

Communications and Broadcasting Engineering Test Satellites "Kakehashi" (COMETS)

Operation Finished

[Home](#) > [Missions](#) > [Satellites and Spacecraft](#) > Communications and Broadcasting Engineering Test Satellites "Kakehashi" (COMETS)

About Communications and Broadcasting Engineering Test Satellites "Kakehashi" (COMETS)



Kakehashi(COMETS), a two-ton geostationary three-axis stabilized satellite, is being created to develop the new technologies required for future fields in communications and broadcasting. Relay satellites in geostationary orbit will be used to develop the following technologies: Inter-orbit communications technology for relay of communications between observation satellites or space stations in low-altitude circular orbits and earth stations. Advanced satellite broadcast technology for broad-band region-specific broadcasts and high definition television broadcasts using K-band frequency bands.

Development of advanced mobile satellite communications technology possessing reproduction relay and inter-beam connection functions by employing K-bands and miliband frequencies.

The COMETS was launched by its [5th H-II Launch Vehicle](#) on February 21, 1998 (JST). Though the first burnig was normal, the second burning time period of the second-stage engine was shorter than scheduled which resulted in injection of the COMETS satellite to lower orbit than the geostationary transfer orbit. Due to successful seven orbital controls, COMETS has been moved to recurrent orbit. It was used for conducting scheduled experiments on the orbit as possible. The routon operation phase of the COMETS was bought to un end on January 31, 1999, and its extended phase started. NASDA terminated its operation on August 6, 1999.

Major Characteristics

Launch Date	2/21/1998
Launch Vehicle	H-II Launch Vehicle (5F)
Launch Site	Tanegashima Space Center
Weight	3.9t at lift-off, 2t at Initial geostationary stage
Orbit	Geostationary orbit 121deg. E. longitude
Configuration	Structure: 2m×3m×3m Box shape, Solar paddle: 3m×15m (cantilever)
Design Life	3 years
Power	GaAs Solar Cell - Flexible Solar Paddle: Approx. 5.3kW(EOL)

	NNiH2 Battery DOD≥70%
Attitude Control	Three-axis stabilized Controlled bias momentum type
Unified Propulsion	1700N Apogee kick engine NTO, N2H4-Bi-propellant 50N Thruster×4 1 N Thruster×8 (redundant) N2H4-mono-propellant

Reference

[H-II Launch Vehicle](#)