LABVIEW BASED REALTIME INTEGRATED SAFETY PARAMETERS MONITORING OF UAV

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ABSTRACT

This paper describes the necessity and implementation of LabVIEW based integrated Command Transmission System monitoring and logging system. The existing Command Transmission System did not have facility to log both ground and flight Command Transmission System parameters simultaneously synchronized to Accumulated Time of the Day (ATD). Moreover real time monitoring of Command Transmission System parameters was not possible. To overcome these bottlenecks, this integrated system was conceptualized and developed based on LabVIEW. LabVIEW was used for providing Graphical User Interface (GUI) and reduction in development time. The system can simultaneously receive data from Onboard and Ground Command Transmission System through Ethernet and parallel port respectively. Hence all the Command Transmission System parameters can be monitored and logged in real time. The system uses the User Datagram Protocol (UDP) unicast Ethernet communication because it can be used when data transfer rates are more or application transmit informative data to a destination frequently enough that a few lost segments of data are not problematic. All computers have Ethernet ports now a days, so no extra hardware is needed other than a cable to connect instrument to the computer. The data recorded in the logging file is used for future analysis.

KEYWORDS: Command Transmission System, LabVIEW, Ethernet Communication, Parallel Port Communication