



## BACKGROUND INFORMATION

Aerosonde designs, develops, produces and operates unmanned aerial vehicles for both civilian and military purposes. Aerosonde Operations have achieved over 4,000 flight hours in the last 10 years. Aerosonde has a Civil Aviation Safety Authority (CASA) Operator Certificate for Operations within Australia.

Aerosonde's small long endurance robotic UAV has undertaken missions for organisations such as the Australian Bureau of Meteorology, Australian Department of Defence, Australian Customs Service, NASA, US Office of Naval Research, US National Science Foundation and SAAB Systems. Most recently Aerosonde have conducted a series of missions for the implementation of electronic warfare, intelligent agents and swarming technologies

The original Aerosonde Mk1 was designed in 1995 for meteorological and environmental applications. This small (15kg) aircraft was powered by a carburetor petrol engine and capable of attaining an altitude of 6,000 meters and flight endurance of over 30 hours.

In 1998 this aircraft became the first UAV to cross the Atlantic Ocean in a time of 26 Hours 45 minutes traveling a total distance of 3270 kms using only 4 kg of fuel.

The evolution of the Aerosonde to the Mk 2 took a huge step forwards in 2003 when the sister aircraft the Aeroguard was developed for tactical reconnaissance and surveillance missions. Of historical importance, the Aeroguard during OP ANODE became the first ever UAV to deploy on a military operation with the Australian Defence Force.

The Mk 3 Aerosonde Introduced the ultra efficient 24 cc 4 stroke EFI PULP power plant providing up to 30 watts of power to a payload interface. A further development on the internal design of the MK 3 provided more internal space which enabled payloads such a pan tilt zoom camera to be integrated into the system.

The ongoing evolution of the Aerosonde UAV in 2005 will see the production of the Mk 4 variant which will be powered by the proven EFI power plant but an upgraded generator will provide 75 watts of power to a payload interface. A new avionics is also being integrated utilising CAN (controller area network) communications between distributed components. It includes a payload interface to allow in-flight, payload initiated, automated aircraft re-tasking. This interface allows intelligent-agent and aircraft swarming operations.