

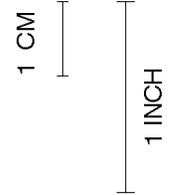
Galileo Scale Model

PARTS SHEET 1: The High-Gain Antenna

PRINT ON TRANSPARENCY MATERIAL

FOR ILLUSTRATED ASSEMBLY INSTRUCTIONS, GO TO <http://www.jpl.nasa.gov/galileo/model>

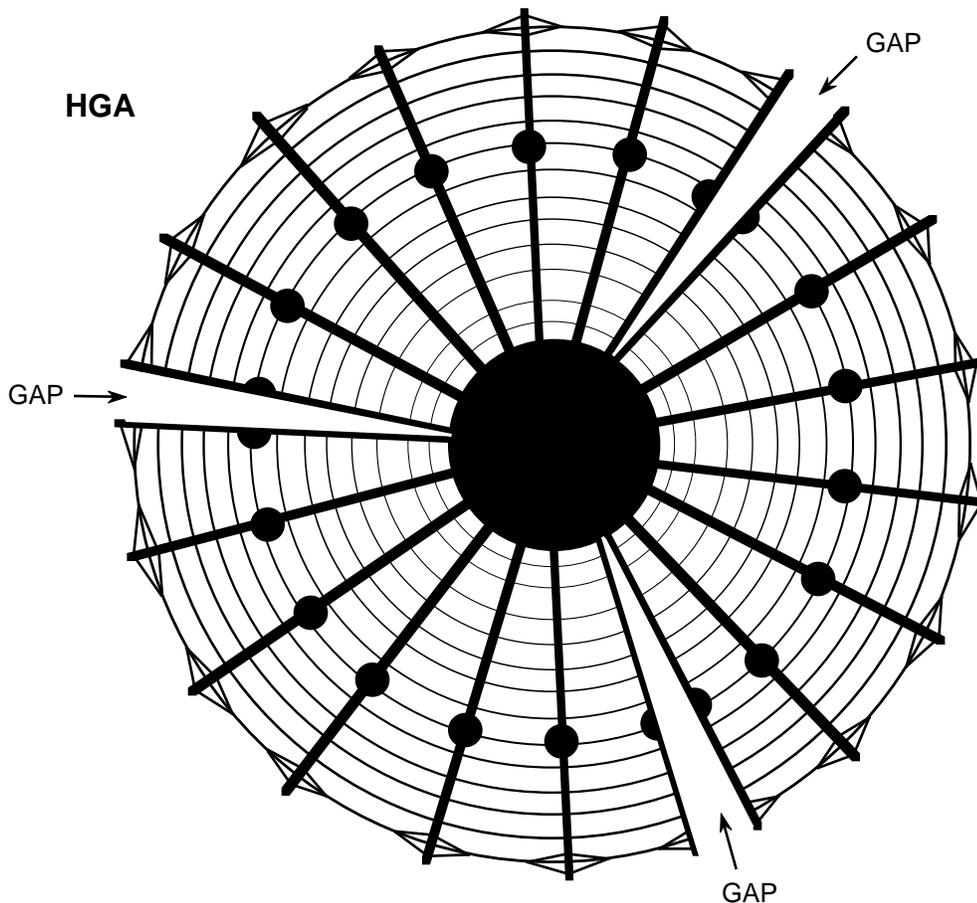
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About the Galileo spacecraft

Launched in 1989 aboard the Space Shuttle Atlantis, the Galileo spacecraft arrived at our solar system's largest planet, Jupiter, on December 7, 1995, and began its "orbital tour." The spacecraft is loaded with a variety of instruments to learn about the composition and structure of Jupiter, its magnetic environment, and its amazingly varied moons. To support measurements with these instruments, to communicate with Earth, and to guide Galileo in its orbits around Jupiter, the spacecraft has power, communications, navigation, and computer systems on board, which you will learn about as you construct this model.

At night, with a pair of binoculars and a steady hand, you can see Jupiter and some of its 4 largest moons, just as Galileo Galilei did in Italy in 1610. While you can't see the Galileo spacecraft from Earth, you can see the images it is sending back from Jupiter on the internet at <http://www.jpl.nasa.gov/galileo>.



Galileo's High-Gain Antenna (HGA) was designed to unfold like an umbrella. It needed to be folded up to fit within the Space Shuttle's cargo bay for launch. Between the umbrella-like ribs on the spacecraft's HGA is a fine metallic mesh which was to serve as the main reflector. This fine mesh would be invisible at the model's scale of approximately 1/45. When the HGA was commanded to deploy to its unfolded "open-umbrella" configuration, it failed to completely do so. After many attempts to correct the problem, the Galileo mission was flown successfully using the primary low-gain antenna, a condition which required many changes to on-board software and within the Earth-based Deep Space Network. The HGA on your model represents the deployed configuration which was never achieved.