

High Resolution Color with Exceptional Image Quality



(Lens not included)

- 2048 x 1536 8-bit capture @ 18 fps
- Compact Camera Head
- PIXCI® SI Digital Frame Grabber
- 7 Foot Interface Cable (default)
- Infrared Cut Filter
- XCAP-Lite Imaging Program
- Camera Integration and Reset Control
- Sequence Capture
- Sequence Save (XCAP-Ltd or Std)
- Triggered Sequence Capture
- 132 MB/s Burst Transfers
- PCI Bus: 32 or 64 bit, 3.3 or 5 volt
- Compatibility: Win XP,2K,NT,ME,98,95, 32-bit DOS & LINUX

The **SILICON VIDEO® 9T001C** camera system offers the advantages of 3 Megapixel progressive scan image capture, low noise digital signaling, small size, flexible interface cable, convenient software control, the availability of extensive processing, measurement and analysis capabilities, and low cost. XCAP software provides control of all camera operations.

SENSOR BY MICRON – The SILICON VIDEO 9T001C camera is based on the MT9T001 sensor from Micron. This progressive scan sensor offers an electronic shutter with Global Reset Release, continuous and single frame capture, windowing, column and row skip modes, snapshot mode, 10 bit dynamic range, and an active programmable array resolution of 2048H x 1536V pixels.

ASYNCHRONOUS CAPTURE with STROBE OUTPUT – The SV9T001C camera offers Asynchronous Capture: the recording of an image (or images) in response to a trigger signal. The camera also provides a strobe output signal to synchronize an electronic flash (strobe), for bright, uniform, short duration illumination. The SV9T001C can be triggered to capture an image (or images) as might be required in product inspection, laser beam profiling, medical imaging, or any application that requires image capture at a specific time (there is a delay of one frame time between trigger and start of frame capture). The optional use of strobe illumination allows minimum exposure time with maximum image sharpness.

ONLY ONE CABLE – A single cable connects the SILICON VIDEO 9T001C camera head to the PIXCI SI board. The PIXCI SI board provides power to the camera, sends and receives camera control signals, generates the programmable pixel clock, and receives video data. No dedicated power supply or power cable required.

CAPTURE & ADJUST DIALOG – The XCAP Imaging Application provides a Capture & Adjust Dialog for selecting pixel clock frequency, integration/exposure time, capture resolution, gain, offset, trigger control, and more. The camera dialog provides automatic white balance as well as manual adjustment of Red, Green, and Blue gain.

The **SILICON VIDEO 9T001C** camera system includes:

- 3 Megapixel Color Camera Head w tripod mount
- Infrared Cut Filter
- Shielded Interface Cable (various lengths)
- PIXCI SI PCI Image Capture Board
- XCAP-Lite Imaging Program (XCAP-Ltd or Std Optional)

To complete the system add 1/2" format C-Mount lens, analysis software, lighting, and computer – all available from EPIX, Inc., or from your authorized EPIX, Inc. distributor.

SV9T001C COLOR CMOS Digital Camera

CAMERA CONTROL FROM SOFTWARE

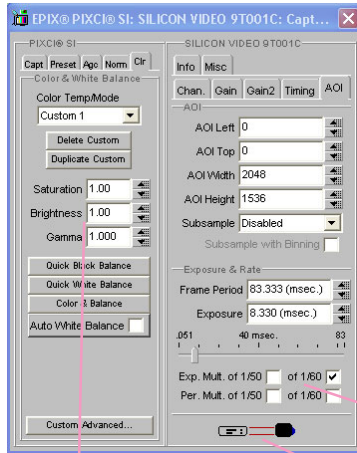
SV9T001C Capture & Adjust Dialogs

The XCAP Imaging Program simplifies camera operation with a dedicated Capture & Adjust Dialog. The Capture & Adjust Dialog provides one convenient location for camera controls such as exposure, resolution, triggering, color balance and frame rate. In addition, the SV9T001C Dialog provides a camera-to-computer communication indicator, a programmable pixel clock, and exposure synchronized to AC power frequencies.

