

RealityVISION's First Flight

RealityVISION - Unmanned Vehicle Pilot Systems

A NEW GENERATION UAV/UCAV GROUND CONTROL STATION (GCS) FOR MILITARY AND CIVIL DEFENCE APPLICATIONS

A2TECH - Advanced Aviation Technology recently conducted the first flight of a small electric driven technology demonstrator that will demonstrate a new generation of Ground Control Station (GCS) systems called "RealityVISION - Unmanned Vehicle Pilot Systems", driven by the CANaerospace command and control protocol. This new GCS technology - presently under development and demonstration - will provide a new level of pilot-in-the-loop command and control mode for air, ground and sea vehicles.

Conducted June 20, 2005 at the Hoehenrain flight test facility near Munich, Germany, the flight is part of an on-going cooperative effort between A2TECH - Advanced Aviation Technology, Stock Flight Systems, Reiser Systemtechnik and Wetzel Technology to extend the flexibility of the pilot-in-the-loop flight guidance and control of Unmanned Systems. A2TECH operated the technology demonstrator under the control of a "modular & portable" ground control station.

The goal of the initial flight was to evaluate the proof-of-concept of UAV/UCAV controllability and handling using a fighter-jet style cockpit like manned aircraft that use hands-on throttle, stick (HOTAS) and rudder, in a pilot-in-the-loop flight mode.

RealityVISION modular GCS system integrated into Unmanned Vehicles will provide the military forces with tele-operated unmanned air, ground and sea vehicles for remote combat tasks, increasing survivability by identifying and neutralizing threats and reducing risk to humans. RealityVISION will provide task forces with remote, unmanned scout, reconnaissance and surveillance while pilot and operator remains concealed at distance.

The new GCS is fitted with advanced technology driven by the NASA standardized communication protocol CANaerospace that enables more efficient remote management of Unmanned Vehicles, and state of the art PCM communication links for the operation of autonomous, semiautonomous and pilot-in-the-loop platforms. It also facilitates the interface between operator and platform, which enable control of reconnaissance, surveillance systems and other elements on the unmanned platform for the civil market. The new technology is also best employed to perform flight attitude tests of UAV airframes in a development stage, where avionics is not fitted in.

REALITYVISION

UNMANNED VEHICLE PILOT SYSTEMS



RealityVISION on the Bench Test



First RealityVISION testing flight

Driven by
CAN
Aerospace



Pitts acrobatic pilot Michael Stock tests RealityVISION



The RealityVISION Development Team



PowerVCIS
Multi Function Consoles and Pilot Cockpits
for Tactical, MALE and Airship UAV
Systems



VCISnano
Man-Portable Vehicle Control & Information
Systems for Micro and Mini-UAVs



CRVTnano
Man-Portable Common Remote Video
Terminal Systems for Micro and Mini-
UAVs