TTL Serial Camera

Snap, Snap!

Contributors

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Feedback? Corrections?

Overview

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This tutorial is for our new TTL serial camera module with NTSC video output. These modules are a nice addition to a microcontroller project when you want to take a photo or control a video stream. The modules have a few features built in, such as the ability to change the brightness/saturation/hue of images, auto-contrast and auto-brightness adjustment, and motion detection.

Since it is a little confusing how this is both a snapshot and video camera, we'd like to explain it in detail now. The module was initially designed for surveillance purposes. Its meant to constantly stream TV-resolution video out of the Video pin (this is NTSC monochrome format) and also take commands from the serial port. The serial port commands can request that the module freeze the video and then download a JPEG color image. So for example, normally its just displaying video to a security monitor. When motion is detected, it would take a photo and save it to a disk for later analysis.

The module is admittedly not extremely high resolution - the maximum image size it can take is 640x480 pixels. And it is sensitive to infrared light, which alters the color rendition somewhat. The reason for all this is that it's meant for surveillance, not for nature photography. However, as far as we can tell, this is the best module on the market.

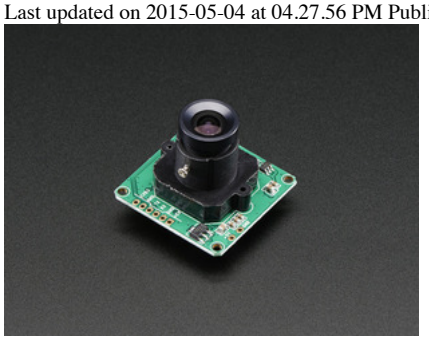
- **Module size:** 32mm x 32mm
- **Image sensor:** CMOS 1/4 inch
- **CMOS Pixels:** 0.3M
- **Pixel size:** 5.6um*5.6um
- **Output format:** Standard JPEG/M-JPEG
- **White balance:** Automatic
- **Exposure:** Automatic
- **Gain:** Automatic
- **Shutter:** Electronic rolling shutter
- **SNR:** 45DB
- **Dynamic Range:** 60DB
- **Max analog gain:** 16DB
- **Frame speed:** 640*480 30fps
- **Scan mode:** Progressive scan
- **Viewing angle:** 60 degrees
- **Monitoring distance:** 10 meters, maximum 15meters (adjustable)
- **Image size:** VGA (640*480), QVGA (320*240), QQVGA (160*120)
- **Baud rate:** Default 38400 (the datasheet claims you can change the baud rate with a command but it does not work reliably)
- **Current draw:** 75mA
- **Operating voltage:** DC +5V
- **Communication:** 3.3V TTL (Three wire TX, RX, GND)

Sample Images

Here are two example images, one of outside during a cloudy day, and one inside on a sunny day.

WIRING THE CAMERA

Last updated on 2015-05-04 at 04.27.56 PM Published on 2012-07-29 at 11.58.38 AM



$39.95

TTL Serial JPEG Camera with NTSC Video

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