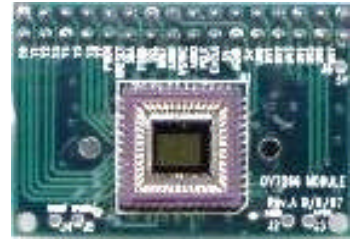


# C3188A

## 1/3" Color Camera Module With Digital Output

### General Description

The C3188A is a 1/3" color camera module with digital output. It uses OmniVision's CMOS image sensor OV7620. Combining CMOS technology together with an easy to use digital interface makes C3188A a low cost solution for higher quality video image application.



The digital video port supplies a continuous 8/16 bit-wide image data stream. All camera functions, such as exposure, gamma, gain, white balance, color matrix, windowing, are programmable through I<sup>2</sup>C interface.

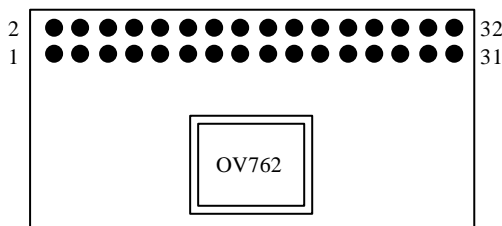
If combined with an OV511+ (USB controller chip) it can easily form a USB camera for PC applications.

### Features:

- 326,688 pixels, VGA / CIF format
- Small size : 40 x 28 mm
- Lens: f=6mm (Optional)
- 8/16 bit video data : CCIR601, CCIR656, ZV port
- Read out - progressive / interlace
- Data format - YCrCb 4:2:2, GRB 4:2:2, RGB
- I<sup>2</sup>C interface
- Built in 10bit 2 ch A/D converter
- Electronic exposure / Gain / White balance control
- Image enhancement - brightness, contrast, gamma, saturation, sharpness, window, etc
- Internal / external synchronization scheme
- Frame exposure / line exposure option
- Wide dynamic range, anti blooming, zero smearing
- Single 5V operation
- Low power consumption (<120mW)
- Monochrome composite video signal output (60Hz)

### Specification

Imager	OV7620, CMOS image sensor
Array Size	664x492 pixels
Pixel size	7.6 x 7.6 μm
Scanning	Progressive / interlace
Effective image area	4.86mm x 3.64mm
Electronic Exposure	500:1
Gamma Correction	128 curve settings
S/N Ratio	>48dB
Min Illumination	2.5lux @F1.4
Operation Voltage	5 VDC
Operation Current	120mW Active 10 μW Standby
Lens	f6mm, F1.6



PCB Layout (Top view)

### Pin Description

1~8	Y0~Y7	Digital output Y Bus.
9	PWDN	Power down mode
10	RST	Reset
11	SDA	I <sup>2</sup> C Serial data
12	FODD	Odd Field flag
13	SCL	I <sup>2</sup> C Serial clock input
14	HREF	Horizontal window reference output
15	AGND	Analog Ground
16	VSYN	Vertical Sync output
17	AGND	Analog Ground
18	PCLK	Pixel clock output
19	EXCLK	External clock input (need to remove crystal)
20	VCC	Power Supply 5VDC
21	AGND	Analog Ground
22	VCC	Power Supply 5VDC
23~30	UV0-UV7	Digital output UV bus.
31	GND	Common ground
32	VTO	Video Analog Output (75Ω monochrome)

### Application Example

- Video Conferencing
- PC Multimedia
- Video Phone
- Video Mail
- Still Image
- Machine Vision
- Process control

Note: Evaluation Board is available for C3188A