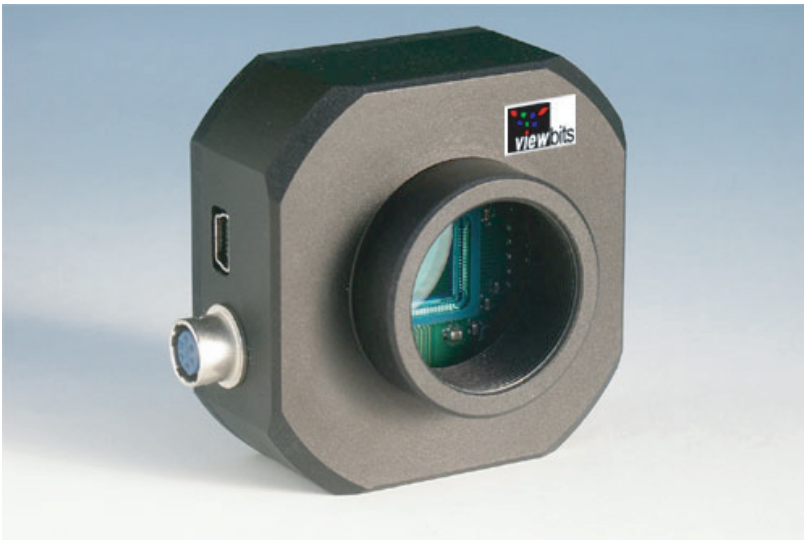




CMOS URORIA™

A CMOS, 3 Megapixel (2048x1536), 1/2 Inch, Color, USB 2, Triggerable, Rugged, Lightweight, Industrial Vision Camera With a C Mount and Tripod Adapter. It is Designed for Inspection, Instrumentation, and Microscopy Applications. Comes with Direct Show®, Twain (for Windows XP), and DLL Support.



Overview

CMOS technology has advanced very rapidly in the last three years. Today it is preferred over CCD in most cases, except where low light conditions impact the lower sensitivity of CMOS sensors. With their compact design and low power use, CMOS cameras take over segments of the imaging market where portability is an issue. CMOS is particularly competitive wherever lighting is good and a compact low power use camera is desirable.

The **Uroria** is a 3 megapixel USB 2 color camera that is designed for microscopy and other scientific applications where cost-efficiency and ease of use are important. The Viewbits family of products is designed to provide both accurate color as well as high resolution spatial information. Current OEMs use this camera to inspect fruits, capture images for school ID badges, examine semiconductors, and more.

Features

- 2048x1536 active imaging pixels
- High speeds using Pentium 4 CPU:
 - 12 fps at 2048x1536 (48 MHz)
 - 27 fps at 1280x1024 (48 MHz)
 - 94 fps at 640x480 (48 MHz)
- Low Noise
- External trigger output mode
- Rolling Shutter
- Small Size -- 2.25" x 2.25"
- Video and Snapshot operation
- USB 2.0 Interface
- Cost Effective
- Real time video acquisition
- Operating system: Windows® or Linux®
- Includes Drivers and SDK
- Compatible with Third Party Software/IDE
- No external power supply required
- Minimum cables
- Plug-n-play
- Less than 5 minutes to install
- CMOS sensor based on new Micron technology -- Micron Part Number MT9T001P12STC
- Integrated UV filter

Applications

- Microscopy
- High resolution graphics capture
- Medical imaging
- Non-contact measurements
- Motion capture
- Photo ID systems
- Other industrial and scientific applications



URORIA SPECIFICATIONS

SAMPLE PICTURES

Output Video and Camera Control Characteristics

Maximum resolutions of 2048x1536, full resolution mode
output window:

Frame rate at resolution (48MHz): 12 fps at 2048x1536, full resolution
20 fps at 1600x1200
27 fps at 1280x1024
43 fps at 1024x768
94 fps at 640x480

Maximum frame rate (48MHz): 494 fps at 220x220

Output bits per pixel: 8 or 10 bits, selectable

Lookup table: Downloadable, converts 10 bits of chip
(only for 8 bit mode) imaginc ADC to 8 bits of output

Pixel rates: 6.66 MHz, 8 MHz, 10 MHz, 12 MHz,
13.33 MHz, 16 MHz, 20 MHz, 24 MHz,
32 MHz, 40 MHz, 48 MHz

Exposure Range: Minimum: 0.05 ms (at 48 MHz)
Maximum: 564.91 ms (at 6.66 MHz)

