

## Ariane 5 - First launch of 2009

February 13 2009

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Lift-off of flight V187, carrying Hot Bird 10, NSS-9 and two Spirale microsattellites, at 23:09 CET/Paris on 12 February (22:09 UTC/GMT; 19:09 UTC-3/Kourou). The satellites were accurately injected into the correct orbits about 30 minutes later. Credits: ESA / CNES / Arianespace / Service Optique Video du CSG - J. Martin

(PhysOrg.com) -- Yesterday evening, an Ariane 5 ECA launcher lifted off from Europe's Spaceport at Kourou, in French Guiana, on its mission to place two multi-role telecommunications satellites into geostationary transfer orbits. Two auxiliary payloads were also launched during this mission.

Lift-off of flight V187 took place at 23:09 CET/Paris on 12 February (22:09 UTC/GMT; 19:09 UTC-3/Kourou). The satellites were accurately injected into the correct orbits about 30 minutes later.

The payload comprised Hot Bird™ 10, which will provide television,

radio and interactive services across Europe, North Africa and the Middle East, and NSS-9, which will provide relay services for broadcasters, government users, and carriers across the Pacific region and for the maritime industry. Two small Spirale satellites, which are demonstrators for a French space-based optical early-warning system, were carried as auxiliary passengers in the launch vehicle's payload 'stack'. The payload mass was 8511 kg; the satellite masses totalled 7420 kg, with payload adapters and dispensers making up the additional 1091 kg.

Arianespace and Europe's Spaceport are planning six to eight launches during 2009, maintaining the heavy-lift vehicle's flight rate. The ability to sustain high launch rates has already been demonstrated - during the period 12-month period from August 2007 to August 2008, there were nine launches (V177 to V185, inclusive).

The Ariane 5's cryogenic, liquid fuelled main engine was ignited first. Seven seconds later, the solid fuel rocket boosters were also fired, and a fraction of a second after that, the launch vehicle lifted off.

The solid boosters were jettisoned 2 min: 23 sec after main engine ignition, and the fairing protecting the payload during the climb through the Earth's atmosphere was discarded at 3 min: 11 sec. The launcher's main engine was shut down at 8 min: 56 sec; 6 seconds later the main cryogenic stage separated from the upper stage and its payload.

Four seconds after main stage separation, the engine of the launcher's cryogenic upper stage was ignited to continue the journey. The upper stage engine was shut down at 24 min: 38 sec into the flight, at which point the launch vehicle was travelling at 9378 metres per second (just over 33 700 km/h) at an altitude of 627 kilometres and the conditions for geostationary transfer orbit injection had been achieved.

At 26 min: 31 sec after main engine ignition, Hot Bird 10 separated from the launcher's upper stage, followed by NSS-9 at 32 min: 08 sec. Spirale A and B, the auxiliary payloads, separated at 33 min: 52 sec.

Ariane 5 ECA is the latest version of the Ariane 5 launcher. It is designed to place payloads weighing up to 9.6 tonnes into geostationary transfer orbit. With its increased capacity, Ariane 5 ECA can handle dual launches of very large satellites.

Provided by ESA

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