

Lost Link Procedures

(Revised 8/3/2007)

The UAS has two different command and control links depending on the phase of flight.

Phase 1

Flight maneuvers: take off, initial climb, descent, water landing

Command and control link:

Direct operational control by the pilot via the ground station control system. Pilot directly controls aircraft control surfaces.

Lost Link:

In the event of lost link with the UA pilot control system, the aircraft will proceed with its flight path at the time of lost link. The system will attempt to re-establish link until the UA power source is exhausted and/or the UA ditches in the water.

Until further operational experience is obtained, it was determined that automatically initiating a lost link procedure such as climbing to 1500 ft and orbiting (which could involve autonomously increasing propeller rpm and initiating turning maneuvers) was not warranted.

Phase 2

Flight maneuvers: survey flight mode (cruise along a predetermined flight path).

Command and control link:

Once at cruise setting, the pilot will switch aircraft control from direct control mode to autonomous mode. Under autonomous mode, the aircraft will fly a preset survey pattern at a predetermined airspeed and altitude. The downlink telemetry data from the aircraft will include position and altitude. New aircraft flight plans may be transmitted from the ground control station via uplink command and control while the aircraft is in survey mode.

Lost Link:

In the event that uplink command and control is lost, the aircraft will continue to fly its survey pattern and land at a predetermined lost link waypoint. This waypoint will be in a location on the ocean that will not cause harm to persons or property. If command and control is re-established, flight data telemetry will resume and new or revised waypoints can be uploaded to the aircraft autopilot.