

ROTOR PROXIMITY WARNING SYSTEM

Overview

Design and Development of Rotor Proximity Warning system using LIDAR Sensors for Helicopters



HW Scope

- Requirement Analysis and Requirement specification
- Sensor Technology Analysis and Sensor selection
- Processor selection and HW Architecture design
- Detailed HW Design
- FPGA based Algorithm development for LIDAR processing
- HW Schematics entry
- PCB layout design
- HW prototype build
- Board bring-up testing
- Functional testing & Environmental Testing
- Field Trial at Customer Airfield
- Enclosure design and fabrication

HW Features

HW Platform

- Freescale i.MX6 Quad-Core processor
- Two Altera Stratix 4 FPGAs

Interfaces

- Four Gigabit Ethernet Interface for LIDAR sensor interface
- 4 Analog Video camera interfaces
- 2 DVI Display output interface
- 2 Analog Video output interface
- 2 channel Audio out for intercom system
- Helicopter data input through the ARIC-429 & RS 422 interface
- Discrete I/O interface
- Input power supply of 28V DC