Pixel Gain Control: Programmable hardware gain controls
for R, G, B: 161 gain levels from 1 to 128
From 1 to 4 with increment 0.125;
from 4.25 to 8 with increment 0.25;
from 9 to 128 with increment 1

Output window modes: View port (from 2048 x 1536 to 8 x 8 with
2 pixels/2 lines step positioning)
Frame Decimation (1:1, 1:2, 1:3, 1:4, 1:5,
1:6, 1:7, 1:8)
Horizontal "mirroring"
Vertical "flipping"

Gamma, brightness and contrast control: Programmable with lookup table, hardware
gamma correction

Imaging Chip Characteristics

Type: Color 3 megapixel CMOS 1/2" sensor

Pixel Size: 3.2 μm x 3.2 μm

Image Array Size: 8.4mm diagonal

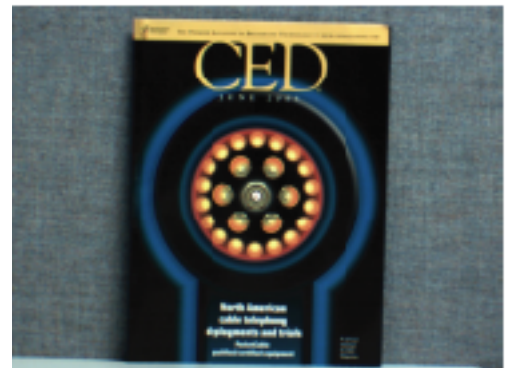
Shutter: Rolling shutter

Scanning mode: Progressive

ADC Resolution: 10 bits

Sensitivity: >1.0 V/lux-sec (550 nm)

Dynamic Range: 61 dB



URORIA SPECIFICATIONS

Camera Electrical Characteristics

Supply Voltage: 5 V supplied by USB 2.0 interface

Supply Current: 456 mA (at 5.0 V)

Maximum Power Consumption: 2.28 W

Camera Physical Characteristics

Operating Temperature: 0 to +60° C

Lens Mount Type: C-mount

Weight, without lens: 108 g

Dimensions, W x L x H: 54.2 x 54.2 x 32.6 mm

Camera Housing material: Aluminum

Camera Interface Characteristics

Interface Type: USB 2.0, 480 Mbps

Connector Type: USB mini-B, 5 pin

Maximum Data Rate: 38.15 Mbps

System Requirements

Operating System: Windows® 2000 SP4, Windows® XP Professional SP1 or later, Windows® Server 2003, Windows® Vista, Windows® Server 2008, Windows® 7, Linux®

Processor: Pentium IV -- 1.8 GHz or greater

RAM: 512 MB (1024 MB for Vista/2008/W7)

Hard Disk Space: 5 MB for installation plus additional space for captured images

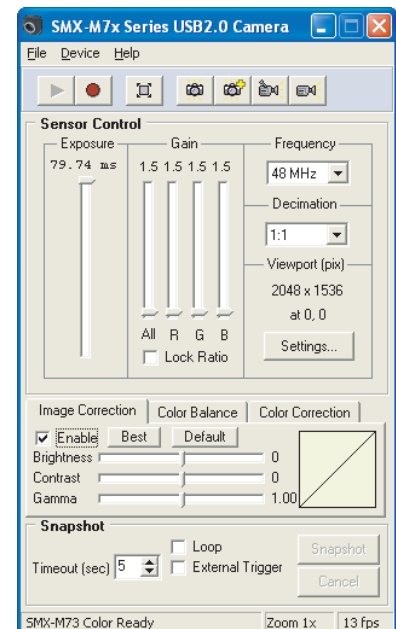
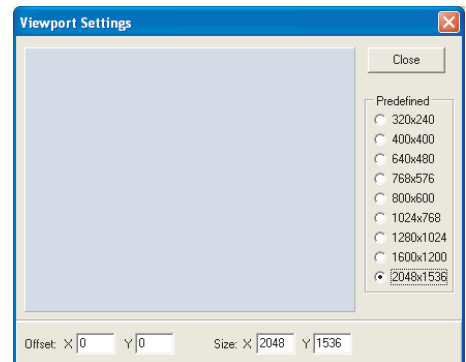
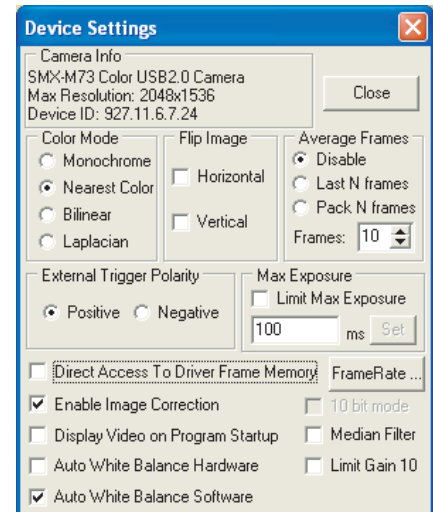
Video Card: ATI 9XXX series (or higher) or NVidia GeForce 4x (or higher)