The Color & White Balance menu offers simple color balance settings for common sunlight, fluorescent light, and incandescent light conditions. In addition, for greater color precision, or for unusual light sources, XCAP offers advanced options for building custom color settings.

The camera's pixel clock frequency is user-selectable over a range of 25 MHz to 70 MHz. The programmable pixel clock

provides a wider range of frame rates and exposure times.



The intensity of AC lighting fluctuates with the phase of the AC voltage that powers it. Capturing sequences of images using arbitrary frame rates with AC lighting will result in images with differing brightness. The SV9T001C Capture & Adjust Dialog offers a convenient fix for this problem — exposure times can be easily set to multiples of the local AC line frequency, either 1/50th or 1/60th second.

Synchronizing exposure times to the line voltage provides images with consistent illumination from a varying-intensity AC light source.

The presence or absence of the 2 lines between the camera and computer icons indicate whether or not the computer and camera are properly connected and capable of communicating.

SPECIFICATIONS

Format: Bayer Pattern Color

Pixel Clock Range: 25 MHz - 70 MHz

Frame Resolution:

2048 (H) x 1536 (V) Maximum
4 (H) x 4 (V) Minimum

FRAME RATE EXAMPLES (8-Bit Mode)

Frame Resolution	25 MHz	48 MHz	70 MHz
2048 x 1536	6 fps	12 fps	18 fps
1920 x 1080	9 fps	19 fps	27 fps
1280 x 1024	14 fps	27 fps	40 fps
1280 x 720	20 fps	39 fps	57 fps
800 x 600	34 fps	66 fps	97 fps

Note: Pixel clock frequencies higher than 48 MHz may reduce image quality.

CAMERA HEAD:

Dimensions:

4.85 cm (H) x 3.84 cm (W) x 1.88 cm (D)
1.91" (H) x 1.51" (W) x 0.74" (D)

Weight: 73 Grams (2.6 Ounces)

Tripod Mount Positions:

Any 1 of the 4 sides: 1/4"-20 thread
(tripod mount attachment not pictured)

Lens: 1/2" optical format C-mount

INTERFACE CABLE:

Shielded CAT-5 with RJ45 plugs.

PIXCI SI BOARD:

Dimensions:

12.7 cm (L) x 7.4 cm (H)
5.0" (L) x 2.875" (H) [short slot]

Bus Requirements:

3.3 volt or 5 volt PCI slot.

CONFIGURATIONS

SI-SV9T001C-7FT SV9T001C CMOS color camera head, lens mount *with* infrared cut filter, PIXCI SI imaging board, 7 foot cable, tripod mount, XCAP-Lite Imaging Program.

TTL-MOD-A-SI-OPT Allows TTL level trigger input signal and produces TTL level strobe output signal.

Infrared (IR) Cut Filter: The CMOS sensor is more sensitive to infrared wavelengths than a CCD sensor. Infrared sensitivity skews color fidelity. An IR cut filter attenuates (reduces) the CMOS sensor's response to infrared light while improving color fidelity. An IR cut filter is supplied with each SV9T001C CMOS color camera. The optional SV9T001C-OPT-MNTNOF allows operation without an IR cut filter.

Available Cable Lengths: 7', 10', 14' & 25' (2.1, 3, 4.2, & 7.6 meters).

MICRON CMOS MT9T001 Sensor

<http://www.micron.com>

Resolution: 2048H x 1536V

Pixel Size: 3.2µm x 3.2µm

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

EPIX SOFTWARE Support

<http://www.epixinc.com/products/index.htm>

Supported by **XCAP-Lite** (no charge with camera purchase), **XCAP-Ltd**, **XCAP-Std**, **XCLIB**, and **XCLIBIPL**. Compatible with WIN XP, 2K, NT, ME, 98, 95, DOS and LINUX.

EPIX®

<http://www.epixinc.com>

EPIX, Incorporated
381 Lexington Drive
Buffalo Grove, IL 60089 USA
Tel - 847 465 1818
Fax - 847 465 1919

SV9T001C Color Camera User Manual

www.epixinc.com/manuals/silicon_video_9m001/index.htm