Summary

This diploma project is to develop optical device ophthalmoscope used to study the fundus of the patient.

Vision ophthalmoscope usually used to study retinal blood vessels and the optic nerve and can detect pathology like a retinal detachment and degeneration of yellow spot at different stages in these areas fundus possible and prevent further disease.

In this diploma project conducted literature review of analytical sources considered existing analog devices, created and designed optical system of direct ophthalmoscope manual for ADR ZEMAX software, was designed functional scheme and electronic circuit. CCD matrix using like a photo reciver and connected to microcontroller. Image has showed on LCD display. Also, two-dimensional model of ophthalmoscope was constructed using the Kompas.