37 miles in length could be seen. Today, 26 mile long objects will be visible. Starting at 12:18 p.m. PDT, 36 more pictures were taken by Mariner.

Mariner is 88,700,000 miles from Earth, and is approaching Mercury at a speed of 23,880 mph. It is expected to fly by the planet about 450 miles above the shadow side surface Friday.