

Performance Characteristics

LAUNCH/RECOVERY

The Aeryon Scout is a vertical take-off and land (VTOL) UAV. This UAV requires no launch equipment, enables fixed hover for precise observation, and facilitates low-risk retrieval on land or ship. The Scout is comprised of three main components, the flyer, the base station, and the control station. All of these components communicate with each other and are vital for operation. The flyer contains the Scout Arms, Scout Landing Gear, payloads and the Aerial Body (vehicle core). The aerial body, once powered, takes 1-2 minutes until ready for operation. This is where all the sensors, motor controllers, communications links and high speed processors for managing all operations.

To begin the flight sequence the operator loads the Mission Control Program (MSC) on the command station. The system will not allow the aerial vehicle to be operated

when errors are present however, when the system is prepared to operate the safety toggle button will turn from red to green. Once the command station has control of the aerial vehicle, the operator can set the map size and orientation as desired. The pilot will then place the UAV in a clear and level location near where the operator wants to fly. It is important for the pilot to position the base station a safe distance from the aerial vehicle so the UA will not land on the base station. Then the pilot presses the “takeoff” button, which starts spinning the motors. A message will notify the pilot, reading “motors spinning up”. At this point the pilot will press the “take-off” button again and the UAV will take off and hover in place at 1 meter and wait for further instructions from the pilot. The pilot either ‘runs’ the waypoint mode flight operation. If the pilot wishes to manually control the UA, then the pilot adjusts the height of the flyer by sliding the “height slider”. Once the UAV is above 9 meters, the pilot can select an operational speed other than ‘low’.



Figure 6: Command Station



Figure 1: Aeryon Scout



Figure 2: Scout Arms



Figure 3: Landing Gear



Figure 4: Payload Options (from left to right)



Figure 5: Aerial Body

The pilot completes the flight by pressing the “return home” button which causes the UA to travel home on a direct path. Once the vehicle has returned to the home position the pilot presses the “land” button and confirms the landing operation by pressing the green “landing” button. The UA will land unassisted.