

UNIVERSITY COLLEGE SEDAYA INTERNATIONAL

SCHOOL OF ENGINEERING

FINAL YEAR PROJECT

FINAL REPORT

DESIGN OF A VTOL AIRCRAFT ALTITUDE TELEMETRY SYSTEM

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**Abstract**

The design of a VTOL altitude telemetry control system is able to acquire pressure readings, and real time video imaging from the system installed on the helicopter through wireless module, and wireless video camera together with a monitoring system using MATLAB Simulink is presented in this report. Along with this monitoring system, a valid formula is used for calculating the altitude using pressure reading and a statistical analysis is being presented in this report in which will demonstrate the benefits for altitude telemetry control applications.

The system is basically divided into four main parts. The first part consists of the research and explanation on telemetry system in depth as well as the literature review done. The second part consists of hardware designing which is needed to send and receive the pressure data onboard the helicopter. The third part is mainly the explanation of the software development made for interfacing between computer and the system by utilizing the 'SerOut' command in PIC Basic Pro and Data Acquisition System toolbox to acquire data through via RS232 to MATLAB Simulink. The final part consists of the statistical analysis results and discussion of performing flight analysis to acquire the altitude reading using the pressure reading and compare it to the calculated values. Furthermore with all the analysis results, this proves that the system could be use for altitude telemetry control system in flight applications. All of these results could well contribute for the advancement in Unmanned VTOL Arial Vehicle technology. Therefore this project details the solutions adopted with the background to the decision.