Software

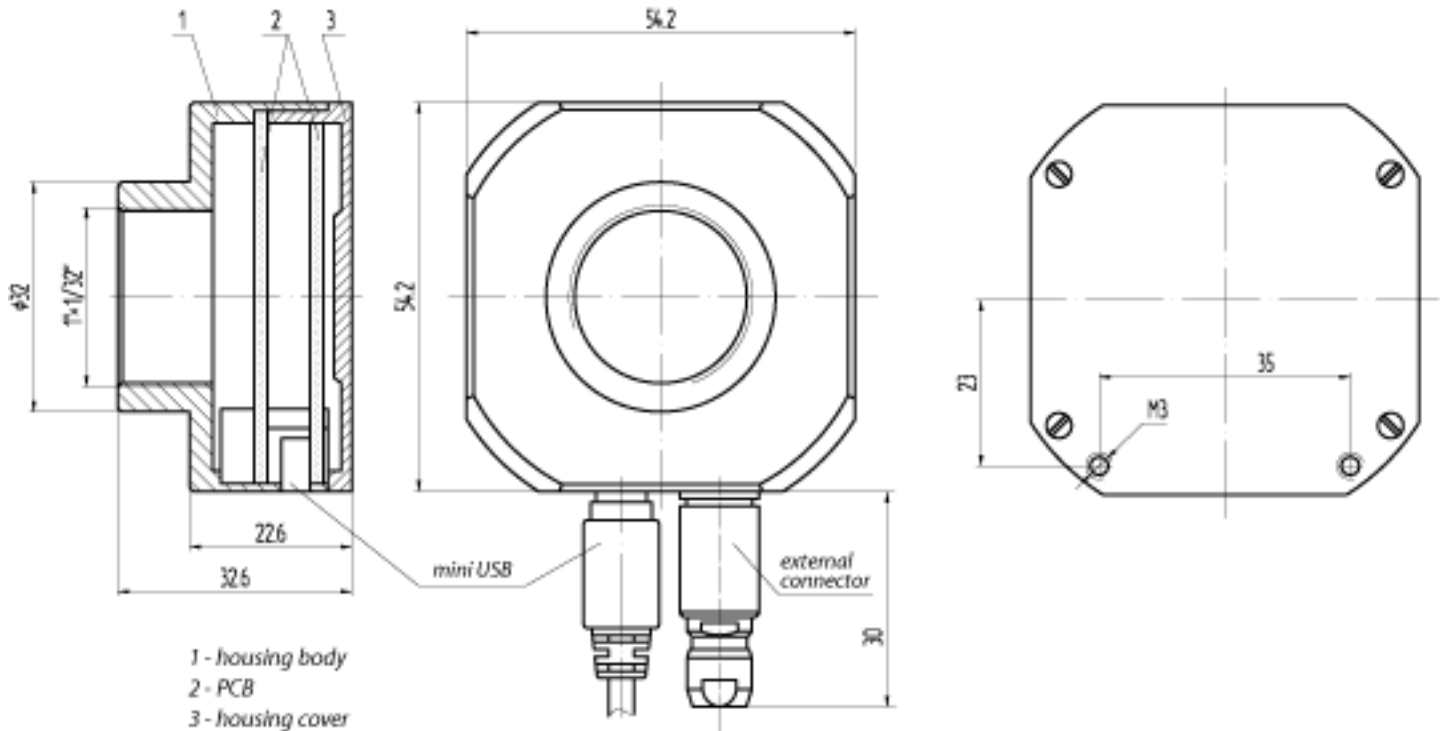
Software includes: Standard application, Drivers, User Guide, and SDK (API, examples, documentation)

Compatibility With Third Parties Software/IDE: Delphi/Builder C++
LabVIEW
HALCON (upcoming)
MATLAB
Streampix
Visual Basic 6.0
Visual Studio 6.0 (2002, 2003, 2005, 2008, 2010)

