

# ELECTRONIC BINOCULAR WITH X AND Y AXIS MOVEMENT WITH CAMERA

COLLEGE : ADICHUNCHANAGIRI INSTITUTE OF TECHNOLOGY, CHIKMAGALUR  
GUIDE : CHANDRASHEKAR H. K.  
STUDENTS : PREETHI K. V.  
PRIYADARSHINI MOHANTY  
PRIYANKA R.  
SWETHA B. M.

## Introduction

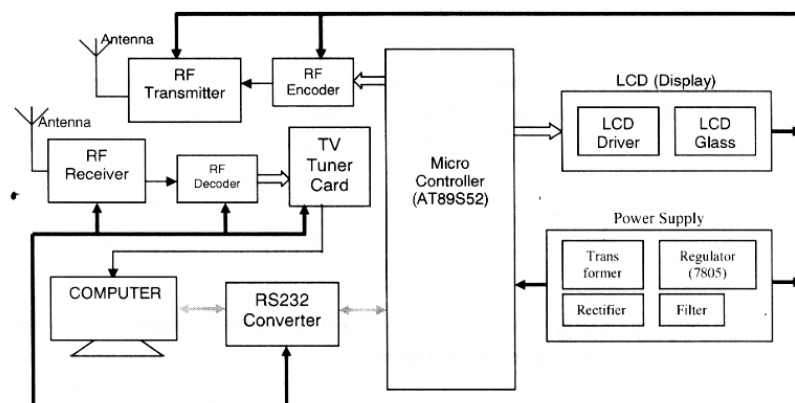
The proposed system is based on ATMEL 89S52 micro controller. Software like embedded C is used for programming the application software to the microcontroller, Protel Schematic Software is used for designing the circuit diagram and Express PCB s/w is used for designing the PCB for this project.

The main aim of this project is to get the accurate picture of the distant / nearer object. This is mainly used in laboratories to get the enlarged and clear picture of the objects. This can be obtained by electronically setting the X and Y-axis of binocular, within the camera. Without these facilities in binoculars it will be difficult to capture the distant / nearer object and also don't get the required enlarged picture / object. The front end of this project is developed by VB software.

## Working principle

The command is sent through the VB software. The microcontroller receives this command from serial port and encoder encodes this data and the RF transmitter transmits this data. The RF receiver in the binocular side receives this signal, decodes and given to microcontroller. According to this data the lens of the binocular is adjusted horizontally or vertically. The RF camera captures the image continuously and transmits the data as RF signal.

The RF video receiver in the PC side receives this signal, and then it is transferred to TV tuner card, thus by reproducing the video signals. So the user can see the objects from PC in enlarged form. Zoom commands, which is given in PC, are transmitted through serial port, which in turn sends data through RF data transmitter.



Block diagram of PC side

## Features

- Complete UHF receiver on a monolithic chip
- Frequency range 300 to 400 MHz
- Typical range over 200 meters with monopole antenna
- Data rates to 2.5 kbps (SWP), 10 kbps (fixed)
- Automatic tuning, no manual adjustment
- No filters or inductors required
- Low operating supply current
- Very low RF re-radiation at the antenna
- CMOS logic interface to standard decoder and microprocessor ICs

Vital role of RF receiver in Electronic binocular with x and y axis movement with camera is used to receive RF signal.

## Applications

- Automotive Remote Keyless Entry
- Long Range RFID
- Remote Fan / Light control
- Garage Door / Gate openers

**RF Camera Transmitter** : This will take the video and it will transmit in the form of radio frequency signal by using RF transmitter.

**RF Camera Receiver** : RF Camera receives the RF signal, which is transmitted by RF Camera transmitter and will give audio and video output. Those 2 outputs are connected to TF tuner card and able to observe the image in PC, which is transmitted by RF camera.