Circuit Description for SV-03-CAM 2.4G Wireless Transmitter

The SV-03-CAM is separate into three parts:

1. Color CMOS image sensor mdoule
2 Transmitter control Portion
3. 2.4G RF transmitter module

1. Color CMOS image sensor module

The Color CMOS image sensor is a single chip module. Through the U1 image IC, optical image will transfer to a standard analogue video signal. Which will pass the transmitter control portion.

Microphone come with the camera board will convert the voice signal to a audio signal and this audio signal is also pass to the transmitter control portion.

2. Transmitter control portion

This portion is mainly for power supply circuitry and signal path.
The video and audio signal from the camera module are pass through the control PCB to the 2.4G transmitter module.

The power on/off switches on the control PCB control the power supply for the product.
The 4 selection slide switch on the control PCB allows user to select the right channel frequency and pass the channel selects information to the RF transmitter module.

3. 2.4G RF transmitter module

The core of the RF transmitter module is the IC1. IC1 is a single chip PLL frequency synthesizer. Control data from MCU IC2 is entered via the I2C bus, select the oscillator frequency. The output of IC1 is feed to control the Q6 and Q7 which form a RF mixer circuitry.

Video signal from control board is passed to the RF mixed. Audio signal A1 is pass to a modulate circuit Q1 and Q2, which modulate the A1 audio signal to a 6Mhz carrier. An audio channel A2 is pass to a modulate circuitry Q3 and Q4 which modulate the A2 audio signal to a 6.5Mhz carrier.

The video signal, together with A1 and A2 signal are entered the RF mixer and through the RF circuitry sent the signal to the dipole antenna to broadcast the signal.