GUI's



CAMERA DRAWINGS



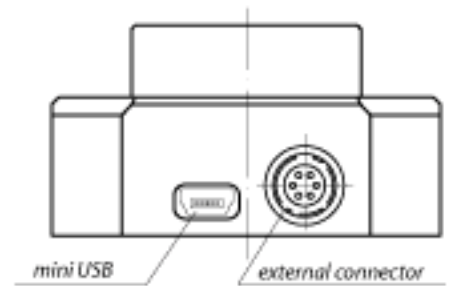
- 1 - housing body
- 2 - PCB
- 3 - housing cover

Units: mm

External connector pinout



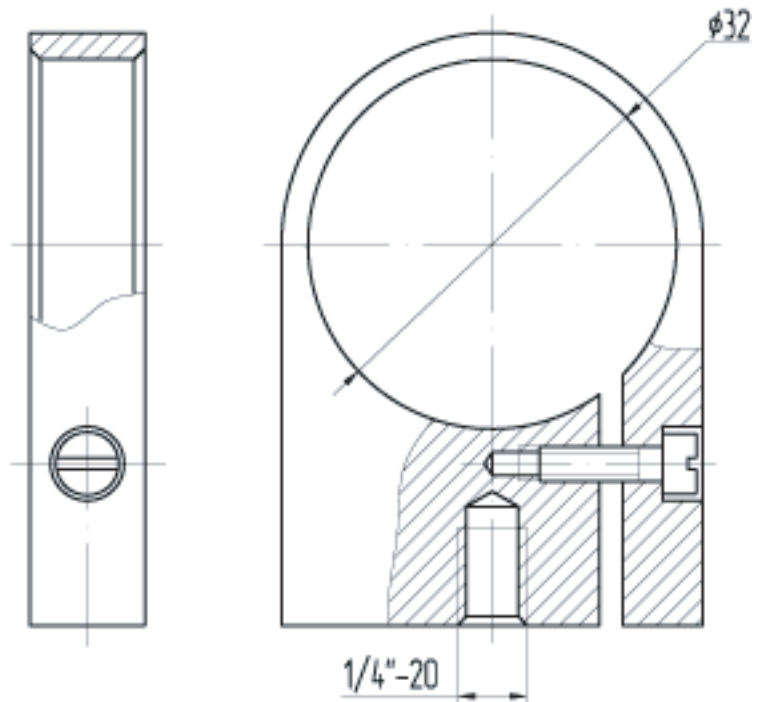
- | Pin# | Signal |
|------|-----------------------------------|
| 1 | External trigger input (positive) |
| 2 | Frame start pulse output |
| 3 | Not used |
| 4 | External trigger input (negative) |
| 5 | Synchronous shutter start output |
| 6 | Common (GND) |



CAMERA ACCESSORIES

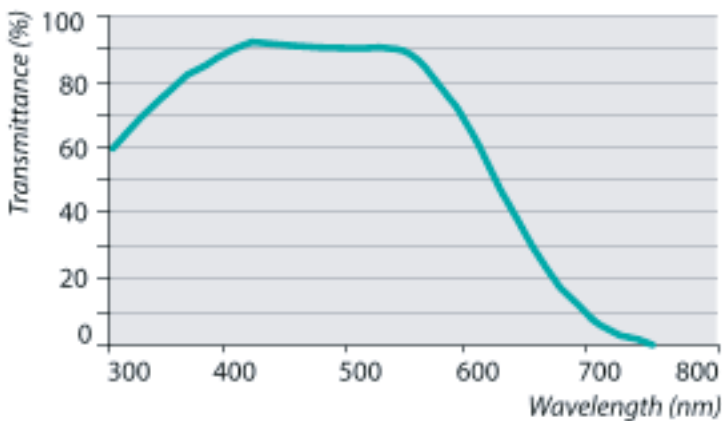
Tripod Adapter

The lightweight duralumin adapter with two screws allows quick and easy camera fixing to the tripod, offering additional protection to the camera.



Optional Infrared Filter

The infrared filter reduces infrared noise. It filters out light above 650nm.



IR Filter Blocking Characteristic

ORDERING INFO

CMOS URORIA
CMOS URORIA WITH INFRARED FILTER

Camera Cable

Camera cable - is a USB A to Mini B cable. 3m or 5m length.



QUICKSTART GUIDE

http://www.viewbits.com/pdf_files/Uroria%20Quickstart.pdf